Texas Department of Transportation

Texas Turnpike Authority

TECHNICAL PROVISIONS for

COMPREHENSIVE DEVELOPMENT AGREEMENT

BOOK 2

North Tarrant Express Project

RFP Issued March 3, 2008

Addendum #1 Issued May 5, 2008

Addendum #2 Issued June 4, 2008

Addendum #3 Issued July 11, 2008

Addendum #4 Issued August 1, 2008

Addendum #5 Issued September 12, 2008

Addendum #6 Issued October 6, 2008

Addendum #7 Issued October 30, 2008

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PREFACE

TxDOT's *Programmatic Comprehensive Development Agreement Book 3* (for Concession Projects), dated 12/05/08, as amended by the provisions noted in Book 2 herein, will be applicable to this Agreement.

Unless otherwise noted in the Agreement, the term "Project" as referenced in Book 3 shall mean "Facility".

1 GENERAL

1.1 Project Scope

The North Tarrant Express (NTE) Project has been developed as a facility that will relieve traffic congestion currently being experienced along the corridors of IH820, IH35W, and SH183 in the Cities of Fort Worth, Haltom City, North Richland Hills, Hurst, Bedford, and Euless, Texas.

Developer will be responsible for design, construction, maintenance, operation, and financing of a Facility meeting the functional characteristics of the Ultimate Configuration (UC) shown geometrically in the roadway schematics (refer to Exhibit 2 of the Agreement), which are identified in the environmental approval documents as Segment 1 and the western portion of Segment 2. The work generally consists of the reconstruction of main lanes to provide the general purpose lanes, the construction of managed toll lanes, the reconstruction of frontage roads, the maintenance and operation of the said improvements, the installation of necessary tolling infrastructure, and the establishment of managed lane tolling operations.

The work will include, but is not limited to:

- Design and construction of roadway, drainage, structures, landscaping, signing, lighting and traffic signals along IH820, IH35W, and SH183 mainlanes, managed toll lanes, frontage roads, and crossing streets.
- Design and installation of Intelligent Transportation Systems (ITS) meeting the requirements of the North Texas Regional ITS Architecture and TxDOT/Fort Worth Traffic Management Center in the Transvision Building (refer to Section 17 of the Technical Provisions).
- Develop and implement Maintenance Management Plan to be utilized upon opening the Facility to traffic until the end of the CDA Term, including Handback Requirements (refer to Section 19 of the Technical Provisions).
- Design and installation of an open-road electronic toll collection system as necessary to allow collection of tolls from Facility users in accordance with the requirements of Section 21 of the Technical Provisions.
- Develop and implement an Operations Management Plan to be utilized upon opening the Facility to traffic until the end of the CDA Term (refer to Section 22 of the Technical Provisions).

Developer shall manage, plan, execute, and control all aspects of the development Work. Developer shall coordinate its activities with Governmental Entities and other Persons that are directly or indirectly impacted by the development Work. In addition, Developer shall document and report all development Work in accordance with the CDA Documents.

1.2 Facility Description

1.2.1 General

The Developer's design schematic of the Facility shall illustrate the lane configuration to provide the Facility's functionality. The Developer's design schematic of the Facility shall be consistent with the locations of grade separations, access points and traffic flow patterns illustrated in the approved schematic, and shall allow for the Ultimate Configuration. The Facility ROW shall be illustrated on the Developer's design schematic of the Facility.

The Ultimate Configuration, also defined as the Ultimate Scope Proposal, shall be defined by the Environmental Approval permitting process for Segment 1 FONSI and any portion of Segment 2, included by the Developer in the Base Scope Proposal, as defined by the Environmental Approval permitting process for Segment 2 FONSI. Specific limits of work are generally described as follows:

1.2.1.1 Limit of Work Description for Ultimate Configuration

1.2.1.1.1 West Limit of Work (IH820)

Design and construction shall consist of two managed toll lanes, three general purpose lanes, and frontage roads as shown in the Environmental Approval document for Segment 1 and defined by the following limits of work:

a. Sta. 607+43 for the westbound frontage road,
b. Sta. 603+67.45 for the westbound general purpose lanes,
c. Sta. 651+60 for the westbound managed toll lanes,
d. Sta. 603+67.45 for the eastbound frontage road,
e. Sta. 603+67.45 for the eastbound general purpose lanes, and
f. Sta. 647+31 for the eastbound managed toll lanes.

Construction of transition shall occur before those limits shown above shall be included as part of the Ultimate Scope Proposal.

1.2.1.1.2 East Limit of Work (SH183)

Design and construction shall consist of three managed toll lanes, three general purpose lanes, and frontage roads as shown in the Environmental Approval document for Segment 2 and defined by the following limits of work:

	Roadway	Subsegment A	Subsegment B	Subsegment C
a.	WBFR	1090+50	1122+16	6237+50
b.	WBGP	1090+50	1122+16	1296+00
c.	WBML	1090+50	1122+16	1296+50
d.	EBFR	1090+50	1122+16	5330+00
e.	EBGP	1090+50	1122+16	1296+00
f.	EBML	1090+50	1122+16	1296+00

Construction of transition beyond those limits shown above shall be included as part of the Ultimate Scope Proposal.

1.2.1.1.3 North Limit of Work (IH35W)

Design and construction shall consist of three managed toll lanes, three general purpose lanes, and frontage roads as shown in the Environmental Approval document for Segment 1 and defined by the following limits of work:

a. Sta. 581+00 for the westbound frontage road,
b. Sta. 581+00 for the westbound general purpose lanes,
c. Sta. 581+00 for the westbound managed toll lanes,
d. Sta. 581+00 for the eastbound frontage road,
e. Sta. 581+00 for the eastbound general purpose lanes, and
f. Sta. 581+00 for the eastbound managed toll lanes.

Construction of transition shall occur before those limits shown above shall be included as part of the Ultimate Scope Proposal.

1.2.1.1.4 South Limit of Work (IH35W)

Design and construction shall consist of three managed toll lanes, three general purpose lanes, and frontage roads as shown in the Environmental Approval document for Segment 1 and defined by the following limits of work:

a. Sta. 672+50 for the westbound frontage road,
b. Sta. 672+50 for the westbound general purpose lanes,

c. Sta. 672+50 for the westbound managed toll lanes,
d. Sta. 672+50 for the eastbound frontage road,
e. Sta. 672+50 for the eastbound general purpose lanes, and
f. Sta. 672+50 for the eastbound managed toll lanes.

Interim configurations shall transition the proposed general purpose lanes and managed toll lanes to the existing mainlanes in a safe and operable manner as provided by the Environmental Approval.

1.2.1.2 Limit of Work for Specific Components

[The scope of Work in this Section 1.2.1.2 will be revised to conform to the limits of work included in the successful Proposal.]

Limits of work for the various options under consideration by the Developer are generally described below:

1.2.1.2.1 Mandatory Scope

Design and construction of the mandatory scope, which is an interim configuration for IH820 in Segment 1 between the interchange with IH35W and the Northeast Interchange with SH183 based on the ultimate configuration as shown in the Environmental Approval for Segment 1, with the deferral of the development of the third General Purpose Lane in each direction until 2030. The interim configuration limit of work for the two managed toll lanes, two general purpose lanes and frontage roads are as defined by the following.

a. The western limits of proposed interim configuration highway improvements along IH820 shall, at a minimum, be:

    1. Sta. 364+00 for the westbound frontage road,
    2. Sta. 700+32 for the westbound general purpose lanes,
    3. Sta. 715+00 for the westbound managed toll lanes,
    4. Sta. 382+75 for the eastbound frontage road,
    5. Sta. 683+50 for the eastbound general purpose lanes, and
    6. Sta. 715+00 for the eastbound managed toll lanes, with an interim transition beyond those limits.

b. The eastern limit of interim configuration improvements shall, at a minimum, be:

    1. the interim configuration's eastern limit for the westbound frontage road to be the Ultimate Configuration as shown on the roadway schematic associated with the Environmental Assessment,
    2. the interim configuration's eastern limit for the westbound general purpose lanes to be the Ultimate Configuration as shown on the roadway schematic associated with the Environmental Assessment,
    3. Sta. 946+00 for the westbound managed toll lanes with the interim transition access from the general purpose lanes to the managed toll lanes occurring at or west of Sta. 945+00.
    4. the interim configuration's eastern limit for the eastbound frontage road to be the Ultimate Configuration as shown on the roadway schematic associated with the Environmental Assessment,
    5. the interim configuration's eastern limit for the eastbound general purpose lanes to be the Ultimate Configuration as shown on the roadway schematic associated with the Environmental Assessment, and
    6. Sta. 946+00 for the eastbound managed toll lanes, with an interim transition merge from the managed toll lanes to general purpose lanes occurring west of Sta. 945+00.

The Mandatory Scope does not include (1) the interchange with IH35W, or (2) the direct connector ramps at the Northeast Interchange connecting the IH820NB managed toll lanes to SH183EB and connecting

SH183WB manages toll lanes to IH820SB. The Mandatory Scope includes development of the third General Purpose Lane along IH820 by 2030 (or earlier as provided in Exhibit 16 of the CDA).

1.2.1.2.2 General Purpose Capacity Improvement *(if applicable)*

Additional Work to develop the third General Purpose Lane in each direction along IH820 within the limits of the mandatory scope during the DB phase for concurrent use with the roadways developed in the mandatory scope.

1.2.1.2.3 IH35W Managed Toll Lane Direct Connectors *(if applicable)*

Additional Work to develop the direct connectors at the IH35/IH820 interchange connecting the IH35W-NB to IH820EB managed toll lanes and connecting the IH35W-SB to IH820EB managed toll lanes, including associated general purpose and frontage road improvements.

a. The northern limits of the IH35W Interchange work are as follows:
    1. Sta. 590+00 for IH35W southbound mainlanes (extending to Sta. 598+00), and
    2. Sta. 590+00 for managed toll lane direct connector southbound extending to the ultimate configuration connection to the mandatory scope,
b. The southern limits of the IH35W Interchange are as follows:
    1. Sta. 334+00 for IH35W frontage road,
    2. Sta. 666+00 for IH35W northbound managed toll lanes direct connector extending to the ultimate configuration connection to the mandatory scope, and
    3. Sta. 653+00 for the IH35W northbound general purpose lanes (extending to ramp Sta. 20+00).
c. Interim transitions are to be as required to tie the proposed alignment improvements to existing facilities.

1.2.1.2.4 Interchange Capacity Improvements *(if applicable)*

Additional Work west of the Mandatory Scope, necessary to develop the Ultimate Configuration improvements for IH820, IH35W and the IH35W/IH820 interchange.

The north, south, and west limits of work will be as shown on the Ultimate Configuration. The east limit of work is that required to meet the mandatory scope.

1.2.1.2.5 Subsegment A *(if applicable)*

Additional Work in Segment 1 and Segment 2 to develop an interim configuration for the IH820 and SH183 highway improvements from the interface with Segment 1 to Sta. 1090+50 at Hurstview Road. Subsegment A includes three general purpose lanes, two through managed toll lanes and frontage roads in each direction along SH183. The Work will also include the interim transition to merge the two managed toll lanes and the three general purpose lanes into the existing mainlanes, and transition the two frontage road lanes to the existing facilities east of Hurstview Road.

The direct connector ramps at the Northeast Interchange connecting IH820NB managed toll lanes to SH183EB and connecting SH183WB managed toll lanes to IH820SB will be required, for which an interim alignment will be required to connect the southern termini of the ramps into the existing roadway alignment until such time Segment 4 is improved.

1.2.1.2.6 Subsegment B *(if applicable)*

Additional Work in Segment 1 and Segment 2 to develop an interim configuration for the IH820 and SH183 highway improvements from the interface with Segment 1 to Sta. 1122+16 at Norwood Drive. Subsegment B includes three general purpose lanes, two through managed toll lanes and frontage roads in

each direction along SH183. The Work will also include the interim transition to merge the two managed toll lanes and the three general purpose lanes into the existing mainlanes, and transition the two frontage road lanes to the existing facilities east of Norwood Drive.

The direct connector ramps at the Northeast Interchange connecting IH820NB managed toll lanes to SH183EB and connecting SH183WB managed toll lanes to IH820SB will be required, for which an interim alignment will be required to connect the southern termini of the ramps into the existing roadway alignment until such time Segment 4 is improved.

1.2.1.2.7 Subsegment C *(if applicable)*

Additional Work in Segment 1 and Segment 2 to develop an interim configuration for the IH820 and SH183 highway improvements from the interface with Segment 1 to the SH183/SH121 split. Subsegment C includes three general purpose lanes, two through managed toll lanes and frontage roads in each direction along SH183. The east limit of work is noted as follows:

a. Sta. 1296+00 for the eastbound and westbound managed lanes and general purpose lanes,
b. Sta. 6327+50 for the westbound frontage road, and
c. Sta. 5330+00 for the eastbound frontage road.

The Work will also include the interim transition to merge the two managed toll lanes and the three general purpose lanes into the existing mainlanes, and transition the two frontage road lanes to the existing facilities east of limits noted above.

The direct connector ramps at the Northeast Interchange connecting IH820NB managed toll lanes to SH183EB and connecting SH183WB managed toll lanes to IH820SB will be required, for which an interim alignment will be required to connect the southern termini of the ramps into the existing roadway alignment until such time Segment 4 is improved.

1.2.1.2.8 Managed Lane Capacity Improvement - Subsegment A *(if applicable)*

Additional Work in Segment 1 and Segment 2 to supplement Subsegment A to develop the IH820 and SH183 Ultimate Configuration improvements from the interface with Segment 1 to Sta. 1090+50 at Hurstview Road. Managed Lane Capacity Improvement - Subsegment A requires development of the third managed toll lane in each direction during the DB phase for concurrent use with the roadways developed in Subsegment A.

The Work includes the interim transition to merge the third managed toll lane into the existing mainlanes east of Hurstview Road.

1.2.1.2.9 Managed Lane Capacity Improvement - Subsegment B *(if applicable)*

Additional Work in Segment 1 and Segment 2 to supplement Subsegment B to develop the IH820 and SH183 Ultimate Configuration improvements from the interface with Segment 1 to Sta. 1122+16 at Norwood Drive. Managed Lane Capacity Improvement – Subsegment B requires development of the third managed toll lane in each direction during the DB phase for concurrent use with the roadways developed in Subsegment B.

The Work includes the interim transition to merge the third managed toll lane into the existing mainlanes east of Norwood Drive.

1.2.1.2.10 Managed Lane Capacity Improvement -Subsegment C *(if applicable)*

Additional Work in Segment 1 and Segment 2 to supplement Subsegment C to develop the IH820 and SH183 Ultimate Configuration improvements from the interface with Segment 1 to the eastern limit of work indicated in Subsegment C. Managed Lane Capacity Improvement – Subsegment C requires development of the third managed toll lane in each direction during the DB phase for concurrent use with the roadways developed in Subsegment C at Service Commencement.

The Work includes the interim transition to merge the third managed toll lane into the existing mainlanes.

1.2.1.2.11 Other Considerations

Developer acknowledges that certain components of Work, including certain signing, pavement marking, Intelligent Transportation System components, tolling infrastructure, buildings and enclosed facilities, necessary for operating the Facility, will be located outside the Facility limits.

The Developer shall not rely on the physical description contained herein to identify all Facility components. The Developer shall determine the full scope of the Facility through thorough examination of the CDA Documents and the Facility or as may be reasonably inferred from such examination.

1.2.2 DB Phase Requirements

Developer shall design and construct all roadways and associated infrastructure necessary to provide the Facility in accordance with the Developer's design schematic of the Facility, Environmental Approvals and related design schematics as approved by TxDOT, and the Federal Highway Administration (FHWA). All design work and construction work shall be in compliance with the Technical Provisions and Good Industry Practice.

Developer shall coordinate with TxDOT and adjacent Governmental Entities and other third parties as appropriate to determine the design criteria, standards, and specifications of those components of Work which the Developer will construct but which are maintained by others. For components of Work which potentially or actually impact the infrastructure of any Governmental Entity or third party entity, Developer's design shall conform to the design requirements of such entity.

1.2.3 Operations and Maintenance (O&M) Work Requirements

The Developer shall undertake the O&M work for all travel lanes and the Facility during the DB phase and following Service Commencement for the Term of the Agreement including the infrastructure existing prior to construction work. Developer is not responsible for operations and maintenance of roadways beyond the longitudinal limit of work determined by the transition from UC to existing roadways.

2 PROJECT MANAGEMENT

The third paragraph of Section 2 of Book 3 is replaced with the following:

A listing of documents to be included in the Facility Management Plan is contained in Attachment 2-1, which also indicates when each document must be submitted to TxDOT.

2.1 Administrative Requirements

No additional requirements.

2.1.1 Facility Schedule

No additional requirements.

2.1.1.1 General Requirements

Section 2.1.1.1 of Book 3 is replaced with the following:

The Facility Schedule shall define the timeframe for completion of the Facility and achievement of milestones, and be used to monitor progress and denote changes that occur during design, construction, operations and maintenance.

Additional schedule requirements are as follows:

A. The Facility Schedule shall be organized consistent with the Work Breakdown Structure (WBS). Each schedule activity shall be mapped to one and only one of the WBS elements. The Developer shall further develop and detail the base WBS, the minimum requirements of which are included as Attachment 2-2, in accordance with its specific schedule activities and retaining the ability to summarize to at least the same level as shown in the base. Developer may add additional activities to the levels presented in Attachment 2-2 with TxDOT's written approval.

B. The Facility Schedule shall divide the Work into activities with appropriate logic ties to show Developer's overall approach to the planning, scheduling, and execution of the Work. All Work shall be represented by cost resource-loaded project activities. The duration and logical relationships of the project activities (or summaries at phase level) shall be based on the actual duration and relationships anticipated. Developer shall not use calendar dates or constraints to logically begin or complete any project activity unless calendar dates are shown in the Technical Provisions or other CDA Documents.

C. Activity Identification: Developer shall use standard and consistent project activity identification numbers, textual descriptions, and codes in all Facility Schedule submittals, in a manner acceptable to TxDOT. Each Facility Schedule submittal shall be clearly identified. Resubmissions of a Facility Schedule shall use the same revision number as the original submission individually identified by a sequential appended letter (A, B, etc.), as an indication of a revised version.

D. Cost Allocation: Developer shall allocate the total price and commodity quantities throughout the project activities in the Facility Schedule. Such allocation shall accurately reflect Developer's cost for each project activity and shall not artificially inflate, imbalance, or front-load line items. The price of each project activity shall be all-inclusive and shall include all direct and indirect costs, overhead, risks, and profit. Note that cost information shall be included with Developer's first monthly Facility Status Schedule Update(s) and submitted with Developer's first Payment Request.

E. Each milestone shall be separately identified, conform to the scheduling requirements set forth in the CDA Documents, and be assigned a "finish no later than" constraint date.

F. No unspecified milestones, constraints, Float suppression techniques, or use of project activity durations, logic ties, and/or sequences deemed unreasonable by TxDOT, shall be used in the

Facility Schedule. Each Facility Schedule submittal shall clearly and individually define the progression of the Work within the applicable time frame by using separate project activities.

G. The Facility Schedule shall be used by the Parties for planning and monitoring the progress of the Work, as well as serving as the basis for determining the Payment Request amount that may be compensable to be made to Developer. The updated Facility Schedule shall show actual progress and not calculated progress. Approved logic changes and approved changes to the Agreement shall be incorporated into the Facility Schedule.

H. The commodity, labor, or equipment quantity that the project activity value will be based on shall be indicated as a resource. Labor-loading of activities shall be based upon total number of workers, not total number of crews. Major construction equipment to be used by Developer and subcontractors at all tiers in prosecuting Work shall be assigned to applicable activities. The quantity shall represent the estimated effort in-place for the project activity value.

Developer shall establish a WBS with clearly identifiable linkage to the Schedule of Values and Developer-designated project activities and phases represented in the Facility Schedule. The WBS for each work element shall indicate the duration, timing, and logical relationship to other work elements, including relationships to project activities other than the parent project activity of the particular work element. Project activities shall be broken down minimally to work elements (for example, bridges shall be broken down into foundations, substructure, superstructure, and decks). All Work shall be broken down to similar manageable work elements. For Utility Adjustment Work, if Work is not shown as a project activity itself, such Work shall be shown as a work element, where applicable. For Mobililization project activities or work elements, Developer shall provide a list of Work items that are included in each project activity or work element. The Developer shall update the WBS as necessary to include the capacity improvement scope elements and submit the updated WBS to TxDOT for approval as a condition of the respective NTP for capacity improvements.

2.1.1.2 Required Submittals

Supplement Section 2.1.1.2 of Book 3 with the following:

Developer shall develop, update, and submit the following submittals in accordance with the applicable provisions of the Agreement.

2.1.1.2.1 Facility Baseline Schedule

The second paragraph of Section 2.1.1.2.1 of Book 3 is replaced with the following:

The Facility Baseline Schedule shall include a separate narrative report which describes, in general fashion, Developer's proposed methods of operation for designing and constructing the major portions of the Work required by the CDA Documents.

The Facility Baseline Schedule shall include all major Work activities required under the CDA.

Supplement Section 2.1.1.2.1 of Book 3 with the following

Refer to Section 2.1.1.2.5 for revisions to the Facility Schedule.

2.1.1.2.2 Facility Status Schedule Updates

Supplement Section 2.1.1.2.2 of Book 3 with the following:

Developer shall update, on at least a monthly basis, the approved Facility Baseline Schedule to reflect the current status of the Facility, including approved the issuance of the respective NTPs for capacity improvements and Change Orders.

With each Payment Request, commencing after issuance of NTP2, Developer shall submit its monthly Facility Status Schedule Update for TxDOT's review. The monthly Facility Status Schedule Update(s) shall include Developer's detailed schedule for executing the Work and all information and reporting

required for the Facility Schedule, and shall include only resources actually available to Developer. At a minimum, the monthly Facility Status Schedule Update(s) shall include the following current Work data:

- Detailed resource-loaded schedule of activities that clearly identify the Critical Path.
- Progress for the current Payment Request period for all Facility activities.
- Actual start and actual finish dates of Work, percentage complete, and Days remaining for Work in-progress.

The monthly Facility Status Schedule Update(s) shall reflect updated progress to the status date, forecast finish for in-progress Facility activities, and reforecast early dates and late dates for remaining Facility activities, but shall otherwise contain no changes in Facility activity durations, logic ties, or constraints without approval from TxDOT. The Facility Status Schedule Update(s) shall also incorporate and fully specify all appropriate information from prior approved Facility Schedules. An electronic copy of the file used for the monthly schedule update shall be submitted to TxDOT with the monthly Facility Status Schedule Update(s).

Time-scaled network diagrams shall be submitted, on at least a monthly basis, on sheets no larger than 22" X 34", using a scale that yields readable plots. The network diagrams shall be organized consistent with the Facility WBS. Facility activities shall be linked by logic ties and shown on their early dates. The Critical Path shall be highlighted and Float, where applicable, shown for all Facility activities.

The monthly Facility Schedule shall include additional, separate, filtered list of Facility activities and work elements included in the Facility Schedule to create the following reports:

a. Coordinating with and accomplishing Work associated with Utilities
b. Bar chart schedule sorted by segment or section indicating the physical status of all activities as of date of the update,
c. Graphical report, which compares Developer's progress to planned progress by segment or section, and major payment item/WBS,
d. Design document submittals for the forthcoming period,
e. Tabular report listing all activities with ten (10) days or less Float,
f. Sixty-day (60) look ahead report on all TxDOT and Governmental Approvals required,
g. Ninety-day (90) look ahead bar chart schedule sorted by WBS and activity early start dates,
h. Monthly expenditure projections and cash expenditure curves by WBS,
i. Critical items graphical report for each Critical Path sorted by activity early start date, and
j. Time-scaled critical path network plot indicating the status of all activities as of the date of the update.

The reports shall be accompanied by a narrative progress report describing progress made that period; plans for forthcoming period; all potential delays and problems; their estimated effect on the Facility Schedule and overall completion, and whether on, ahead of or behind schedule.

TxDOT will review the monthly Facility Status Schedule Update(s) for consistency with Developer's WBS and the current approved Facility Schedule and for conformance with the CDA Documents. Developer shall correct any deficiencies and resubmit its monthly Facility Status Schedule Update(s) with the Payment Request. TxDOT will notify Developer of corrections required within five (5) Business Days of receipt of the Facility Status Schedule Update(s).

TxDOT will use these updates to manage its activities to be responsive to Developer's Facility Schedule, to analyze monthly progress payments to Developer, and to measure Developer's performance with respect to its plan for accomplishing the Work.

2.1.1.2.3 Renewal Work Schedule

No additional requirements.

Incorporate Section 2.1.1.2.4 and Section 2.1.1.2.5 as follows:

2.1.1.2.4 Initial Facility Schedule

The initial Facility Schedule, provided in Developer's Proposal, shall show the overall approach to the planning, scheduling, and execution of the Work, for the period between NTP1 and NTP2. The initial Facility Schedule shall show in detail the Developer's Work activities with all remaining Work being represented by phase level summary activities such that they cumulatively indicate all Work.

The initial Facility Schedule shall be updated on a monthly basis while the Facility Baseline Schedule is being developed and approved.

2.1.1.2.5 Facility Schedule Revisions

As it becomes necessary to modify the Facility Schedule to reflect changes to the WBS, Work sequences, or to further subdivide and resource-load the necessary labor, equipment, and materials, Developer shall request changes to the Facility Schedule and submit such requested changes in writing to TxDOT for approval in TxDOT's sole discretion. No changes to the Facility Schedule shall be made without the prior written approval of TxDOT. Until TxDOT approves a change, all Facility Schedule submittals shall be tracked against the previously approved Facility Schedule. Accepted revisions will be incorporated into the Facility Schedule at the next monthly schedule update.

Facility Schedule revision submittals shall include:

- Transmittal letter,
- time-scaled network diagram,
- electronic copy of the file used for the proposed Facility Schedule Revision,
- narrative describing in detail any proposed changes to the current version of the Facility Schedule with justification for the changes, including, at the minimum, the following:
    - changes to activity original durations,
    - changes to activity relationships and/or schedule logic,
    - identification of activities that have been added, deleted, or modified,
    - changes to the Facility Schedule's critical path, and /or
    - changes or delay in any contractual completion date since the last Facility Schedule submittal.

TxDOT will review the Facility Schedule Revision submittal(s) for consistency with Developer's WBS and the current approved Facility Schedule and for conformance with the CDA Documents. TxDOT will notify Developer of corrections required within five (5) Business Days of receipt of the proposed Facility Schedule Revision submittal(s). Once a Facility Schedule Revision is approved by TxDOT, it shall become the Facility Schedule of record and be used as the basis for subsequent Facility Status Schedule Update(s).

2.1.2 Document Management

Section 2.1.2 of Book 3 is replaced with the following:

Developer shall establish and maintain an electronic document control system to store, catalog, and retrieve all Facility-related documents in a format compatible with Texas Reference Marker System. Unless otherwise directed by TxDOT, record retention shall comply with the requirements of the Texas State Records Retention Schedule, and shall be provided to TxDOT at the time of the expiration or earlier termination of the Agreement.

Unless otherwise directed by TxDOT, Patron Confidential Information obtained by the Developer shall meet the requirements of Attachment 2-3, Toll Operations Document Retention Schedule.

Maintenance records shall utilize the same format as TxDOT utilizes for its statewide asset inventory and condition assessments and shall be capable of being integrated into TxDOT's maintenance management systems.

2.2 Quality Management Plan

No additional requirements.

2.2.1 General Requirements

No additional requirements.

2.2.2 Quality Terminology

No additional requirements.

2.2.3 Quality Management Organization

No additional requirements.

2.2.4 Quality Policy

No additional requirements.

2.2.5 Inspection and Testing

No additional requirements.

2.2.6 Responsibility and Authority of Developer Staff

No additional requirements.

2.2.7 Design Quality Management Plan

No additional requirements.

2.2.7.1 Design Submittals

No additional requirements.

2.2.7.2 Record Drawings and Documentation

Supplement Section 2.2.7.2 of Book 3 with the following:

Record Drawings in hard copy and electronic format for the portion of the Facility actually opened to traffic.

Developer shall include a signed statement ensuring that the Record Drawings reflect the actual condition of the constructed Work.

2.2.8 Construction Quality Management Plan

No additional requirements.

2.2.9 Operations Management Plan

No additional requirements.

2.2.10 Maintenance Management Plan

No additional requirements.

2.3 Comprehensive Environmental Protection Plan

No additional requirements.

2.4 Public Information and Communications Plan

No additional requirements.

2.5 Safety Plan

No additional requirements.

2.6 TxDOT-Developer Communications Plan

No additional requirements.

2.7 Right of Way Acquisition Plan

No additional requirements.

2.8 Cost Management Plan

Section 2.8 of Book 3 is replaced with the following:

Not used.

Incorporate Section 2.9 as follows:

2.9 Requirements for TxDOT Offices, Equipment and Vehicles

Except where noted elsewhere in the Agreement, at a minimum the Developer's Key Personnel and major task managers, the Independent Engineer, and TxDOT shall co-locate for the Term of the Agreement to facilitate project coordination and daily communication. The definition of co-locate for this Agreement is office space meeting the conditions of this Technical Provision that are within close proximity to each other along or adjacent to the Facility within one mile of the Facility ROW. Developer shall provide TxDOT and Independent Engineer office space (i.e. available for occupancy) within thirty Business Days of issuance of NTP1. The location, condition, and amenities of the office space for TxDOT and the Independent Engineer are subject to TxDOT's prior written approval.

Developer shall, as part of the project:

- Provide and pay for all office space, facilities, equipment, services, and services necessary for TxDOT and the Independent Engineer to oversee the Work.
- Maintain the Facility office space for at least 60 Days after the Term of the Agreement or until otherwise agreed to by TxDOT in writing.
- After the Term of the Agreement, provide disposal or removal of all facilities and any site restoration needed for the Facility.

The office space and equipment provided by the Developer for TxDOT and the Independent Engineer shall be in good and serviceable condition, at least of the same quality as those of Developer's Facility office, at all times. Developer and TxDOT shall participate in a facility condition survey prior to and at the completion of occupancy.

During the DB phase and other periods of active construction including the initial build, capacity improvements, and major rehabilitation work, Developer shall provide office space for one TxDOT employee per $100 million in construction value (minimum one employee) and space for three Independent Engineer employees per $100 million in construction value (minimum three employees). This office space may be in temporary facilities. The $100 million dollar value shall increase in compliance with the toll rate increase methodology outlined in Exhibit 4 to the CDA for future construction Work. Number of employee calculations shall be rounded to the next highest integer (i.e. $320 million/ $100 million = 3.2, provide space for four employees).

During the Operating Period, Developer shall provide office space for three Independent Engineer employees and one TxDOT employee in addition to the requirements above for periods during which major construction is taking place on the Facility. This office space shall be in a permanent structure.

Personal office areas, whether in temporary or permanent facilities, shall be at least 150 square feet. Each office space (i.e. TxDOT space or Independent Engineer space), whether in a temporary or permanent facility, shall include:

- One enclosed conference room at least 200 sq ft
- One lockable enclosed space for storage/filing at least 150 sq ft
- An enclosed inside space for storage of equipment at least 100 sq ft
- A computer/phone equipment room at least 100 sq ft
- One restroom for each six employees that include toilet and sink
- A combination break and lunch room area at least 400 sq ft

The restroom, conference room, and break/lunch rooms may be in shared areas. All space requirements are approximate in nature. Facilities that reasonably comply with these requirements will be acceptable.

Developer shall, as part of the Facility:

- Secure a well-graded site that has an access road, a parking area, and building space that meets all local building code requirements.
- Obtain all site permits.
- Provide all utility services.
- Provide a parking area for each facility for the intended number of occupants plus visitor spaces to reasonably accommodate stake holders who may visit the offices for meetings. The parking area shall be reasonably level and has an all weather surface and all-weather access.
- Provide an outside shed of at least 150 sq ft at each facility for storage of small tools and equipment for the exclusive use of TxDOT and the Independent Engineer.
- Provide at least two building entrance/exits for each building, each secured with a door lock plus a dead-bolt lock. TxDOT and Independent Engineer space shall be separated by lockable doors from each other and from the Developer's space.
- Ensure that the site and office space meet all access requirements of the Americans with Disabilities Act (ADA), as amended (42 USC §§12101, et seq.).

For the TxDOT and Independent Engineer office space, Developer shall provide and pay for:

- Potable water and sewer service;
- Electricity service and interior overhead lighting that meet OSHA standards and building and electrical code requirements for office space, with minimum electrical circuit capacity of twenty amperes and with at least two duplex electrical receptacles in each personal office area;
- Heating, ventilation, and cooling systems capable of maintaining temperatures between 65 and 70 degrees Fahrenheit in all spaces throughout the year;
- Daily janitorial service (except on Saturdays, Sundays and Holidays), including maintenance of trash containers and trash pickup service;
- Maintenance of the exterior areas, including the access to parking areas, that keeps them neat, clean, in good repair, and safe;
- Exterior security lighting that is automatically activated at low light levels to maintain at least two foot-candles of lighting within the fenced office site;
- 24-hour security patrol service or a silent watchman-type security system;
- Hard-wire high-speed internet access in each personal office area, including monthly service charges; and
- Telephone service with at least one outside line (with voice-mail service) for each personal office area assigned to the office and at least two lines dedicated to fax service.

After installation of the telephone service, TxDOT and the Independent Engineer will transfer billings for their office phones into their respective names and pay for their own local and long distance telephone calling charges.

Developer shall provide, install, and maintain the following equipment, in working order, for the TxDOT and Independent Engineer's office spaces:

Telephones

- At least one touch-tone telephone for each personal office area and conference room, each with a status indicator, access to all outside lines, and conference call capability; and including speakers for the telephones in the enclosed offices and conference rooms

Copier and Fax Equipment

- Access to a full-scale plotter and color copier printer
- One high-speed laser computer printer
- One high-speed color printer capable of handling 11x17 prints
- One high-speed photocopy machine and one facsimile transmission machine

All equipment shall be replaced and updated at least once every five years. A multipurpose piece of equipment capable of meeting multiple parts of the requirements above will be considered to meet the requirements.

Furniture

- One locking desk with three drawers or one desk with a three-drawer locking file cabinet for each employee office or cubicle;
- One office desk chair on wheels for each desk provided; and
- One straightback office guest chair for each desk provided.

Premise wiring

- Developer shall provide and install the complete voice/data communications cabling system, which includes but is not limited to the EMT conduit, bridle rings, pull boxes, Category 5e UTP cable, Category 5e "RJ-45" UTP receptacles, Category 3 "RJ-11" UTP receptacles, receptacle boxes, cover plates, and multi-mode fiber optic cable. All cable shall be routed, terminated, labeled and tested. Voice and data circuits shall be installed in conjunction with ISD and TxDOT Department of Information Resources staff
- Developer shall certify and state supplied components as functional before installation and will bear all responsibility for replacement of parts at work commencement
- Developer shall prepare test plan and submit before installation, test installed system and supply test results, and will conform to all industry standard testing procedures
- Developer shall terminate all Category 5e UTP cable in 66M150 punch down blocks for voice cabling and shall terminate all Category 5e UTP data cable in data patch panels within the wiring closet
- Each drop will contain two data ports with RJ45 connectors and two voice ports with RJ11 connectors
- Developer will provide all materials, as needed and required, to complete the installation of the cable plant which shall include all cable, connectors, patch panels, equipment rack(s), patch cables, face plates, punch down blocks, fiber optic cable and other equipment during the Facility duration, Developer shall (at its own expense, except as noted herein) repair it, replace it, and/or otherwise restore it to its original condition within five Business Days after the occurrence of such damage or loss.

If any loss or damage has been caused as a direct result of willful misconduct of TxDOT or the Independent Engineer's personnel, TxDOT will reimburse Developer for the actual, reasonable, and documented costs of the repair, replacement, and/or restoration prior to the Term of the Agreement.

3 PUBLIC INFORMATION AND COMMUNICATIONS

3.1 General Requirements

Supplement Section 3.1 of Book 3 with the following:

The Developer shall coordinate all public information communication plans with ongoing TxDOT public information efforts to ensure a consistent message is being distributed to the regional customer base.

3.2 Administrative Requirements

No additional requirements.

3.2.1 Public Information and Communications Plan

Supplement Section 3.2.1 of Book 3 with the following:

Public liaison

- Conduct media and other group tours of the Facility at appropriate times and stages.

Copies of such material shall be provided to TxDOT at least one business day prior to dissemination to the media.

3.2.2 Public Information Coordinator

No additional requirements.

3.2.3 Public Information Office

Section 3.2.3 of Book 3 is replaced with the following:

Developer shall maintain a public information office for the DB phase and during renewal major construction activities during the Operating Period. This office shall serve as the primary business location for the Public Information Coordinator and shall be conveniently located to the Facility Site. The public information office shall facilitate the exchange of information between Developer and the public and provide a centralized location for residents and other Customer Groups to obtain information on the Facility, including Facility maps and plans, alternative routes, lane closures, construction updates, community impacts, and commute options.

The hours of operation for the public information office shall be as follows. Developer shall extend hours of operation to appropriately service Customer Groups.

- Periods during which major construction is taking place on the Facility:

Monday – Friday	7:30 am – 6:00 pm
Saturday	9:00 am – 12:00 noon
Sunday	Closed

Developer shall provide a location capable of hosting community meetings when necessary.

In addition to the services listed above, Developer shall provide a 24-hour telephone hotline, manned during normal business hours of the public information office, with a recorded message describing Emergency procedures after hours. (contemplate changing the hours of operation after DB)

3.2.4 Customer Groups

No additional requirements.

3.2.5 Public Meetings

Supplement Section 3.2.5 of Book 3 with the following:

The frequency of public meetings is to be addressed in the Developer's PICP and will increase or decrease as needs arise to better inform the Customer Groups. The Developer shall propose a schedule of public meetings to TxDOT and then conduct the public meetings that, at a minimum, will address Facility construction and Facility operations and maintenance.

3.2.6 Meeting Minutes

No additional requirements.

3.2.7 Emergency Event Communications

No additional requirements.

3.2.7.1 Lane Closures

No additional requirements.

3.2.8 Disseminating Public Information

No additional requirements.

4 ENVIRONMENTAL

4.1 General Requirements

Supplement Section 4.1 of Book 3 with the following:

The Comprehensive Environmental Protection Program shall effectively demonstrate in detail the Developer's knowledge of all applicable Facility-specific Environmental Approvals, issues, and commitments and applicable Environmental Laws as set forth in the Technical Provisions, and shall describe the processes that will be followed during the course of the Work to comply with those Environmental Approvals, issues, and commitments and Laws, as well as the documentation required to validate compliance.

4.2 Environmental Approvals

No additional requirements.

4.2.1 New Environmental Approvals and Amended TxDOT-Provided Approvals

Supplement Section 4.2.1with the following:

TxDOT-Provided Approvals, included in Reference Information Document (RID), are the following:

- The NEPA Approval for Segment 1, which includes the:
  - Section 4(f) approval for the North Richland Hills Community Center and
  - Section 4(f) approval for the North Richland Hills Tennis Center.
- The NEPA Approval for Segment 2

4.2.2 Responsibilities Regarding Environmental Studies

No additional requirements.

4.2.3 TxDOT Review and Approval of Developer Submissions

No additional requirements.

4.3 Comprehensive Environmental Protection Program (CEPP)

The first paragraph of Section 4.3 of Book 3 is replaced with the following:

As part of the FMP, the Developer shall develop and implement a Comprehensive Environmental Protection Program, applicable throughout the Term of the Agreement to establish the approach, requirements and procedures to be employed to protect the environment. All component parts shall reflect in order of priority: impact avoidance, minimization and as last resort, compensatory mitigation. The CEPP shall satisfy applicable FHWA, TxDOT and resource agency requirements, including those detailed as commitments in any Environmental Approvals.

4.3.1 Environmental Management System (EMS)

Supplement Section 4.3.1 of Book 3 with the following:

The EMS shall establish a schedule for periodic CEPP review to ensure it is up to date. The EMS shall provide a means to track the reviews and results. At a minimum, the EMS shall require documents in the following list to be on file at the Site and available at any time for TxDOT review:

- CEPP component parts;
- Weekly Environmental Monitoring Reports;
- Investigative Work Plans, Site Investigative Reports. and Remedial Action Plans as necessary for hazardous material discovery/remediation;

- Wetlands Delineations and appropriate Section 404 Permit Application if changes to the design or temporary construction impacts are necessary;
- Mitigation or resource monitoring reports, as required by resource-specific mitigation plans;
- Designs for wetland and floodplain mitigation;
- TPDES Construction General Permit (TXR150000), Notice of Intent
- TPDES Construction General Permit (TXR 150000), Notice of Termination for Work completed (to be maintained a the Facility Office);
- Storm Water Pollution Prevention Plan (SW3P) and amendments, as required, to reflect Facility development and staging, including off-site plans, controls and reporting from borrow sites, waste sites, and plant location sites;
- Completed Permit applications and permits as issued;
- Pre-Construction Inspection Report;
- Training Documentation; and
- The Developer's final noise analysis, if different than that included in the TxDOT-Provided Approvals.
- Environmental Permits, Issues, and Commitments (EPIC) Sheets

4.3.2 Environmental Compliance and Mitigation Plan (ECMP)

- **Endangered Species Act and Fish and Wildlife Coordination Act**

The bullet titled "Endangered Species Act and Fish and Wildlife Coordination Act" in Section 4.3.2 of Book 3 is replaced with the following:

The Developer shall document how they shall comply with the Endangered Species Act (ESA) and the Fish and Wildlife Coordination Act (FWCA). The documentation at a minimum shall include:

- Process for training personnel on the requirements of the ESA and FWCA,
- Process for communicating any commitments regarding ESA and FWCA,
- Procedures for complying with any commitments including mitigation.

- **Traffic Noise**

The bullet titled "Traffic Noise" in Section 4.3.2 of Book 3 is replaced with the following:

The Developer shall document how they will address traffic noise mitigation. The documentation at a minimum shall include:

- Process for carrying out noise mitigation measures as identified and discussed in the approved NEPA document and schematic,
- Process for carrying out noise mitigation measures determined throughout the life of the project,
- Process to handle changes that may occur to proposed permanent noise mitigation in the approved NEPA document and schematic.

To fulfill the commitments of the previously mentioned TxDOT-Provided Approvals the Developer shall be responsible for implementing all noise mitigation measures to minimize construction and long-term impacts of the Work as prescribed in TxDOT-Provided Approvals and subsequent TxDOT-Provided Approvals secured by the Developer. The Developer acknowledges that TxDOT-Provided Approvals and proposed permanent noise mitigation are based on the schematic design; consequently the proposed

permanent noise mitigation may require amending by the Developer as the Work progresses. Such amendments shall be submitted to TxDOT for review and approval.

Developer shall be responsible for public notification and involvement per TxDOT Guidelines for Analysis and Abatement of Highway Traffic noise and in accordance with Section 3, Public Information and Communications.

Developer shall be responsible for all coordination with adjacent property owners and Governmental Entities necessary to obtain all such amendments to TxDOT-Provided Approvals and for ensuring compliance with the conditions and schedules set forth in the amendment of any TxDOT-Provided Approvals.

- **Cultural Resource Studies**

The second paragraph of the bullet titled "Cultural Resource Studies" in Section 4.3.2 of Book 3 is replaced with the following:

Subsequent to issuance of NTP1, the Developer shall be responsible for performing any necessary cultural resource surveys, evaluations, testing, and mitigation in those areas outside of the Facility ROW shown on the schematics as defined in the original NEPA Approval and within the area of potential effects. The Developer shall coordinate all necessary Antiquities Permits through TxDOT. Antiquities Permits shall be obtained from the Texas Historical Commission (THC) for archeological surveys, testing, monitoring, and data recovery.

4.3.3 Environmental Protection Training Plan (EPTP)

No additional requirements.

4.3.3.1 EPTP Scope and Content

The seventh bullet of Section 4.3.3.1 of Book 3 is replaced with the following:

- BMPs for environmental compliance, including pollution prevention, erosion, sedimentation, post construction controls, and dust control measures to maintain water and air quality.

4.3.4 EPTP Participation

Supplement Section 4.3.4 of Book 3 with the following:

The Developer shall require all non-administrative employees to participate in the EPTP and shall keep accurate records documenting attendance, as well as materials presented.

In addition to English, the workers must be provided the opportunity to receive their training and training materials in Spanish.

4.3.4.1 EPTP Schedule

Supplement Section 4.3.4.1 of Book 3 with the following:

Developer shall submit to TxDOT for review and approval in its good faith and discretion, course outlines containing learning objectives designed to achieve stated goals and suggested staff attendance for all anticipated training requirements through the Term of the Agreement. Course outlines shall be submitted within 90 Days after NTP1.

4.3.5 Hazardous Materials Management Plan (HMMP)

No additional requirements.

4.3.5.1 Investigative Work Plans (IWP) and Site Investigation Reports (SIR)

If Hazardous Materials and petroleum products are encountered within any of the Facility ROW or Additional Properties used as the Developer's staging area, field office site, plant sites, borrow site, or stockpile location, Developer shall prepare an investigation work plan that addresses the methods,

techniques, and analytical testing requirements to adequately characterize the extent of the contaminated media (soil and/or groundwater) potentially impacting the Facility. Developer shall locate and assess the likely source of contamination.

A Registered Professional Engineer and other qualified professionals, as needed, shall prepare the IWP and other necessary reports in accordance with applicable, relevant or appropriate Laws and guidance.

Upon satisfactorily completing the investigative work, the Developer shall summarize the findings within a Site Investigation Report and make recommendations regarding potential response actions necessary for Facility development. The Developer shall take Hazardous Materials and petroleum products contamination into account during all subsequent phases of Facility development, including Additional Properties negotiation and acquisition, property management, design, and construction.

The Site Investigation Report shall address the characterization of the impacted area; sampling efforts and findings; opportunities to avoid the contamination by adjusting the design; level of response action warranted if the contamination cannot be avoided; feasibility of initiating response actions prior to construction; pursuit of cost-reimbursement from responsible parties; the need for completing response actions concurrent with construction and nature of any special specifications and provisions necessary for incorporation into the Facility.

Developer may initiate a preventative or corrective action after TxDOT review and receive approval of the Site Investigation Report from appropriate Federal or State agencies.

4.3.6 Communication Plan (CP)

No additional requirements.

4.3.7 Construction Monitoring Plan (CMP)

Supplement Section 4.3.7 of Book 3 with the following:

Prior to NTP2, the Developer shall inspect existing facilities, structures, and environmentally sensitive areas in the vicinity of the Site. The Site inspection shall document the pre-construction condition of vegetation, streets, sidewalks, landscaping, residential and commercial property, creeks, storm drainage and infrastructure that may be affected by the Facility. The purpose of the inspection is to provide a point of reference to ensure any area affected by the Work is restored to its pre-construction condition. Developer shall document the inspection with a report that shall include photographs, sketches, maps, and narratives clearly depicting the pre-construction Site condition.

The post award inspection shall inspect the Municipal Separate Storm Sewer System (MS4) located within and adjacent to the Site. The purpose of this inspection is to document pre-existing drainage issues/problems that could later result in a fine or penalty imposed by the Jurisdictional Entity

Following construction of the Facility, Developer shall conduct a yearly inspection to monitor and repair any of the above mentioned deficiencies in the storm water system if it is determined that the deficiencies are due to the Developer's work or determined to be their responsibility.

4.3.8 Recycling Plan

No additional requirements.

4.4 Environmental Personnel

No additional requirements.

4.4.1 Environmental Compliance Manager (ECM)

Supplement Section 4.4.1 of Book 3 with the following:

The ECM shall be an employee of Developer. Developer shall not have the ability to relieve the ECM of his or her duty without the written consent of TxDOT. Should Developer desire to replace the ECM,

Developer shall submit the resume of a replacement candidate. The replacement candidate shall be available fulltime within thirty (30) Days after delivery of TxDOT's written acceptance. In the absence of the Environmental Compliance Manager, their Hazardous Materials Manager shall act as an interim Environmental Compliance Manager.

Qualifications: The ECM candidate shall have at least five years experience successfully managing environmental compliance of urban freeway construction. The qualifying experience used to evaluate an ECM candidate must include the following experience:

- Developing and managing a storm water pollution prevention plan;
- Developing and managing a hazardous substance and petroleum products management plan;
- Implementing environmental mitigation plans;
- Providing environmental and personal protection training; and
- Monitoring compliance with Section 404 Permit conditions.

The Environmental Compliance Manager's qualifying experience must demonstrate the Manager is familiar with:

- The scope and terminology of ASTM E 1527-05, "Standard Practice for Environmental Site Assessment Process",
- Provisions of the TPDES Construction General Permit (TXR 150000), and
- Requirements of Section 404 and permit provisions.

4.4.2 Environmental Training Staff

No additional requirements.

4.4.3 Environmental Compliance Inspectors (ECI)

Supplement Section 4.4.3 of Book 3 with the following:

The ECI shall report immediately to the ECM any violation or non-compliance and shall include with any such reports, the appropriate recommendations for corrective action, including stoppage of Work.

The Environmental Compliance Inspectors shall have at least one year operational control experience of Storm Water Pollution Prevention Plan Activities.

4.4.4 Cultural Resource Management Personnel

Supplement Section 4.4.4 of Book 3 with the following

The ECM shall designate personnel in the event that a need arises for renewed activities to comply with cultural resources laws.

Qualifications: The Cultural Resource Management Personnel shall meet the certification requirement of TxDOT Work Category, 2.8.1, "Surveys, Research and Documentation of Historic Buildings, Structures, and Objects," 2.9.1, "Historic Architecture," 2.10.1, "Archeological Surveys, Documentation, Excavations, Testing Reports and Data Recovery Plans," and 2.11.1, "Historical and Archival Research."

4.4.5 Natural Resource Biologist

Section 4.4.5 of Book 3 is replaced with the following:

The ECM shall designate a Natural Resource Biologist to provide expertise in monitoring impacts on wildlife and the natural environment during the course of the Work.

Qualifications: The Natural Resource Biologist shall meet the certification requirement of TxDOT Work Category, 2.6.1, "Protected Species Determination (Habitat)" and 2.6.3, "Biological Surveys."

4.4.6 Water Quality Specialist

Section 4.4.6 of Book 3 is replaced with the following:

The ECM shall designate a Water Quality Specialist to provide expertise in permitting delineation, stormwater pollution prevention, and the protection of jurisdictional waters during the course of the Work.

Qualifications: The Water Quality Specialist shall have verifiable experience implementing Storm Water Pollution Prevention Plans and be able to demonstrate a working knowledge of the Texas Pollutant Discharge Elimination System and MS4 permit requirements applicable to the Facility.

The Water Quality Specialist shall meet the certification requirements of TxDOT Work Category 2.4.1, "Nationwide Permit."

4.4.7 Hazardous Materials Manager

Section 4.4.7 of Book 3 is replaced with the following:

The ECM shall designate a Hazardous Materials Manager to provide expertise in the safe handling of Hazardous Materials required to perform the Work and those that may be discovered/impacted during the duration of the Agreement. The Hazardous Materials Manager shall conduct appropriate activities such as the following:

- Schedule and/or conduct training for the Developer's employees.
- Verify all employee certifications prior to and required for any handling of Hazardous Materials.
- Maintain records of all incidents involving Hazardous Materials and notify the ECM, TxDOT and appropriate authorities in writing of any such incidents.

Qualifications: The Hazardous Materials Manager shall meet the certification requirements of TxDOT Work Category 2.123.1 "Hazardous Materials Initial Site Assessment", be a qualified professional with 40-hour HAZWOPER certification. In addition, the Hazardous Material Manager shall have at least five years experience in similar projects in the following areas:

- Experienced in developing IWPs, SIRs, and remedial action plans or equivalent reports necessary and acceptable to the TCEQ in material discovery and remediation efforts of Hazardous Materials.
- Experienced in TCEQ guidance for the investigation and remediation of Hazardous Materials under the TCEQ Voluntary Cleanup Program and Texas Risk Reduction Program Rules.

5 THIRD PARTY AGREEMENTS

5.1 General

TxDOT has agreements with local Governmental Entities along the Facility corridor that define the maintenance and operation of traffic signals, illumination and roadway maintenance. The agreements specify the local Governmental Entities responsibilities and TxDOT's responsibilities.

For the purpose of this CDA, Developer will execute TxDOT's responsibilities and duties as defined in the current and future agreements. The Developer is responsible for providing TxDOT and Governmental Entities with all information necessary to fulfill TxDOT's responsibilities under these agreements.

In accordance with current and subsequent agreements requiring TxDOT to reimburse the local Governmental Entity for their role in operating and/or maintaining certain facilities, Developer shall reimburse TxDOT the said costs. The Developer shall make payment to TxDOT within 30 Days from receipt of TxDOT's request for payment.

5.2 Traffic Signals

Traffic signal locations at which TxDOT and the local Governmental Entities have Traffic Signal Agreements that designates the operation and maintenance responsibilities are identified in Table 16-1.

Where TxDOT is responsible for the electrical power costs for the traffic signal systems, which are billed directly to TxDOT, Developer shall coordinate with the Utility Owner(s) to have the power services for all traffic signal systems in the Facility limits to be billed directly to the Developer within 90 Days of NTP2.

The Developer will submit plans and specifications for proposed signal work to the city and will secure the city's written consent in accordance with the form required by the agreement between TxDOT and the city. The consent shall form part of the Released for Construction Documents.

Developer agrees to allow unconditional access to all traffic signal systems to TxDOT and the local Governmental Entities. The Developer agrees to report in writing any issues regarding these traffic signals to all appropriate agencies as soon as the issue is identified.

5.3 Roadway Illumination

Where roadway illumination agreements exist, Developer shall execute TxDOT's responsibilities and duties as defined by these agreements. Developer shall coordinate with and provide reasonable accommodations to third parties (municipalities) requiring access to fulfill the obligations as specified in the agreements.

As required due to reconstruction, Developer shall design and construct frontage road illumination where specified in existing roadway illumination agreements or where existing frontage roads in the Facility limits are illuminated. The operations and maintenance responsibilities will remain as specified in the existing agreements.

New agreements between TxDOT and the Governmental Entity will be required when a local Governmental Entity requests additional illumination along frontage roads within the Facility limits. The Developer will be able to review and comment on these agreements and any additional design, construction, operation, and maintenance costs associated with these improvements will be considered a TxDOT change.

5.4 Municipal Maintenance Agreements

Where Municipal Maintenance Agreements exist, Developer shall execute TxDOT's responsibilities and duties as defined by these agreements. Developer shall coordinate the necessary arrangements directly with the appropriate local Governmental Entity for additional maintenance or improvements within the local Governmental Entity's jurisdiction if so required by the Work.

5.5 Other Affected Third Parties

When Work interfaces with other third party facilities, Developer is the responsible to coordinate the Work with all third parties potentially affected by the Work. Developer shall prepare a plan that describes how the Developer will mitigate the impact of the Work upon potentially impacted third parties.

6 UTILITY ADJUSTMENTS

6.1 General Requirements

Section 6.1 of Book 3 is replaced with the following:

A number of existing Utilities are located within or in the vicinity of the Facility ROW, some pursuant to statutory rights and some pursuant to property rights. Certain of those existing Utilities will need to be relocated or otherwise adjusted in order to accommodate the Facility. This Section 6 establishes procedures and requirements for Utility Adjustments including such processes as coordination with Utility Owners, administration of the engineering, construction and other activities necessary for Utility Adjustments, and required documentation. Section 6 references certain TxDOT forms for Developer's use in Utility Adjustments. Copies of those forms are included in Attachment 06-1 (Utility Forms). Except as otherwise provided in this Section 6 or directed by TxDOT, whenever a TxDOT form is provided in the attachment as noted in Book 2, Developer shall prepare all forms of the same type using the TxDOT form.

Developer shall cause all Utility Adjustments necessary to accommodate construction, operation, maintenance and/or use of the Facility, in both its initial configuration and in its Ultimate Configuration. Some Utility Adjustments may be performed by the Utility Owner with its own forces and/or contractors and consultants (i.e., Owner-Managed); all others shall be performed by Developer with its own forces and/or Contractors and consultants (subject to any approval rights required by the Utility Owner for those working on its facilities) (i.e., Developer-managed). The allocation of responsibility for the Utility Adjustment Work between Developer and the Utility Owners shall be specified in the Utility Agreements.

Developer's obligations regarding reimbursement to Utility Owners for eligible costs of Utility Adjustment Work, and Developer's obligations regarding the accommodation of Utilities from and after the Service Commencement Date, are set forth in Section 7.5.4 and Section 8.1.5 of the Agreement.

This Section 6 does not address Utility services to the Facility. Utility services to the Facility shall be the subject of separate agreements between Developer and Utility Owners.

6.1.1 When Utility Adjustment is Required

No additional requirements.

6.1.2 Certain Components of the Utility Adjustment Work

No additional requirements.

6.1.2.1 Coordination

Section 6.1.2.1 of Book 3 is replaced with the following:

Developer shall communicate, cooperate, and coordinate with TxDOT, the Utility Owners and potentially affected third parties, as necessary for performance of the Utility Adjustment Work. Developer shall be responsible for preparing (unless prepared by the Utility Owner) and securing execution (by Developer and the Utility Owner) of all necessary agreements.

All executed Utility Agreements between Developer and Utility Owners must be approved by TxDOT prior to taking effect.

6.1.2.2 Betterments

No additional requirements.

6.1.2.3 Protection in Place

No additional requirements.

6.1.2.4 Abandonment and Removal

No additional requirements.

6.1.2.5 Service Lines and Utility Appurtenances

No additional requirements.

6.1.2.6 Early Adjustments

No additional requirements.

6.1.3 Reserved

6.1.4 Agreements Between Developer and Utility Owners

No additional requirements.

6.1.4.1 Master Utility Adjustment Agreements (MUAA)

Section 6.1.4.1 of Book 3 is replaced with the following:

Developer shall enter into one or more MUAAs with each affected Utility Owner to define the design, material, construction, inspection, and acceptance standards and procedures necessary to complete Utility Adjustments, as well as to define Developer's and the Utility Owner's respective responsibilities for Utility Adjustment costs and Utility Adjustment activities such as material procurement, construction, inspection, and acceptance. A MUAA may address more than one Utility Adjustment for the same Utility Owner. Additional Adjustments may be added to an existing MUAA by a Utility Adjustment Agreement Amendment (UAAA).

Developer shall prepare each MUAA using the standard form of TxDOT Master Utility Adjustment Agreement (Owner-Managed) or TxDOT Master Utility Adjustment Agreement (Developer-Managed), copies of which are in the attachment as noted in Book 2. Developer shall not modify the standard forms except by approval of a Deviation pursuant to Section 7.5.2 of the Agreement.

Promptly following issuance of NTP1, Developer shall begin negotiations with each affected Utility Owner to reach agreement on one or more MUAAs. Developer shall use good faith efforts to finalize a MUAA with each affected Utility Owner within a reasonable time period after issuance of NTP1. Developer shall include any proposed changes to a standard form (other than approved Deviations as described in the preceding paragraph and filling in blanks specific to a particular Utility Owner) in a Utility Owner-specific addendum. Each MUAA (including the Utility Adjustment Plans attached thereto) shall be subject to TxDOT review and approval as part of a Utility Assembly.

6.1.4.2 Utility Adjustment Agreement Amendments

No additional requirements.

6.1.5 Recordkeeping

No additional requirements.

6.2 Administrative Requirements

No additional requirements.

6.2.1 Standards

No additional requirements.

6.2.2 Communications

No additional requirements.

6.2.2.1 Communication with Utility Owners: Meetings and Correspondence

The third paragraph of Section 6.2.2.1 of Book 3 is replaced with the following.

Before distribution of any mass mailings to Utility Owners, Developer shall submit to TxDOT, 21 Days in advance of distribution, for its review and comment the form, content, and addressees of any such mass mailings. For purposes of this Section 6.2.2.1, the term "mass mailing" means correspondence that is sent to 50 percent or more of Utility Owners within a three-week time period, and contains substantially the same content with respect to each Utility Owner.

6.2.3 Utility Adjustment Team

No additional requirements.

6.2.4 Real Property Matters

No additional requirements.

6.2.4.1 Documentation of Existing Utility Property Interests -- Affidavits

Section 6.2.4.1 of Book 3 is replaced with the following:

For each Existing Utility Property Interest within the Project ROW claimed by any Utility Owner, Developer shall include an Affidavit of Property Interest in the applicable Utility Assembly, with documentation of the Existing Utility Property Interest (e.g., an easement deed) attached. Any such claim shall be subject to TxDOT's approval as part of a Utility Assembly review. Except as otherwise directed by TxDOT, Developer shall prepare all Affidavits of Property Interest using the standard forms included in the attachment as noted in Book 2.

6.2.4.2 Acquisition of Replacement Utility Property Interests

No additional requirements.

6.2.4.3 Relinquishment of Existing Utility Property Interests

No additional requirements.

6.2.4.4 Quitclaim Deeds

Section 6.2.4.4 of Book 3 is replaced with the following:

Except as otherwise directed by TxDOT, Developer shall prepare a Quitclaim Deed for each relinquishment of an Existing Utility Property Interest using TxDOT's standard form included in the attachment as noted in Book 2. Each Quitclaim Deed shall be subject to TxDOT's approval as part of a Utility Assembly as described below.

Developer understands and expects that a Utility Owner will not relinquish any Existing Utility Property Interest until after the Adjusted Utility has been accepted by the Utility Owner in its new location. Accordingly, instead of an executed Quitclaim Deed, the Utility Assembly for such a Utility Adjustment shall include a letter signed by the Utility Owner's authorized representative confirming that the interest will be quitclaimed upon completion of the Utility Adjustment, and a copy of the unsigned Quitclaim Deed. In these cases, Developer shall obtain the executed Quitclaim Deed promptly upon completion of the Utility Adjustment.

6.2.4.5 Utility Joint Use Acknowledgements

No additional requirements.

6.2.4.6 Documentation Requirements

No additional requirements.

6.3 Design

No additional requirements.

6.3.1 Developer's Responsibility for Utility Identification

Section 6.3.1 of Book 3 is replaced with the following:

Developer bears sole responsibility for ascertaining, at its own expense, all pertinent details of Utilities located within the Facility ROW or otherwise affected by the Facility, whether located on private property or within an existing public ROW, and including all Service Lines.

Developer shall prepare and submit to TxDOT, a Utility Strip Map showing the information obtained and/or confirmed pursuant to this Section 6.3.1. Developer's Utility Strip Map shall show in plan view all Utilities within the Facility ROW or otherwise impacted by the Facility, in each case detailing the type of Utility facility (communication, gas, oil, water, etc.) and the Utility Owner's name and contact information. The scale of the Utility Strip Map shall be 1"=200'. Developer shall update the information provided in the Utility Strip Map with SUE data and shall submit the same to TxDOT in accordance with the FMP.

6.3.2 Technical Criteria and Performance Standards

No additional requirements.

6.3.3 Utility Adjustment Concept Plans

No additional requirements.

6.3.4 Utility Adjustment Plans

Section 6.3.4 of Book 3 is replaced with the following:

Utility Adjustment Plans, whether furnished by Developer or by the Utility Owner, shall be signed and sealed by a Registered Professional Engineer (PE).

Developer shall submit Utility Adjustment Plans after TxDOT has provided Developer with Utility Adjustment Concept Plan review comments.

6.3.4.1 Plans Prepared by Developer

No additional requirements.

6.3.4.2 Plans Prepared by the Utility Owner

No additional requirements.

6.3.4.3 Design Documents

No additional requirements.

6.3.4.4 Certain Requirements for Underground Utilities

No additional requirements.

6.3.4.5 Utility Assemblies

The fourth paragraph of Section 6.3.4.5 of Book 3 is replaced with the following:

Supplemental Utility Assemblies. For each UAAA, Developer shall prepare a supplement to the Utility Assembly for the relevant initial MUAA (a Supplemental Utility Assembly), covering all Utility Adjustments addressed in the UAAA. The Supplemental Utility Assembly shall contain a transmittal memo, Utility Assembly Checklist, proposed UAAA cost estimate, a proposed UAAA which has been executed by the Utility Owner and Developer (one original in each of the two original Supplemental Utility Assemblies), including all required attachments, and applicable revisions to the Utility Adjustment Plans, as well as Utility Joint Use Acknowledgement(s) and Affidavit(s) of Property Interest, if applicable. The transmittal memo shall briefly describe the desired amendment and explain why the amendment is necessary. Each of the foregoing items shall comply with the requirements for same described in Attachment 06-2 (Utility Assembly and Tracking Report Requirements).

6.4 Construction

No additional requirements.

6.4.1 Reserved

No additional requirements.

6.4.2 General Construction Criteria

No additional requirements.

6.4.3 Inspection of Utility Owner Construction

No additional requirements.

6.4.4 Scheduling Utility Adjustment Work

Section 6.4.4 of Book 3 is replaced with the following:

The Utility Adjustment Work (other than construction) may begin at any time following issuance of NTP1. Developer shall not arrange for any Utility Owner to begin any demolition, removal, or other construction work for any Utility Adjustment until all of the following conditions are satisfied:

1. The Utility Adjustment is covered by an executed Utility Agreement (and any conditions to commencement of such activities that are included in the Utility Agreement have been satisfied);
2. Availability and access to affected Replacement Utility Property Interests have been obtained by the Utility Owner (and provided to Developer, if applicable);
3. If any part of the Utility Adjustment construction work will affect the Facility ROW, availability and access to that portion of the Facility ROW has been obtained in accordance with the applicable requirements of the CDA Documents
4. If applicable, the Alternate Procedure List has been approved by FHWA, and either (a) the affected Utility is on the approved Alternate Procedure List, as supplemented, or (b) the Utility Owner is on the approved Alternate Procedure List, as supplemented.
5. The review and comment process has been completed and required approvals have been obtained for the Utility Assembly covering the Utility Adjustment.
6. All Governmental Approvals necessary for the Utility Adjustment construction have been obtained, and any pre-construction requirements contained in those Governmental Approvals have been satisfied.
7. All other conditions to that work stated in the CDA Documents have been satisfied.

6.4.5 Standard of Care Regarding Utilities

No additional requirements.

6.4.6 Emergency Procedures

No additional requirements.

6.4.7 Utility Adjustment Field Modifications

No additional requirements.

6.4.8 Switch Over to New Facilities

No additional requirements.

6.4.9 Record Drawings

No additional requirements.

6.4.10 Maintenance of Utility Service

No additional requirements.

6.4.11 Traffic Control

No additional requirements.

6.5 Deliverables

Section 6.5 of Book 3 is replaced with the following:

Developer shall time all Submittals described in this section to meet the Facility Schedule, taking into account TxDOT's designated review and response time of 10 Business Days. All deliverables shall conform to the standards required in the Facility Management Plan.

6.5.1 Maximum Number of Submittals

Section 6.5.1 of Book 3 is replaced with the following:

Developer shall coordinate all Submittals required pursuant to this Section 6.5, so as not to overburden TxDOT's staff and consultants. In each calendar week, Developer shall not submit more than:

1. Two Utility Assemblies (excluding Supplemental or Abbreviated Utility Assemblies)
2. Two of any documentation constituting any of the following:
   - A modified or additional item submitted in response to TxDOT comments on a particular Utility Assembly
   - A Quitclaim Deed
   - Any other type of relinquishment document
3. Two Supplemental Utility Assemblies;
4. Two Abbreviated Utility Assemblies.

Where the number of Submittals exceeds these limits, the submittals shall be considered excess and TxDOT may defer its review of any such excess parcels to a subsequent calendar week (or weeks as necessary).

6.5.2 Developer's Utility Tracking Report

Section 6.5.2 of Book 3 is replaced with the following:

Developer shall maintain a Utility Tracking Report in tabular form, listing all Utilities located within the Facility ROW or otherwise potentially affected by the Facility. The Utility Tracking Report shall include the items specified in the attachments noted in Book 2.

Developer shall submit the Utility Tracking Report to TxDOT and update it quarterly, or as requested by TxDOT, in accordance with the FMP.

6.5.3 Utility Assembly Submittals

The second paragraph of Section 6.5.3 of Book 3 is replaced with the following:

TxDOT will review the Utility Assembly for compliance with the requirements of this Section 6.5.3, and within 10 Business Days will return the Utility Assembly to Developer with the appropriate notations (pursuant to Section 6.3 of the Agreement) to reflect its responses. Developer shall transmit any TxDOT comments to the Utility Owner, and shall coordinate any modification, review and approval by the Utility Owner and re-submittal to TxDOT, as necessary to resolve all TxDOT comments and/or obtain TxDOT's approval, as applicable. Upon (a) TxDOT's approval of any Utility Assembly components for which TxDOT's approval is required, and (b) completion of the review and comment process for all other Utility Assembly components, TxDOT will sign three originals of any approved UJUA and of any other components of the Utility Assembly for which this Section 6 requires TxDOT's signature.

6.5.4 FHWA Alternate Procedure

No additional requirements.

7 RIGHT OF WAY (ROW)

7.1 General Requirements

No additional requirements.

7.2 Administrative Requirements

No additional requirements.

7.2.1 Standards

Supplement Section 7.2.1 of Book 3 with the following:

- TxDOT *GPS Manual*

7.2.2 Software Requirements

No additional requirements.

7.2.3 ROW Acquisition Plan

No additional requirements.

7.2.4 Schedule and Review Procedures

Supplement Section 7.2.4 of Book 3 with the following:

In developing the Facility Schedule, Developer shall incorporate adequate time periods for TxDOT review and approval of Acquisition Packages. TxDOT intends to review the completed Acquisition Packages as expeditiously as possible; however, for the purposes of the Facility Schedule, Developer shall assume that the reviews performed by TxDOT will require 10 Business Days for Acquisition Packages that Developer submits as final and complete in accordance with Section 7.3.6 (Facility ROW Acquisition Package Approval), up to a maximum of 25 Acquisition Packages. Any Submittals that would require TxDOT to review more than 25 Acquisition Packages within any given ten Business Day period shall be considered excess, and TxDOT may defer its review of any such Acquisition Packages to a subsequent ten Business Day period (or periods as necessary). TxDOT will notify Developer of its election to defer any excess Acquisition Packages within ten Business Days after receipt. The balance of Acquisition Packages in excess of 25 will be rolled over to the next ten Business Day period and added to the Acquisition Package Submittals made by Developer in that period. When Developer opts to submit more than one Acquisition Package at any given time, Developer shall indicate the priority of required review in order to meet the Facility Schedule.

7.2.5 Developer's Facility ROW Scope of Services

No additional requirements.

7.2.6 Acquisition Process Summary

No additional requirements.

7.2.7 ROW Personnel Qualifications

Supplement Section 7.2.7 of Book 3 with the following:

Each appraiser and appraisal reviewers shall be licensed and certified in the State of Texas and shall have a minimum of five years experience in appraising real property for eminent domain purposes, including partial taking appraisal, partial taking appraisal review and expert witness testimony. He or she must also have been actively and continuously engaged for at least three years immediately preceding his or her selection for this Facility in appraisal work primarily in Tarrant County, Texas, or as approved by TxDOT. The appraisers and the appraisal reviewers shall have separate and distinct duties, and appraisers must be employed by different firms from the appraisal reviewers. Each appraiser shall be required to

submit three samples of previous appraisal work prepared for eminent domain purposes. All appraisers preparing and signing appraisals must be approved by TxDOT before performing any appraisals on the Facility. If required by TxDOT, the appraiser will be required to demonstrate his/her skills at expert witness testimony.

Each land planner shall have a minimum of five years experience in land planning, including experience with expert witness testimony in eminent domain proceedings. He or she must also have been actively and continuously engaged for at least three years immediately preceding his or her selection for this Facility in land planning work primarily in Tarrant County, Texas, or as approved by TxDOT. Developer shall provide a minimum of two land planners available to assist appraisers and complete land plans.

7.2.8 Developer Conflict of Interest

No additional requirements.

7.2.9 Meetings

No additional requirements.

7.2.10 Documentation and Reporting

No additional requirements.

7.2.11 Responsibilities of Developer

Supplement Section 7.2.11 of Book 3 with the following:

Developer and TxDOT acknowledge that Developer has incorporated the value of saleable improvements into the Facility ROW costs shown in the Financial Model, and that Developer, shall concurrently with conveyance of the real property interest to the State of Texas, and without the necessity of further documentation executed by the State, obtain the rights to said saleable improvements. Developer shall not be entitled to a credit for any improvements retained by a property owner. Upon conveyance of the real property interest to the State of Texas, Developer shall comply with all applicable Laws with respect to relocation assistance and demolition.

7.2.12 Responsibilities of TxDOT

3. Not used.

7.2.13 TxDOT Facility Monitor/Reviewer

No additional requirements.

7.2.14 Responsibilities of the Office of the Attorney General

No additional requirements.

7.3 Pre-Acquisition Activities

No additional requirements.

7.3.1 Facility ROW Surveying and Mapping

Section 7.3.1 of Book 3 is replaced with the following:

Developer shall perform all Facility ROW surveying and mapping and shall prepare all Facility ROW documents in accordance with the Manual of Practice by the Texas Society of Professional Land Surveyors and the US National Map and Accuracy Standards. Developer shall refer to Section 9 (Land Surveying) for additional survey requirements.

The Facility ROW map shall be prepared by Developer and submitted to TxDOT for review and approval. The Facility ROW map may be prepared in separate constructible segments established by the logical termini of the Facility. TxDOT shall have 15 Business Days for review of each submitted Facility

ROW map, up to a maximum of 25 parcels. Any submittals that would require TxDOT to review more than 25 parcels in a Facility ROW map within any given 15 Business Day period shall be considered excess, and TxDOT may defer its review of any such excess parcels to a subsequent 15 Business Day period (or periods as necessary).

Developer shall prepare all Facility ROW surveying and mapping in accordance with the following supplemental specifications:

1. Developer shall assemble an Acquisition Survey Document Package. The Acquisition Survey Document Package shall include:
    a) One full size right of way map on paper, Scale 1" = 50' (22" x 34").
    b) Three half size right of way maps on paper, Scale 1" = 100' (11' x 17")
    c) One set of folders for each parcel, Parts 1 & 2, etc.., would be considered one folder. With one (copy signed and sealed) legal, sketch, closure sheet, parent tract deed (& Bi-Section if applicable) secured inside on the right side. Note: just pencil on tab of folder what Parcel no. and FTW District will make the label.
    d) Three copies (signed & sealed) of each legal and sketch loose inside of folder
    e) One separate set (copies) of legal and sketch of each parcel for TxDOT records.
    f) One separate set (copies) of legal and sketch of each parcel for Title Company.
    g) One separate set of Originals signed and sealed by R.P.L.S. legal & sketch to be kept in mapping files
    h) A CD with DGN Master File, Map Sheets, Excel Point List and Raw Data File and/or Field Notes.

    Each map sheet and document page shall have an "as of" date near the lower right hand corner. The parcel plat and parcel description for a given parcel should show identical “as of” dates.
2. The parcel, as shown on the Facility ROW map sheet and plat, shall show all areas of denied access according to the current TxDOT *Access Control Management Manual*.
3. The point of beginning (POB) shall be located on the proposed Facility ROW line and shown in all documents with its centerline (Survey Baseline) station and offset.
4. The point of commencing (POC), where applicable, shall be a well-defined monument, and shall be tied to the POB by measured bearing and distance. The POC shall not be located on any proposed Facility ROW line, or existing Facility ROW line within the proposed Facility ROW.
5. The centerline (survey baseline) station and offset shall be shown on the Facility ROW map sheets for all significant points along the Facility ROW line such as point of curvature (PC), point of tangency (PT), point of intersection (PI), point of compound curvature (PCC), and point of reverse curvature (PRC), and for property line intersections (PLI) with the Facility ROW line, and for any other monumentation points on the Facility ROW line.
6. The centerline (survey baseline) station and offset shall be shown in the parcel description and parcel plat at the beginning and ending, being the points with the lowest station and the highest station, of each parcel along the proposed Facility ROW line.
7. Facility ROW map sheets shall include all curve data, with the station and coordinates of the PI, and the stations at each end (PC, PT, PRC, PCC), for every centerline (survey baseline) curve on that map sheet.
8. Any existing ROW lines being incorporated into the proposed Facility ROW, including intersecting rights of way, shall be surveyed and monumented (if not previously monumented).
9. All Facility ROW maps (and on the title sheet) and all parcel descriptions (at the end of the description) shall include a notation that identifies the State Plane Coordinate System and UTM zones, datum (NAD83) (HARN) (2002), and the Facility grid-to-surface coordinate adjustment factor.
10. A Facility ROW map title sheet with signature blocks shall be produced for each portion of the Facility. Developer shall sign the Facility ROW map.

11. All Facility ROW maps shall include a control sheet (or sheets), to show the primary survey control points with their location relative to the Facility.
12. The parcel description and parcel plat documents shall all be referenced as parts of the exhibit recorded with the deed, so the pages shall be numbered accordingly. For example, if the parcel description is two pages, the parcel plat is one page, then the first page of the parcel description is denoted "Page 1 of 3", the parcel plat is denoted "Page 3 of 3".
13. Improvements within 100 feet outside of all proposed Facility ROW shall be depicted on the Facility ROW map sheets. All improvements should be current as of the date of the on-the-ground property survey.
14. All visible improvements (buildings and structures) within 25 feet outside of the proposed Facility ROW line shall be located by an "on-the-ground" survey and documented on the Facility ROW map sheets and the parcel plats by measured offset distance from the proposed Facility ROW line. Clearly indicate which distances are surveyed on–the-ground.
15. Calculated points shall be shown by a symbol on the drawing, with their relationship to the found reference points.
16. All property, city, county, abstract, section, and survey lines shall be indicated appropriately. A map legend should clearly define the line styles and symbols used.
17. Upon final submittal of the Facility ROW documents to TxDOT, Developer shall cause the surveyor to mark on the ground, using permanent and stable monuments as defined in Section 663.17 of the General Rules of Procedures and Practices of the Texas Board of Professional Land Surveying (TBPLS), all significant points along the Facility ROW line, as described above, and all property line intersections with the Facility ROW line. TxDOT requires these monuments to be a ½-inch iron rod, driven just below surface level, capped by a TxDOT-labeled aluminum cap (rod-and-cap monument).
18. Prior to acceptance of the Facility ROW maps and surveys by TxDOT, Developer shall cause a TxDOT Type II monument to be set at all significant points on the Facility ROW line and at intersections with existing Facility ROW lines, replacing monuments as described above (construct according to TxDOT specifications), unless otherwise directed by TxDOT.
19. Developer shall cause a TxDOT Type II monument to be set at all significant points on the Facility ROW line and at intersections with existing Facility ROW lines, replacing monuments as described above, unless directed by TxDOT. Facility ROW line intersections with property lines shall remain monument by a ½-inch iron rod with a TxDOT aluminum cap (rod-and –cap monument).To reference all significant points along the centerline (survey baseline), Developer shall set a rod-and-cap monument; and upon completion of the Facility ROW acquisition or as directed by TxDOT, Developer shall replace it with a TxDOT Type II monument, on the final Facility ROW lines, perpendicularly left and right of each significant centerline point, regardless of the relative orientation of the final Facility ROW line.
20. For any required revisions, Developer shall resubmit to TxDOT all documents pertaining to the parcel to reflect the most recent revision date, and shall add a notation on the appropriate documents to state briefly the reason for the revision.
21. Documents shall contain deed references (survey name, abstract number, volume and page or document number, grantee, and area) for all existing public right of way encountered within the Facility limits. If there is no recorded information found, a note shall state "Based upon our research, there appears to be no recorded vesting deed for the public right of way as shown hereon".
22. The documents produced by the surveyor are the property of TxDOT, and release of any document shall be subject to TxDOT's prior written approval.
23. Developer shall cause the surveyor to include the denial of access line on the Facility ROW map sheets and on the parcel plats, as required for controlled access facilities. Developer also shall cause the surveyor to describe the area of denied access in the parcel description and monument

on the ground with a ½" iron rod with orange cap stamped "TxDOT ADL" the limits of the denial of access.

24. The Facility ROW map and each parcel plat shall include a parcel information table containing the areas, expressed in square feet, of the following: 1) the parent ownership as stated in all adjoining record vesting deeds or converted from the stated record acreage in those vesting deeds; 2) the parcel to be acquired as shown on the closure report for that parcel, and; 3) the remainder tract (item 1 minus item 2). If the parcel to be acquired consists of multiple parts, the Facility ROW map shall show the net remainder. The parcel information table shall also contain the areas, expressed in acres, of the parent tract, the parcel to be acquired, and the remainder. This acreage (except stated record) shall be converted from the square footage as contained in the table. A note shall be included on the Facility ROW map and on each parcel plat stating: "The acreage calculated and shown hereon is converted from the square footage shown hereon, and is for informational purposes only." Parcels with area less than one acre will not require acreage units to also be shown.
25. Within the proposed Facility ROW, all property owned by a city, county, or other local public agency (LPA) in fee or easement that does not have a vesting deed shall be identified by a parcel number and included on the Facility ROW map. Developer shall cause the surveyor to prepare a parcel description and parcel plat for use as an exhibit in the Facility ROW acquisition (property transfer) documents.
26. Developer shall cause an independent Registered Professional Land Surveyor (RPLS) to review the Acquisition Survey Document Package for consistency as to the information delineated thereon and for compliance with all applicable Technical Provisions and Survey Documents. The boundary location and the survey methods remain the responsibility of Developer, and are not part of this review process. TxDOT will have no obligation to accept the Acquisition Survey Document Package as complete until the reviewing RPLS has signed and sealed the compliance certificate (compliance certificate form to be provided by TxDOT).
27. Parcel numbering shall follow the TxDOT ROW Manual. Parcels are to be numbered based upon the parent tract. Developer shall revise parcel numbering due to subsequent transactions as in the following example: From a 50-acre parent tract, with a proposed Facility ROW acquisition parcel identified as Parcel 14, a 5-acre tract is sold which will also require Facility ROW acquisition. The result is, Parcel 14 is "Not Used", and the two new Facility ROW acquisition parcels are identified as Parcel 14A and 14B. If the property containing Parcel 14B sells a portion, then 14B is "Not Used" and the new Facility ROW acquisition parcels are identified as Parcel 14C and 14D, etc. Developer shall not use the letter "E" to avoid confusion with easement designations. Parcel numbering shall be sensitive to the appraisal of the required parcels.
28. Complicated portions of a Facility ROW acquisition survey can cause the Facility ROW Map to be very difficult to read. TxDOT's preferred solution is to create an additional Facility ROW map sheet or sheets for details, curve data, general notes, etc. The primary page would still retain the whole property inset, record ownership data, and most of the usual information. The additional sheet(s) should be clearly referenced and be numbered as the next sequential page(s). Pages numbered with a letter added (for example: 6A, 6B) are for revisions and corrections. Developer shall use the preferred solution unless TxDOT approves an alternate method.
29. An ownership sheet or sheets, containing an index to the information for all the parcels, shall be included and located near the beginning of the Facility ROW map, after the title sheet and control sheet. The ownership sheet index shall include the parcel numbers, the names of the property owners, the vesting deed recording information, the record area of the parent tract, the area of parcel(s) to be acquired, the area of the remainder(s) left and right, the beginning and ending stations of the parcel along the Facility ROW line, and the sheet number in the Facility ROW map where the parcel is located.
30. At property corners where more than one monument is found, a detail shall be provided to show the measured relationship between the monuments found and the monument set or held.

31. Developer shall purchase all materials, supplies and all items necessary for proper survey monumentation. Developer may purchase Type II monuments from TxDOT. TxDOT shall make available for pick-up by Developer Type II monuments within 75 Days after TxDOT receives from Developer a written order, specifying the number of monuments to be purchased. Payment for TxDOT-supplied monuments shall be due within 30 Days after TxDOT delivers to Developer a written invoice. Developer may use these monuments only for this Facility and shall be responsible for proper storage thereof.
32. Developer at the request of the property owner or TxDOT shall re-stake the proposed Facility ROW with ½" iron rod and aluminum cap.

7.3.2 Additional Reporting Requirements

No additional requirements.

7.3.3 Title Services

No additional requirements.

7.3.4 Introduction to Property Owners

No additional requirements.

7.3.5 Appraisals

No additional requirements.

7.3.5.1 Appraisal Services

No additional requirements.

7.3.5.2 Appraisal Review

No additional requirements.

7.3.6 Facility ROW Acquisition Package Approval

No additional requirements.

7.4 Acquisition Activities

No additional requirements.

7.4.1 ROW Negotiations

Subparagraph 10 of Section 7.4.1 of Book 3 is replaced with the following:

10. Maintain a complete parcel file for each parcel. All original documentation related to the purchase of the real property interests will be maintained (housed separately from the relocation files) in conformance with TxDOT standards, manuals, and procedures, as defined in Section 7.2. All original Facility ROW documents must be retained and properly secured in Developer's Facility office or as otherwise approved by TxDOT. Signed original documents shall be forwarded to TxDOT periodically or as requested by TxDOT with a transmittal form during the acquisition process; provided, however, that all remaining original documents shall be forwarded upon completion of the acquisition of Facility ROW for the Facility.

7.4.2 Relocation Assistance

No additional requirements.

7.4.3 Closing Services

No additional requirements.

7.4.4 Condemnation Support

No additional requirements.

7.4.5 Clearance/Demolition of Facility ROW

Subparagraph 1 of Section 7.4.5 of Book 3 is replaced with the following:

1. Within 10 Days from processing of the property and improvements, secure and protect the buildings, improvements and fixtures on the Facility ROW until they are disposed of or demolished. Developer shall board-up, mow, and winterize as required by TxDOT or applicable Law.

7.4.6 Property Fence

No additional requirements.

7.4.6.1 Property Fencing for Public Properties

No additional requirements.

7.4.6.2 Property Fencing for Private Properties

No additional requirements.

7.5 Early ROW Acquisition

No additional requirements.

8 GEOTECHNICAL

8.1 General Requirements

No additional requirements.

8.2 Design Requirements

No additional requirements.

8.2.1 Subsurface Geotechnical Investigation by Developer

Supplement Section 8.2.1 of Book 3 with the following:

- *(First bullet)* And, drainage characteristics.
- *(Second bullet)* And, soil compressibility, and short-term and long-term strength tests and properties.
- *(Fourth bullet)* Include the slope stability analyzes for embankment and excavation slopes including both short-term (undrained) and long-term (drained) conditions, and discussion of design measures undertaken to ensure stability and safety of all slopes. The design minimum factor of safety required for global facility of a slope will be in accordance with Good Industry Practice. The analysis shall consider the potential for long-term surficial slide failures common to high plasticity clays in Texas, and specific recommendations shall be provided to minimize their occurrence.

8.2.2 Pavement Design

Supplement Section 8.2.2 of Book 3 with the following:

- Tabulation of the relevant subgrade design values such as the modulus of subgrade reaction (k-value), resilient modulus, or other basis for each pavement design section
- Site conditions including any potentially soft compressible zones requiring special design considerations, and the presence and location of expansive soils requiring special design considerations
- Procedures undertaken to identify soluble sulfates and measures/recommendations to prevent potentially deleterious reactions
- Describe recommended subgrade stabilization procedures including the type of stabilizing agents, the application rates, compaction criteria, strength requirements, total depth of treatment, and other relevant details

Developer shall coordinate the design and construction of all cross roads with the Governmental Entity having jurisdiction whether a municipality, county, or TxDOT.

8.3 Construction

Not Used.

8.4 Deliverables

Deliverables shall include Geotechnical Engineering Reports as described in Section 8.2.1, and pavement design reports as described in Section 8.2.2. All deliverables shall conform to the standards required in the Quality Management Plan including timely submittal of all documents.

All deliverables shall be presented to TxDOT in both hard-copy, and electronic form compatible with TxDOT software. All reports shall be signed and sealed by the responsible Registered Professional Engineer. Each report shall be accompanied by documentation that the report has completed all aspects of the Quality Management Plan including all reviews and approvals.

9 LAND SURVEYING

9.1 General Requirements

No additional requirements.

9.2 Administrative Requirements

No additional requirements.

9.2.1 Right-of-Entry

No additional requirements.

9.3 Design Requirements

No additional requirements.

9.3.1 Units

Supplement Section 9.3.1 of Book 3 with the following:

Work shall conform to state plan coordinates.

The surface adjustment factor for the Facility is provided for use as follows:

Surface Adjustment Factors:

- Tarrant County: 1.00012

9.3.2 Survey Control Requirements

Supplement Section 9.3.2 of Book 3 with the following:

If the Developer chooses to use GPS methods, they shall utilize the primary survey control provided by TxDOT.

Developer shall establish and maintain a permanent survey control network. The control network should consist of, at a minimum, monuments set in intervisible pairs at spacing of no greater than three (3) miles. Monuments shall be TxDOT bronze survey markers installed in concrete and marked as directed by the most current edition of the TxDOT Survey Manual. Developer shall replace all existing survey monuments and control points disturbed or destroyed. Developer shall make all survey computations and observations necessary to establish the exact position of all other control points based on the primary control provided.

Developer shall deliver to TxDOT, a listing of all primary and secondary control coordinate values, original computations, survey notes and other records including GPS observations and analysis made by Developer as the data is available.

9.3.3 Conventional Method (Horizontal & Vertical)

No additional requirements.

9.3.3.1 Horizontal Accuracy Requirements for Conventional Surveys

No additional requirements.

9.3.3.2 Vertical Accuracy Requirements for Conventional Surveys

No additional requirements.

9.3.4 Right of Way Surveys

No additional requirements.

9.3.4.1 Accuracy Standard

No additional requirements.

9.3.5 Survey Records and Reports

No additional requirements.

9.4 Construction Requirements

No additional requirements.

9.4.1 Units

Section 9.4.1 of Book 3 is replaced with the following:

Comply with design requirements.

9.4.2 Construction Surveys

Section 9.4.2 of Book 3 is replaced with the following:

Comply with design requirements

9.5 Deliverables

No additional requirements.

9.5.1 Final ROW Surveying and Mapping

Supplement Section 9.5.1 of Book 3 with the following:

All topographic mapping created by the Developer shall be provided to TxDOT in digital terrain model format using the software and version thereof being used by TxDOT at the time.

9.5.2 ROW Monuments

No additional requirements.

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10 GRADING

10.1 General

Supplement Section 10.1 of Book 3 with the following:

Any features that are abandoned in place shall be removed to at least two feet below the final finished grade or one foot below the pavement subbase, which ever is lower.

10.2 Preparation within Project Limits

No additional requirements.

10.3 Slopes and Topsoil

No additional requirements.

10.4 Sodding

No additional requirements.

10.5 Deliverables

No additional requirements.

10.5.1 Released for Construction Documents

No additional requirements.

11 ROADWAYS

11.1 General Requirements

Supplement Section 11.1 of Book 3 with the following:

Whenever Developer receives a design request from an adjacent property owner, Developer shall, within 30 Days of the request, produce a report to TxDOT identifying the nature of the request, the financial consequences to TxDOT of compliance (if any), Developer's assessment of the feasibility of compliance, any deviations from these Technical Requirements that would be required and any potential risks to TxDOT that may arise from implementation of the design request such as environmental and permitting risks. Where Developer determines that there are no financial consequences to TxDOT, and provided that TxDOT raises no objection within 30 Days of Developer's report, Developer may proceed with the implementation of the design request at its option and shall advise TxDOT in writing of its decision.

11.2 Design Requirements

Section 11.2 of Book 3 is replaced with the following:

Developer shall coordinate its roadway design with the design of all other components of the Facility, including aesthetics. The Facility roadways shall be designed to integrate with streets and roadways that are adjacent or connecting to the Facility.

Developer shall design all Elements in accordance with the applicable design criteria and Good Industry Practice based on the Design Speeds for various Elements.

The Facility roadways shall be designed to incorporate roadway appurtenances, including fences, noise attenuators, barriers, and hazard protection as necessary to promote safety and to mitigate visual and noise impacts on neighboring properties.

11.2.1 Control of Access

No additional requirements.

11.2.2 Roadway Design Requirements

The Final Design shall be based on the Ultimate Configuration design concept included as Exhibit 2 of the CDA.

Developer shall design the Elements of the Facility to meet or exceed the geometric design criteria noted in Table 11-2.

Developer shall coordinate, design and construct the improvements on crossing streets in accordance with the Governmental Entity having jurisdiction of said roadway. The Final Design of crossing streets shall incorporate the design criteria noted in Table 11-3, Crossing Street Functional Classifications.

11.2.2.1 Miscellaneous Roadway Design Requirements

All roadside safety devices used on the Facility shall meet current crash test and other safety requirements as determined by TxDOT.

Driveways shall be designed in accordance with the guidelines, which will be considered requirements, specified in Attachment 11-1 (TxDOT's *Roadway Design Manual - Appendix C,* "Driveway Design Guidelines") to be functionally adequate for land use of adjoining property.

11.3 Construction

Not Used

11.4 Deliverables

Deliverables shall include:

- Schematic design plans.
- Final Design.

Table 11-2: Geometric Design Criteria

	MAINLANES	FRONTAGE ROADS	RAMPS/DIRECT CONNECTORS	CROSSING STREETS[1]
GENERAL				
Roadway Classification	Urban Freeway or Tollway	Low Speed Urban Street	Urban Freeway or Tollway	Low Speed Urban Street
Design Speed	60 mph	40 mph	50 mph	30-40 mph
Stopping sight distance	570’	305’	425’ [4]	200’ (30 mph) 305’ (40 mph)
HORIZONTAL ALIGNMENT				
Maximum super-elevation rate	6%	N/A	6%	N/A
Min. Radius of Curvature	1340’	675’	835’	675’ (40 mph) 300’ (30 mph)
VERTICAL ALIGNMENT				
Minimum grade	0.35 percent	0.35 percent	0.35 percent	0.35 percent
Maximum grade	3.0 percent	7.0 percent	4.0 percent[5]	7.0 percent (40 mph) 9.0 percent (30 mph)
Vertical curve length				
Crest (Min. K-Value)	151	44	84	44 (40 mph) 19 (30 mph)
Sag (Min.K-Value)	136	64	96	64 (40 mph) 37 (30 mph)
CROSS-SECTION				
Lane width	12’	12’ lanes 24’ for U-Turns	14’(single lane) 12’ per lane (multi-lane)	12’
Shoulder Width (min.)				
Inside Shoulder	4’ (2 or less lanes) 10’ (3 or more lanes)	NA (curbed)	4’ [3]	NA (curbed)
Outside Shoulder	10’	NA (curbed)	8’ [3]	NA (curbed)
Curb offset	N/A	1’	N/A	refer to Table 11-3
Cross-slope (typical)				
Managed Lanes	2.5 percent			
General Purpose Ln				
- Inside 2 lanes	2.5 percent	2.0 percent	2.0 percent	2.0 percent
- Outside lanes	2.5 percent	2.0 percent	2.0 percent	2.0 percent
- Shoulders	2.5 percent	2.0 percent	2.0 percent	2.0 percent
CLEAR ZONE				
Distance from edge of travel lane unless noted otherwise	30’	3’ (measured from face of curb)	16’	refer to notes 1 and 2
Side slopes:				
- within clear zone	6:1	6:1	6:1	6:1
- outside clear zone	3:1 max	3:1 max	3:1 max	3:1 max
VERTICAL CLEARANCE (Minimum)				
Over Roadway	16’-6”	16’-6”	16’-6”	16’-6”
Over Streets	16’-6”	16’-6”	16’-6”	16’-6”
Over Railroad	23’-0”	23’-0”	23’-0”	23’-0”
Over electrified light Rail	26’-6”	26’-6”	26’-6”	26’-6”
Overhead Signs	21’ 0”	21’-0”	21’-0”	21’-0”
Pedestrian Crossings	17’-6”	17’-6”		

	MAINLANES	FRONTAGE ROADS	RAMPS/DIRECT CONNECTORS	CROSSING STREETS[1]
Design Vehicles	WB-50	WB-50 WB-67 for U-Turns	WB-50	As noted in Table 11-3
Driveway Radius	N/A	30' min commercial, 15' min. residential	N/A	30' min commercial, 15' min. residential

Notes:

1. See Table 11-3 for crossing street functional classification
2. The face of the new bridge columns shall be located 6 feet or more from the face of curb
3. To mitigate restrictions on the design imposed by sight distance, it is acceptable to position the 8-foot shoulder the inside of the curve and the 4-foot shoulder on the outside of the curve.
4. Ramps and direct connectors shall have a minimum stopping sight distance (SSD) of 425' with the exception of the following listed ramps and direct connectors, for which the minimum SSD is as noted.

   Segment 1
   - DC ramp connecting IH35W-NB to IH820-WB shall have a minimum SSD of 305'.
   - DC ramp connecting IH35W-NB to IH820-EB shall have a minimum SSD of 305'.
   - DC ramp connecting IH35W-SB to IH820-WB shall have a minimum SSD of 360'.
   - DC ramp connecting IH35W-SB to IH820-EB shall have a minimum SSD of 360'.
   - DC ramp connecting IH820-WB to IH35W-NB shall have a minimum SSD of 360'.
   - DC ramp connecting IH820-WB to IH35W-SB shall have a minimum SSD of 305'.
   - DC ramp connecting IH820-EB to IH35W-NB shall have a minimum SSD of 305'.
   - DC ramp connecting IH820-EB to IH35W-SB shall have a minimum SSD of 305'.
   - Managed Toll Lane DC ramp connecting IH35W-NB to IH820-EB shall have a minimum SSD of 360'.
   - Managed Toll Lane DC ramp connecting IH35W-SB to IH820-EB shall have a minimum SSD of 305'.
   - Managed Toll Lane DC ramp connecting IH820-WB to IH35W-NB shall have a minimum SSD of 305'.
   - Managed Toll Lane DC ramp connecting IH820-WB to IH35W-SB shall have a minimum SSD of 360'.
   - DC ramp connecting SH183-WB to IH820-SB shall have a minimum SSD of 360'.

   Segment 2
   - DC ramp identified on the RID schematic as WR8248 shall have a minimum SSD of 360'.
   - DC ramp identified on the RID schematic as WR248 shall have a minimum SSD of 305'.
5. Ramps and direct connectors shall have a maximum slope of 4% with the exception of the following listed ramps and direct connectors for which shall have a maximum slope of 5%. However, Developer shall prepare the design using Good Industry Practice having flatter slopes where possible.
   - Managed Toll Lane DC ramp connecting IH35W-NB to IH35W-EB (RID schematic Sta. 20+50 to Sta. 30+25)
   - Managed Toll Lane ramp connecting IH820-EB to Haltom Road (RID schematic Sta. 25+00 to Sta. 38+00)
   - Managed Toll Lane ramp connecting IH820-WB to US377 (RID schematic Sta. 18+10 to Sta. 25+00)
   - Ramp connecting IH820-EB to Rufe Snow (RID schematic Sta. 18+25 to Sta. 23+50)
   - Ramp connecting SH26 to IH820-WB (RID schematic Sta. 25+50 to Sta. 32+80)
   - Ramp connecting IH820-WB to Iron Horse Drive (RID schematic Sta. 22+00 to Sta. 29+50)

Table 11-3: Crossing Street Functional Classifications

	CROSS SECTION ELEMENTS FOR ROADWAYS CROSSING IH 820																			
						Ultimate Configuration														
Intersecting Street	Jurisdiction	Functional Classification / Roadway Classification / Terrain	Design Speed (MPH)	Position (over / under)	Design Vehicle	U-Turn	Sidewalk & Min. Usable Width	SB Curb	SB Offsets to travel lane	SB thru lanes	Turn lanes	NB thru lanes	NB Offsets to travel lane	NB Curb	Sidewalk & Min. Usable Width	Clear Zone for Cross Street Thru Lanes (Based on ADT)	U-turn	Bike/Ped Accommodation?	Pedestrian Rail above bridge Barrier
Mark IV Parkway	Fort Worth	Collector urban	40	under	WB-67	Y	N	Y	2'	2(12')	2(12') with 18' curbed median	2(12')	2'	Y	N	3'	Y	Y	N
N. Beach Street	Fort Worth	Arterial urban	40	under	WB-67	Y	N	Y	2'	2(12')	4(12') with 4' curbed median	2(12')	2'	Y	N	3'	Y	Y	N
Haltom Road	Haltom City	Collector urban	40	over	WB-67	N	Y-10'	Y	3'	2(12')	0	2(12')	3'	N	N	3'	N	Y	Y
US 377/Denton Road	TxDOT/ Haltom City	Arterial urban	40	over	WB-67	Y	Y-6'	Y	2'	2(12')	3(12') with 4' curbed median	3(12')	2'	Y	Y-6'	3'	N	Y	N
Iron Horse Boulevard	North Richland Hills	Collector urban	40	over	WB-50	N	Y-10'	N	2'	2(12')	1(12')	2(12')	2'	Y	N	3'	N	Y	Y-SB
Rufe Snow Drive	North Richland Hills	Arterial urban	40	over	WB-50	Y	Y-14'	Y	2'	3(12')	2(12') with 4' curbed median	3(12')	2'	Y	Y-6'	3'	Y	Y	N
Holiday Lane	North Richland Hills	Collector urban	30	under	WB-50	Y	Y-10'	Y	2'	2(12')	2(12')	2(12')	2'	Y	Y-6'	3'	Y	Y	N
Precinct Line Road	Hurst	Arterial urban	40	under	WB-67	Y	Y-20'	Y	1'	2(12')	2(12') with 4' curbed median	2(12')	1'	Y	Y-6'	3'	Y	Y	N
Hurstview Drive	Hurst	Collector urban	30	over	WB-50	N	Y-6'	Y	1'	2(12')	0	2(12')	1'	Y	Y-6'	3'	N	Y	N
Norwood Drive	Hurst	Collector urban	30	under	WB-50	Y	N	Y	1'	2(12')	2(12') with 3' curbed median	2(12')	1'	Y	N	3'	Y	Y	N
Brown Trail	Hurst	Arterial urban	40	under	WB-67	Y	N	Y	1'	2(12')	2(12') with 3' curbed median	3(12')	1'	Y	Y-6'	3'	Y	Y	N
Bedford Road	Bedford	Arterial urban	40	under	WB-67	Y	Y-20'	Y	1'	2(12')	2(12') with 3' curbed median	2(12')	1'	Y	Y-6'	3'	Y	Y	N
Forest Ridge Drive	Bedford	Collector urban	30	under	WB-50	Y	Y-20'	Y	1'	2(12')	4(12') with 3' curbed median	2(12')	1'	Y	Y-6'	3'	Y	Y	N
Central Drive	Bedford	Arterial urban	40	under	WB-67	Y	Y-20'	Y	1'	2(12')	3(12') with 3' curbed median	3(12')	1'	Y	Y-6'	3'	Y	Y	N
Murphy Drive over SH 121	Euless	Collector urban	30	over	WB-67	N	Y-6'	Y	1'	3(12')	2(12')	2(12')	1'	Y	Y-6'	3'	N	Y	N
West Parkway over SH 183	Euless	Collector urban	30	over	WB-67	N	Y-6'	Y	1'	2(12')	2(12') with 3' curbed median	3(12')	1'	Y	Y-6'	3'	N	Y	N

Notes:

1. Bridge Columns shall be 6' (min.) from face of curb.
2. Crossing streets not indicated to include sidewalks shall be shall be layed out (including structural Elements) to not preclude sidewalk contruction in the future.

12 DRAINAGE

12.1 General Requirements

Supplement Section 12.1 of Book 3 with the following:

Developer to provide proper drainage of the Ultimate Configuration including all main lanes, managed toll lanes, frontage roads, cross-street intersections, and major interchanges. Drainage system shall be sized and located in such a manner as appropriate for the greater requirement of either the interim and Ultimate Configurations.

At a minimum, the drainage system must meet the following requirements:

a) The analysis, design and construction of all drainage features shall address the interim conditions during construction and Ultimate Configuration.

b) The system must accommodate all storm water that reaches the Facility ROW. The system must provide adequate waterway openings to convey the flow of contributing storm sewers, ditches, and creeks crossing the Facility without adverse impact on upstream and/or downstream adjacent properties. Design shall incorporate latest land-use plans and/or reasonable potential land uses from Tarrant County and other applicable Governmental Entities within the Facility limit, including expected changes to the existing watercourses and drainage systems.

12.2 Administrative Requirements

No additional requirements.

12.2.1 Data Collection

No additional requirements.

12.2.2 Coordination with Other Agencies

No additional requirements.

12.3 Design Requirements

Supplement Section 12.3 of Book 3 with the following:

Analysis of the combined drainage system shall ensure there are no adverse impacts on the constructed drainage system.

12.3.1 Surface Hydrology

No additional requirements.

12.3.1.1 Design Frequencies

Section 12.3.1.1 of Book 3 is replaced with the following:

Developer shall use the design frequencies listed in Table 12-1 below.

Table 12-1: Drainage Design Frequencies

	Design					Check Flood
Functional Classification and Structure Type	**2**	**5**	**10**	**25**	**50**	**100**
Interstate, controlled access hwy, & managed toll lanes (main lanes):						
♦ culverts					X	X
♦ bridges					X	X
Principal arterials:						
♦ culverts					X	X
♦ small bridges **					X	X
♦ major river crossings					X	X
Minor arterials and collectors (including frontage roads):						
♦ culverts				X		X
♦ small bridges **				X		X
♦ major river crossings					X	X
Local roads and streets (off-system projects):						
♦ culverts	X					X
♦ small bridges	X					X
Storm drain systems on Interstate and controlled access						
Highways and managed toll lanes (main lanes):						
♦ inlets and drain pipe					X	X
♦ inlets for depressed roadways*					X	X
Storm drain systems on other highways and frontage roads:						
♦ inlets and drain pipe			X			X
♦ inlets and drain pipe for depressed roadways*					X	X

Notes.

* A depressed roadway provides nowhere for water to drain even when the curb height is exceeded. Curb height is defined as 5" (five inches).

** Small bridges are considered less than 50' in length.

12.3.1.2 Hydrologic Analysis

Supplement Section 12.3.1.2 of Book 3 with the following:

Developer shall perform hydrologic analysis for the design of drainage features to accommodate both the ultimate development of the drainage areas and interim drainage during construction.

Developer shall design for the future changes in land use that may affect the magnitude of runoff and therefore the design capacity of drainage structures. Developer shall incorporate anticipated changes in the basin land use, characteristics, or water operations into the hydrologic parameters. Land use shall be estimated based on potential uses as of the latest long-range planning horizon.

Developer shall design drainage structure capacities for the frequencies for the maximum hydrologic conditions.

12.3.2 Storm Sewer Systems

Supplement Section 12.3.2 of Book 3 with the following:

The hydraulic grade line for design storm shall be 1 foot below the lip of gutter, 1 foot below the top of grate inlet, and 1 foot below the top of a manhole cover.

The use of slotted barriers that allow stormwater runoff to flow under them and into adjacent travel lanes will not be allowed for permanent barriers. Slotted barriers may be used for temporary conditions during construction.

12.3.2.1 Pipes

Supplement Section 12.3.2.1 of Book 3 with the following:

All pipes shall be reinforced concrete.

The minimum pipe size inside diameter shall be 18” for laterals, 24” for laterals placed under pavement, and 24” for trunk lines. The minimum box culvert height, inside dimension, shall be 2 feet.

The maximum spacing for clean-out points (inlets and manholes) shall be 300 feet for 24”, 375 feet for 36”, 450 feet for 42” to 54”, and 900 feet for 60” or greater.

12.3.2.2 Ponding

Supplement Section 12.3.2.2 of Book 3 with the following:

Table 12-2: Allowable Ponding Widths by Roadway Classification

Roadway Classification	Design Storm Allowable Ponding Width	Check Storm Allowable Ponding Width
Interstate, Controlled Access Highways	Low shoulder plus one-half the width of the outer lane.	One lane free of encroachment
Barrier separated Managed Toll Lanes - Single Lane - Multiple Lanes	 Low shoulder plus 2 ft. Low shoulder plus 1 lane	Safe passage of one lane of traffic in each direction
Principal Arterials/Highways*	Low shoulder plus 1 lane	Safe passage of one lane of traffic in each direction
Ramps, Direct Connectors	Low shoulder plus 2 ft.	Safe passage of one lane of traffic

Frontage Roads	Low shoulder plus 1 lane	Safe passage of one lane of traffic in each direction
Minor Cross Streets	Width and depth to allow safe passage** of one lane of traffic in each direction.	No adverse impact to adjacent property

* Highways with two or more lanes in each direction

** Safe passage shall mean the width of one traffic lane being clear of ponding.

12.3.3 Stormwater Storage Facilities

No additional requirements.

12.3.4 Hydraulic Structures

Supplement Section 12.3.4 of Book 3 with the following:

Bridge class culverts shall have a minimum rise of 4'.

12.3.4.1.1 Method Used to Estimate Flows

No additional requirements.

12.3.4.1.2 Design Frequency

The third paragraph of Section 12.3.4.1.2 of Book 3 is replaced with the following:

For interstate highways, the minimum design flood to be used in the detailed design shall be the 50-year frequency. The design flood shall provide 2' of freeboard.

12.3.4.1.3 Hydraulic Analysis

No additional requirements.

12.3.4.1.4 Bridge/Culvert Waterway Design

No additional requirements.

12.3.4.1.5 Bridge Deck Drainage

No additional requirements.

12.3.4.1.6 Drainage Report for Major Stream Crossings

Supplement Section 12.3.4.1.6 of Book 3 with the following:

Major stream crossings are waterways either listed on FEMA Flood Insurance Study or requiring a bridge or Major Culvert structure. Otherwise, the waterway is a minor stream crossing.

12.4 Construction Requirements

No additional requirements.

12.5 Deliverables

No additional requirements.

13 STRUCTURES

13.1 General Requirements

Supplement Section 13.1 of Book 3 with the following:

Developer shall prepare a detailed plan for such Elements constructed on the Facility with recommended design, construction and maintenance activities to achieve a service life that meets the residual life requirements at Handback.

13.2 Design Requirements

No additional requirements.

13.2.1 Design Parameters

Supplement Section 13.2.1 of Book 3 with the following:

Developer shall submit a corridor structure type study report for bridges, retaining walls, noise walls, sign structures, and other structure components to TxDOT for approval. The corridor structure type study report will describe the structural system to be used on the Facility, design parameters for the system, materials, performance history of the chosen system and ability to meet the Residual Life requirements at Handback, impacts to the public during construction, and other information to describe the chosen system.

Unless otherwise noted, design for all roadway and pedestrian structural elements shall be based on the Load and Resistance Factor Design (LRFD) methodology included in TxDOT's *LRFD Bridge Design Manual* (refer to Book 3).

Sidewalks shall be provided on bridge structures in accordance with Table 11-3.

13.2.2 Bridge Design Loads and Load Ratings

Supplement Section 13.2.2 of Book 3 with the following:

Bridges shall be designed to accommodate future utilities load of 125 pounds per linear foot per 12-foot lane, except for direct connection structures which shall be 125 pounds per linear foot per structure.

Developer shall provide to TxDOT both an inventory and an operating load rating of the constructed structures. Load ratings shall be in accordance with TxDOT and Federal Laws.

13.2.3 Bridge Decks and Superstructures

Supplement Section 13.2.3 of Book 3 with the following:

Fracture critical members shall not be used for bridges without written authorization from TxDOT. Fracture critical members shall be designed to allow full access for inspection.

Joints for all grade separation structures shall be sealed.

Steel and concrete box girders and caps (substructure) shall be accessible without impacting traffic below. Developer shall make steel and concrete box girders and caps (substructure) with a minimum inside depth of six (6) feet to facilitate interior inspection. Developer shall include a minimum access opening of 3'-0" diameter into all cells, and between cells, of the girders to allow free flow of air during inspections. The outside access opening cover shall hinge to the inside of the box girder and caps (substructure). An electrical system (110V and 220V) shall be incorporated inside the box girder and caps (substructure) with lighting and power outlets. Developer shall install air-tight sealed and locked entryways on all hatches and points of access.

13.2.4 Bridge Foundations

No additional requirements.

13.2.5 Bridge Railing and Barriers

Supplement Section 13.2.5 of Book 3 with the following:

Table 13-1 lists approved TxDOT Bridge Railing Standards, which TxDOT will update upon request.

Table 13-1: TxDOT Standard Bridge Railing

TRAFFIC RAILS		
Rev Date	**Std Name**	**Description**
04-05	T101	Steel Post with W-Beam (27” tall)
04-05	T203	Concrete Parapet w/5 Ft Openings (27” tall)
04-05	T221	Concrete Parapet (32” tall)
04-05	T401	Concrete Parapet w/Stl Post and Rail (33” tall)
04-05	T402	Concrete Parapet w/Stl Post and Rail (42” tall)
04-05	T411	Concrete Traffic Rail w/windows(TX Classic)(32” tall)
04-05	T501	Concrete Safety Shape (32” tall)
04-05	T502	T501 w/Multiple Drain Slots (32” tall)
04-05	T503	Pre-cast T501 w/Anchor Bolts (32” tall)
04-05	T504	Pre-cast T501 for Box, Slab & Dbl-T Beams (32” tall)
04-05	T77	Steel Post w/Two Elliptical Pipes (33” tall)
04-05	HT	Heavy Truck Traffic Rail (50” tall)
04-05	SSTR	Single Slope Traffic Rail (36” tall)
COMBINATION RAILS		
Rev Date	**Std Name**	**Description**
04-05	C203	T203 w/Steel Pipe Rail (42” tall)
04-05	C221	T221 w/Steel Pipe Rail (42” tall)
04-05	C402	T402 w/Steel Pipe Rail (42” tall)
04-05	C411	Comb Rail w/windows (TX Classic) (42” tall)
04-05	C501	T501 w/Steel Pipe Rail (42” tall)
04-05	C502	C501 w/Multiple Drain Slots (42” tall)
MISCELLANEOUS RAILS		
Rev Date	**Std Name**	**Description**
02-03	T101RC	Retrofit Guide for T101 on Curbs
02-03	T1-101R	Retrofit (Convert T1 to T101)
04-05	T2/T201TR	Guide for T2/T201(Retrofit Thrie-Beam Transition)
04-05	T202TR	Guide for T202 (Retrofit Thrie-Beam Transition)
02-03	T501R	T501 Retrofit Guide
02-03	T6R	T6 Retrofit Guide
04-05	TRF	Traffic Rail Foundation
04-05	PR1	Pedestrian Rail, (42” tall)
04-05	PR2	Pedestrian Rail, (42” tall)
03-06	PR3	Pedestrian Rail, (43.75” tall)
03-06	BR3	Pedestrian/Bicycle Rail, (55.75” tall)
04-05	B221	T221 w/Chain Link Fence (Bicycle) (68” tall)

13.2.6 Retaining Walls

Supplement Section 13.2.6 of Book 3 with the following:

Modular walls employing interlocking blocks shall not be used where surcharge loads from vehicular traffic are present.

MSE walls shall not be used to support abutment foundations on the Facility.

13.2.7 Noise/Sound Walls

No additional requirements.

13.2.8 Drainage Structures

No additional requirements.

13.2.9 Sign, Illumination, and Traffic Signal Supports

No additional requirements.

13.2.10 Widenings

Complete a load rating and condition survey of existing bridges to be widened. Ratings shall be based on current TxDOT procedures.

13.3 Construction Requirements

No additional requirements.

13.3.1 Concrete Finishes

Section 13.3.1 of Book 3 is replaced with the following:

Concrete finishes shall comply with the performance requirements as stated in Section 15.

13.3.2 Structure Metals

No additional requirements.

13.4 Deliverables

Section 13.4 of Book 3 is replaced with the following:

Developer shall submit the following to TxDOT:

- An inventory and operating ratings of constructed structures with the Record Drawings.
- Corridor structure type study report.
- Design notebooks.
- Structure load ratings.

14 RAIL

14.1 General Requirements

Supplement Section 14.1 of Book 3 with the following:

The Operating Railroads crossing the Facility at the execution of the Agreement include:

- Union Pacific Railroad (UPRR) and
- Dallas Area Rapid Transit (DART).

14.2 Railroad Design Standards

Supplement Section 14.2 of Book 3 with the following:

Developer shall coordinate, design and construct the construction staging, including any shooflies, with the Operating Railroad.

14.3 Project Work Affecting Railroad Operations

No additional requirements.

14.3.1 Railroad Agreement

No additional requirements.

14.3.2 Agreement for Construction, Maintenance and Use of Right of Way

No additional requirements.

14.3.3 Operation Safety

No additional requirements.

14.3.4 Railroad Right of Entry Agreement

No additional requirements.

14.3.5 Developer Right of Entry Agreement

No additional requirements.

14.3.6 Insurance Requirements

No additional requirements.

14.4 Construction Requirements

No additional requirements.

15 AESTHETICS AND LANDSCAPING

15.1 General Requirements

Supplement Section 15.1 of Book 3 with the following:

The intent of this Section 15 is to provide an enhancement value to both the users and the onlookers of the corridor and to provide a roadway corridor with continuity and attractiveness through the use of comprehensive aesthetic treatments.

15.2 Administrative Requirements

Supplement the list of bullets in Section 15.2 of Book 3 with the following:

- Material finish and color of light poles and mast arms, ambient lighting colors, and general layout conditions.

15.2.1 Aesthetics Concepts

Supplement Section 15.2.1 of Book 3 with the following:

The Developer shall consult with TxDOT to determine the aesthetic concept for the corridor and to determine previous agreements with local communities and customer groups. For consideration, Developer shall refer to a) the TxDOT Fort Worth District's (preliminary) Landscaping and Aesthetics Master Plan and b) the City of North Richland Hill's "Loop 820 Corridor Plan" and c) the aesthetics applied to the recently constructed Rufe Snow Bridge.

The Elements shall be designed as corridor wide enhancements. To the extent practicable, the Elements shall remain consistent in form, materials, and design.

15.2.2 Aesthetics and Landscaping Plan

Supplement Section 15.2.2 of Book 3 with the following:

TxDOT approval of the Aesthetics and Landscape Plan is required prior to construction of any Elements affected by the Plan.

The Aesthetic and Landscape Plan shall address all the aesthetic Elements of the Facility with the production of the following plans:

A. Aesthetic Plans

- A master plan that will convey the layout of the various roadway conditions, e.g. where the depressed sections, elevated sections, and at-grade roadways are located, where there are bridges, cantilevered structural sections, etc.;
- Drawings showing where site specific elements are located, e.g. fences, signage, potential locations of community improvement opportunity areas, gate way markers, control buildings, bridge enhancements, landscaping, etc.; and
- Color schemes and their locations.

B. Landscaping Plans

- A plan that indicates plant palettes, locations of plants, plant types, and planting dates;
- A maintenance program; and
- Composite drawings of all utilities and easements that would interfere with landscaping, markers, or any other identified enhancements.

The Aesthetics and Landscaping Plan shall include all plans, elevations, perspectives, isometrics, etc., as needed to fully convey the aesthetic treatment.

Upon completion of the Aesthetic and Landscaping Plan, Developer shall consolidate the information, which establishes the requirements for engineering of the highway corridor aesthetics. The guidelines shall serve as the primary standard guidance necessary to produce the intended aesthetic form, function and appearance of this and future projects.

15.2.3 Personnel

No additional requirements.

15.2.4 Aesthetics Committee

The TxDOT will establish an Aesthetics Committee that will report to TxDOT.

The Aesthetics Committee's role during the design and construction phases of the Development Work shall be advisory to TxDOT and will ensure that the overall design is consistent with the aesthetics design guidelines.

In performing its role, the Aesthetics Committee shall have the authority to do the following:

a) Review and recommend approval or disapproval of any changes in the aesthetics and landscape design guidelines that may be proposed during the design phase;

b) Review design plan submittals to consider consistency with the aesthetics and landscape design, or approve proposed exceptions at specific locations; and

c) Assist TxDOT by reviewing and making recommendations regarding the acceptability of any proposed Change Orders that affect the application of the aesthetics and landscape design.

When the Aesthetics Committee determines that a proposed design is consistent with the guidelines, its approval shall be considered final. If the Aesthetics Committee makes a determination that the proposed design is inconsistent with the guidelines, Developer shall work with the Aesthetics Committee to reach a consensus on the design, scope, and budget. The Aesthetics Committee will work with Developer to reasonably maintain the aesthetics and landscaping budget. If agreement cannot be reached, TxDOT will make the final decision.

Meetings of the Aesthetics Committee will be conducted as-needed. These meetings will generally be held monthly for the duration of the design phase of the Work. TxDOT or Developer may request additional meetings.

TxDOT will determine the time and location of all meetings. Developer shall provide meeting minutes within five (5) Business Days after the meeting to TxDOT for review and approval. TxDOT will either approve or "approve as noted" the minutes within five (5) Business Days. Developer shall be responsible for distributing meeting notes to the attendees following TxDOT's approval of the same.

Developer shall make design presentations, as needed, to the Aesthetics Committee and request approval of aesthetic and landscaping design concepts. Developer shall submit all structural design concepts and plans (including, but not limited to, mainline toll plazas, ramp toll plazas, toll operations buildings, bridges, tunnels, drainage structures, signage structures, and walls) and all landscape design concepts and plans (including, but not limited to, grading, irrigation, and planting) to the Aesthetics Committee for its review and approval. Developer shall provide all supporting documentation reasonably requested by the Aesthetics Committee and TxDOT, including design drawings, graphics, artist's renderings, and costs.

Developer is advised that the review of concepts and plans by the Aesthetic Committee may require several meetings and that Developer may need to furnish several alternative proposals before the

Aesthetics Committee issues its opinion on Developer's proposed design. Developer is also advised that the Aesthetics Committee will require a quorum of the members to be in attendance for official voting on items brought before it.

Approval from the Aesthetics Committee does not relieve Developer from its obligation to obtain acceptance of all plans from TxDOT and applicable Governmental Entities or from its obligations to perform the Work in accordance with the CDA Documents, applicable Law, and the Governmental Approvals.

15.3 Design Requirements

No additional requirements.

15.3.1 Aesthetics Principles and Strategies

Supplement the list of bullets in Section 15.3.1 of Book 3 with the following:

- Aesthetics shall not interfere with safety, constructability, and maintenance.
- The Developer shall engage the local communities and customer groups in the planning of landscaping features and additional aesthetic treatments and provide the opportunity to participate in areas of concern.

15.3.2 Walls

Supplement Section 15.3.2 of Book 3 with the following:

With the exception of walls associated with the Richland Tennis Center, Developer shall only provide enhancements to walls that can be consistently applied along the entire corridor, including walls for the mainlanes. Artistic enhancements, as approved by North Richland Hills, shall be applied to the walls for the Richland Tennis Center.

The Developer shall not design and construct aesthetic enhancements for noise/sound walls that require rebuilding of any parts of the facility, but rather to add to the facility by use of attachments or color.

15.3.3 Bridges and Other Structures

Supplement Section 15.3.3 of Book 3 with the following:

All bridge substructure columns shall be consistent in form and texture, with similar shapes and details used for all bridges, in accordance with the Facility's aesthetic concept.

For all bridges other than direct connect structures and braided ramps, maintain a constant superstructure depths throughout the bridge length. For direct connect structures and braided ramps, concrete beam spans shall be of constant depth throughout the structure.

15.3.4 Trees, Shrubs, and Other Plant Materials

Supplement Section 15.3.4 of Book 3 with the following:

Vegetation provided as a part of the Developer's Aesthetic and Landscaping plan, other than grassing, and erosion control measures, shall be incorporated with the following guidelines:

- Developer is required to place one (1) ornamental, evergreen, or flowering tree per 750 square feet of plantable Facility ROW. Trees shall be placed in accordance with TxDOT's minimum clearance zones. Tree quantity calculations shall be determined by plantable Facility ROW outside of the minimum clearance zones. Trees shall be placed in the Facility ROW between main lanes and frontage roads. Trees shall be a minimum of six (6) feet high.
- Developer is required to place one (1) deciduous tree per 1,000 square feet of plantable Facility ROW. Trees shall be placed in accordance with TxDOT's minimum clearance zones. Tree quantity calculations shall be determined by plantable Facility ROW outside of the minimum clearance zones.

Trees shall be placed in the Facility ROW between mainlines and frontage roads. Trees shall have a three- (3-) inch caliper minimum.

- The mature canopy shall not overhang the travel lane or shoulder of any roadway.

Developer shall provide a landscaping design that focuses on intersections and landscapes at least 2/3 of all intersections shall be landscaped. Landscaping shall start at bridges and extend a minimum of 2500 linear feet from the bridge abutments.

15.3.5 Lighting

The Developer shall design the aesthetic enhancement lighting with the following aesthetic criteria:

- One pole type for the entire corridor during the DB phase and, to the extent practicable, the Operating Period. Developer shall provide a lighting layout plan that addresses each light fixture (i.e. roadside lighting, high mast lighting, under bridge fixture, etc.) and type of light fixture (i.e. LED lighting, point source lighting, HID, etc.)

15.3.6 Control Buildings

If control buildings are built, Developer shall provide a minimum of three design concepts for review and approval for all building structures with the Aesthetic and Landscaping Plan. The control facilities, vent stacks, power centers, or any other structure that requires the seal of a registered architect, shall require the production of concepts.

15.3.7 Intersection Hardscape

When designing and constructing hardscape elements at intersections, at a minimum, Developer shall use colored textured concrete in all raised medians. Monolithic concrete medians will not be accepted. Concrete pavers may only be used only where local communities agree to the maintain them.

15.3.8 Riprap

Concrete paving shall be used in hard to reach mowing areas or under structures (such as, but not limited to, areas near or next to between guard fence posts, sign posts, bent columns, next to retaining walls, freeway ramp gores, paved ditches, flumes, ditch inlets, etc.) to improve roadway appearance.

Concrete riprap may be stamped with a pattern and shall be painted and/or stained.

15.4 Construction Requirements

First sentence of paragraph one Section 15.4 of Book 3 is replaced with the following:

Developer shall provide TxDOT sample panels a minimum of 60 Days in advance of starting construction of textured concrete surfaces.

15.5 Deliverables

No additional requirements.

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

16.1 General Requirements

No additional requirements.

16.2 Administrative Requirements

16.2.1 Meetings

No additional requirements.

16.3 Design Requirements

No additional requirements.

16.3.1 Final Design

First sentence of Section 16.3.1 of Book 3 is replaced with the following:

Developer shall advance the Final Design of the signing, delineation, pavement marking, signalization, and lighting based on the preliminary operational signing schematic included in the Reference Information Documents (RIDs).

16.3.2 Permanent Signing and Delineation

Supplement Section 16.3.2 of Book 3 with the following:

To the extent practicable, signs are to meet the requirements of the TxDOT's *Standard Highway Sign Design for Texas* provided in the RIDs.

16.3.3 Project Signs – Outside the Facility ROW

No additional requirements.

16.3.4 Advance Toll Information Signs

No additional requirements.

16.3.5 Third-Party Signs

No additional requirements.

16.3.6 Sign Support Structures

No additional requirements.

16.3.7 Permanent Pavement Marking

Supplement Section 16.3.7 of Book 3 with the following:

Developer shall provide shoulder texturing in accordance with appropriate standards**.** Shoulder texturing shall not be used on direct connectors, on bridges or across ramp pavement.

16.3.8 Permanent Signalization

No additional requirements.

16.3.8.1 Traffic Signal Requirements

Supplement Section 16.3.8.1 of Book 3 with the following:

Developer, as required, shall design and implement modifications to existing traffic signals as a result of the Final Design. Developer shall coordinate with TxDOT and the Governmental Entities listed in Table 16-1 to define appropriate traffic signal design requirements, local agency oversight of Developer's work,

final acceptance and synchronization of traffic signals.

The traffic signal designs and modifications shall be completed in accordance with the current TxDOT standards and specifications, the TMUTCD and the requirements of the applicable Governmental Entity. The traffic signal designs shall provide for interconnection controllers compatible with the intersection controller hardware, central intersection management software, and wireline or wireless interconnect communications of the entity responsible for operations and maintenance. Developer shall coordinate the review, approval, inspection, and acceptance of the traffic signals with the Governmental Entity responsible for maintenance.

Developer is responsible for preparing traffic signal agreements (or supplements thereto) for execution by TxDOT and the Governmental Entity having operation and/or maintenance responsibilities. Except for traffic signal systems excluded by agreement, Developer will be responsible for the operations and maintenance of all traffic signal systems for the Term of the Agreement.

Table 16-1 Traffic Signals

Cross Street	Existing or Under Construction	Within the City of	Maintained by
IH820 @ N Beach	Existing	Fort Worth	City of Fort Worth
IH820 @ US 377	Existing	Haltom City	TxDOT
IH820 @ Rufe Snow	Existing	North Richland Hills	TxDOT
IH820 @ Holiday Lane	Existing	North Richland Hills	TxDOT
IH820 @ SH 26	Existing	North Richland Hills	TxDOT
IH35W @ Fossil Creek	Existing	Fort Worth	City of Fort Worth
SH183 @ Precinct Line Rd.	Existing	Hurst	TxDOT
SH183 @ Hurstview	Existing	Hurst	TxDOT
SH183 @ Norwood	Existing	Hurst	TxDOT
SH183 @ Brown Trail	Existing	Bedford	TxDOT
SH183 @ Bedford	Existing	Bedford	TxDOT
SH183 @ Forrest Ridge	Existing	Bedford	TxDOT
SH183 @ Central	Existing	Bedford	TxDOT
SH183 @ Westpark	Existing	Euless	TxDOT
SH121 @ Murphy Drive	Existing	Bedford	TxDOT

16.3.8.2 Traffic Signal Timing Plans

No additional requirements.

16.3.8.3 Traffic Signal Warrants

Second sentence of paragraph two of Section 16.3.8.3 of Book 3 is replaced with the following:

If actual traffic volumes are not available, but opening year traffic is available, use the procedure in Section 3.5 of the TxDOT Traffic Signals Manual to determine the volumes to be analyzed.

16.3.8.4 Traffic Signal Support Structures

No additional requirements.

16.3.9 Permanent Lighting

Supplement Section 16.3.9 of Book 3 with the following:

Developer shall provide continuous lighting along frontage roads in locations where the lighting systems are currently provided along the frontage roads. Developer shall be responsible for all costs of designing, installing, operating and maintaining the lighting systems. Developer may request reimbursement for the operations and maintenance of such lighting systems from the governmental entity to the extent an existing agreement between TxDOT and the Governmental Entity allows such request.

As necessary, Developer to comply with all Federal Aviation Administration (FAA) requirements, submit appropriate FAA paperwork, make necessary changes when applicable and keep TxDOT informed of FAA involvement.

Developer shall design continuous and safety lighting systems in accordance with Chapters 5, 6, 7, and 9 of the TxDOT *Highway Illumination Manual*. The lighting design for cross streets and frontage roads are to be in accordance with the requirements of the local Governmental Entities or third part agreements.

TxDOT does not require continuous lighting along frontage roads not currently illuminated. However, third party requests for lighting within the Facility shall be subject to TxDOT approval. For the purpose of this Facility, lighting along the frontage roads for a distance of 600' from the nose of the ramps will be considered safety lighting and is the responsibility of the Developer.

Developer shall provide an average to minimum uniformity ratio of 3.1, with a minimum lux of 1.85 and an average lux of 6.5 to 8.6 on all traveled roadways to be illuminated. Traveled roadways include: tolled lanes, general use lanes, managed toll lanes, auxiliary lanes, ramps, frontage roads, and ramp terminal intersections with cross streets.

Additional guidance for illumination is provided in the RIDs.

16.3.10 Visual Quality

Supplement Section 16.3.10 of Book 3 with the following:

Developer shall not use timber poles for permanent installation.

The Developer shall re-sod or re-seed areas of construction disturbed by the installation of signs, traffic signal systems, or lighting systems after final installation.

16.4 Construction Requirements

No additional requirements.

16.4.1 Permanent Signing and Delineation

Supplement Section 16.3.9 of Book 3 with the following:

Guidance for signing retroreflectivity is provided in the RIDs.

16.4.2 Permanent Pavement marking

Supplement Section 16.4.2 of Book 3 with the following:

Guidance for pavement marking retroreflectivity is provided in the RIDs.

16.4.3 Permanent Signalization

Supplement Section 16.4.3 of Book 3 with the following:

Developer shall connect traffic signal controllers for completed intersections operated and maintained by a Governmental Entity to the communications media provided by that Governmental Entity, at or near the completed intersection, for traffic signal monitoring and control. Connection of the completed intersection to the Governmental Entity's communications network shall be coordinated with the Governmental Entity.

16.4.4 Permanent Lighting

Supplement Section 16.4.4 of Book 3 with the following:

The Developer shall remove all old illumination-related cable that does not have existing pavement or riprap above it; any existing illumination-related cable that is under the existing pavement or riprap may be abandoned.

16.5 Deliverables

No additional requirements.

16.5.1 Permanent Signing and Delineation

No additional requirements.

16.5.2 Permanent Pavement Marking

No additional requirements.

16.5.3 Permanent Signalization

Supplement Section 16.5.3 of Book 3 with the following:

Developer shall, after implementing approved timing plans, provide TxDOT and Governmental Entities responsible for operation and maintenance of the traffic signal system legible written documentation of all intersection characteristics, timing plan parameters and installation information necessary for TxDOT or the Governmental Entity to incorporate the completed signal installation into the central intersection management software being used.

16.5.4 Permanent Lighting

Supplement Section 16.5.4 of Book 3 with the following:

Developer shall provide TxDOT the photometric data results for all lighted areas within the Facility limits. Developer shall provide a long continuous layout roll of the plan view.

17 INTELLIGENT TRANSPORTATION SYSTEMS

17.1 General Requirements

Supplement Section 17.1 of Book 3 with the following:

The Facility ITS shall conform to the Regional Data and Video Communications System (RDVCS) of the North Texas Regional Comprehensive ITS Architecture.

Developer shall maintain and protect the use of the existing ITS within the Facility at all times with the exception of system crossovers approved by TxDOT.

17.2 Design Requirements

Supplement Section 17.2 of Book 3 with the following:

Developer shall prepare a preliminary ITS layout for review and concurrence by TxDOT to ensure adequate planning of the ITS implementation.

17.2.1 ITS Communications Requirements

Supplement Section 17.2.1 of Book 3 with the following:

Developer shall provide an independent channel within the ITS communication system to transport Traffic Signal Interconnect communications between roadside traffic signal cabinets maintained by TxDOT and a satellite building data network switching point designated by TxDOT. Communication devices attached to this channel shall be addressed as directed by TxDOT.

17.2.2 Conduit

Supplement Section 17.2.2 of Book 3 with the following:

At a minimum, Developer shall install a conduit system that is consistent with the number of conduits within the existing conduit network.

17.2.3 CCTV Cameras

No additional requirements.

17.2.3.1 Equipment

Supplement Section 17.2.2 of Book 3 with the following:

Initial installation shall conform to the requirements of TxDOT's Statewide Special Specification 6025 CCTV Field Equipment (04) except for Training, Warranty, Measurement and Payment. Any subsequent updates or replacements shall be compatible with the RDVCS requirements.

17.2.3.2 Placement

No additional requirements.

17.2.3.3 Video Requirements

No additional requirements.

17.2.3.4 Operating Requirements

No additional requirements.

17.2.3.5 Control Requirements

No additional requirements.

17.2.4 Vehicle Detection

No additional requirements.

17.2.5 Dynamic Message Signs (DMS)

Section 17.2.5 of Book 3 is replaced with the following:

Developer shall provide a comprehensive network of electronic DMS and Single-Line DMS (SDMS).

Developer shall position each DMS to allow motorists to safely view the messages being displayed. Developer shall locate the DMS to comply with large guide sign spacing stated in the TMUTCD.

DMS shall be used to inform motorist of the availability of alternate routes, and to advise travelers of adverse road conditions and congestion. DMS shall be placed to provide a driver-friendly sign-viewing angle at each DMS location.

Developer shall provide DMS using only light-emitting diode (LED) display technology. DMS used shall conform to the TxDOT special specification National Transportation Communications for ITS Protocol for Dynamic Message Signs and shall demonstrate compliance before installation of DMS.

DMS shall be uniform and consistent and good or better than the Ft. Worth District guidelines and in accordance with DMS implementation plan with guidelines specified herein and as provided in the RIDs.

17.2.5.1 Single-Line DMS (SDMS)

Developer shall place SDMS over through travel lanes on existing or proposed overhead sign structures. Maximum spacing of SDMS shall not exceed one mile, except where a DMS location will satisfy both DMS and SDMS operational requirements and the exception is approved by TxDOT. All sign bridges shall be designed to accommodate SDMS brackets and catwalks.

Developer shall provide LED technology SDMS composed of one-lane-wide, interconnecting modules with lane control signal (LCS) functionality embedded in each module as required to provide individual lane availability information to each through travel lane.

17.2.6 Lane Control Signals (LCS)

Supplement Section 17.2.6 of Book 3 with the following:

The lane control function shall be provided by Single-line DMS . Developer shall provide separate Lane Control Signals only to supplement SDMS installations as directed by TxDOT.

17.2.7 Satellite Buildings

Developer shall coordinate with TxDOT the connection of all new ITS components to the existing ITS satellite buildings covering the Facility and connections to the Fort Worth Traffic Management Center (Transvision Building).

Developer shall maintain and protect the exiting satellite buildings within the Facility limits. As necessary, Developer may relocate or reconstruct the satellite buildings.

17.2.8 Center-to-Center Interface

Developer shall provide the Center-to-Center interface necessary to tie-in to the North Texas Regional Comprehensive ITS Architecture.

17.3 Construction Requirements

No additional requirements.

17.3.1 General

Supplement Section 17.3.1 of Book 3 with the following:

Required functionality can be accomplished by phasing construction to establish new equipment locations prior to removal of existing location, allowing minimal service interruption for the transfer of devices from existing to new locations, or by use of portable equivalents for ITS devices, such as trailer mounted DMS, sensors or CCTV, positioned to allow removal of devices while new locations are constructed.

Developer shall coordinate with the Utility Owner(s) to provide power service for permanent ITS components.

17.3.2 Salvaging Existing Items

No additional requirements.

17.3.3 Existing ITS Relocation

No additional requirements.

18 TRAFFIC CONTROL

18.1 General Requirements

No additional requirements.

18.2 Administrative Requirements

No additional requirements.

18.2.1 Traffic Management Plan

Supplement Section 18.2.1 of Book 3 with the following:

If at any time construction-related back-ups become unreasonable, modifications to alleviate the congestion shall be taken immediately. Contingency plans of how this will occur shall be in place.

18.3 Design Requirements

18.3.1 Traffic Control Plans

The third paragraph of Section 18.3.1 of Book 3 is replaced with the following:

Opposing traffic on a normally divided roadway shall be separated with appropriate traffic control devices in accordance with Good Industry Practice and TMUTCD based on the roadway Design Speed.

18.3.1.1 Roadway Guidelines

Developer shall produce traffic control plans for periods of construction based on Good Industry Practice and shall meet or exceed the Facility specific criteria noted in Section 18.3.1.

18.3.1.1.1 Design Parameters for Traffic Control

Design Vehicle: Turning movements at the roadways identified in Table 11-3 shall accommodate a WB-50 design vehicle. Turning movements on all other local streets and driveways shall, at a minimum, provide similar characteristics as existing.

Design Speed: The Design Speed on Interstate and State Highways must be 55 miles per hour (mph) or greater, except for major alignment transitions where the Design Speed may be reduced to 45 mph if approved by TxDOT.

Number of Lanes: Except as allowed by Section 18.3.1.1.2, the minimum number of lanes to be maintained shall be the number of lanes currently available on each controlled access facility, Lane closures on other roadways may be considered, within reason, so long as all traffic patterns and accesses are maintained.

Lane Widths: During construction, the minimum lane width for mainlanes, frontage roads and major crossing streets is 11 feet. For minor crossing streets, TxDOT may, in its sole discretion, allow 10' lanes in limited circumstances during construction for short distances after reviewing the Developer's traffic control plan.

Shoulders: A minimum one foot offset from the edge of travel way to the edge of pavement or traffic barrier is required.

18.3.1.1.2 Allowable Lane/Roadway Closures

When lane closures are necessary, Developer shall use the public information and communication methods available to inform the appropriate Customer Groups (refer to Section 3).

Closures must be coordinated with adjacent projects.

A. Lane Closure During DB Phase

Except for Incidents or Emergencies, Developer may reduce the number of main lanes in accordance with Table 18-1a (Permitted Lane Closures) during non-restricted hours. Lane closures other than those permitted in Table 18-1a will cause Lane Rental Charges to be levied against Developer as specified in Section 3.4 of Exhibit 18 of the Agreement.

Table 18-1a: Permitted Lane Closures During the DB Phase

Description of Operations		**Permitted Lane Closures[1]** (For all mainlane facilities other than the Managed Toll Lanes)	
Category of Work	**Roadway Lanes** (One Direction)	**Peak Hours[2]**	**Night Time / Off Peak Hours[3]**
Placement of CTB, Placement of Pavement Markings, Full Depth Roadway Repair, Placement of Bridge Beams, Bridge Demolition or Similar Operations	5	None	3
	4	None	2
	3	None	1
	2	None	None
Adjacent Construction, Lanes for Construction Traffic or Similar Operations	5	None	2
	4	None	2
	3	None	1
	2	None	None

Notes:
1. A minimum of 2 lanes in each direction will be required on IH820, IH35W, SH121 and SH183 at all times except as specifically approved by TxDOT.
2. **Peak Hours** means the period as described in Exhibit 1 of the Agreement.
3. **Night Time / Off Peak Hours** means the periods as described in Exhibit 1 of the Agreement.

* Times will be established utilizing 7 day-24 hour traffic counts to be performed by the Developer, results of which shall be provided to TxDOT for evaluation. Peak Hours shall be evaluated on an annual basis and the Peak Hours will be adjusted as necessary.

If reasonable mobility can be maintained, or exceptional circumstances exist, additional lanes may be closed during off peak or night time hours with the written permission of TxDOT. Off Peak Hours may be started earlier or extended later with TxDOT approval if reasonable mobility can be maintained.

Developer shall seek TxDOT approval if a reduction in the current number of frontage road or arterial street lanes are required.

B. Lane Closure after Substantial Completion

Except for Incidents or Emergencies, Developer may reduce the number of main lanes for work activities occurring after substantial completion in accordance with Table 18-1b (Permitted Lane Closures after Substantial Completion) during non-restricted hours. Lane closures other than those permitted in Table 18-1b will cause Lane Rental Charges to be levied against Developer as specified in Section 3.4 of Exhibit 18 of the Agreement.

Table 18-1b: Permitted Lane Closures after Substantial Completion

Description of Operations		Permitted Lane Closures[1] (For all mainlane facilities other than the Managed Toll Lanes)		
Category of Work	**Roadway Lanes** (One Direction)	**Peak Hours[2]**	**Off Peak Hours[3]**	**Night Time Hours[4]**
Placement of CTB, Placement of Pavement Markings, Full Depth Roadway Repair, Placement of Bridge Beams, Bridge Demolition or Similar Operations	5	None	1	2
	4	None	1	2
	3	None	None	1
	2	None	None	1
Adjacent Construction, Lanes for Construction Traffic or Similar Operations	5	None	1	2
	4	None	1	2
	3	None	1	1
	2	None	None	1

Notes:
1. A minimum of 2 lanes in each direction will be required on IH820 and IH35W and a minimum of 3 lanes in each direction will be required for SH121 and SH183 at all times except as noted above and as specifically approved by TxDOT.
2. **Peak Hours** means the period as described in Exhibit 1 of the Agreement.
3. **Off-Peak Hours** means the period as described in Exhibit 1 of the Agreement.
4. **Night Time Hours** means the period as described in Exhibit 1 of the Agreement.

* Times will be established utilizing 7 day-24 hour traffic counts to be performed by the Developer, results of which shall be provided to TxDOT for evaluation. Peak Hours shall be evaluated on an annual basis and the Peak Hours will be adjusted as necessary.

If reasonable mobility can be maintained, or exceptional circumstances exist, additional lanes may be closed during off peak or night time hours with the written permission of TxDOT. Off Peak Hours may be started earlier or extended later with TxDOT approval if reasonable mobility can be maintained.

Developer shall seek TxDOT approval if a reduction in the current number of frontage road or arterial street lanes are required.

C. Full Roadway Closure

Developer may close mainlines for short-term durations only upon written approval by TxDOT and the traffic control plans and details have been reviewed and approved. TxDOT will have the right to lengthen, shorten, or otherwise modify the foregoing restrictions as actual traffic conditions may warrant. The detour route for these full roadway closures shall be limited to usage of the on and off ramps at the mainline interchange locations.

Major crossing streets, as listed in Table 18-2, must remain open to traffic during the design/build period. When minor crossing streets are closed, the major crossing streets must have a minimum of two lanes in each direction.

Minor crossing streets, as listed in Table 18-2, may be closed for bridge construction during the design-build period if adjacent cross streets are open to traffic and continuous frontage roads are open with the exception of Iron Horse Boulevard, which may be closed without continuous frontage roads.

Table 18-2 List of Major and Minor Crossing Streets

CROSSING STREET	MAJOR or MINOR CLASSIFICATION
Mark IV Parkway	Minor
IH35W	Major
Beach Street	Major
Haltom Road	Minor
US 377 (Denton Highway)	Major
Meadow Lakes/Iron Horse Blvd.	Minor
Rufe Snow	Major
Holiday Lane	Minor
SH26 (Grapevine Highway)	Major
Precinct Line Road	Major
Hurstview Drive	Minor
Norwood Drive	Minor
Brown Trail	Major
Bedford Road	Major
Forest Ridge Drive	Minor
Central Drive	Major
Murphy Drive	Major
West Parkway	Major

Any complete roadway closure will require a Traffic Control Plan to be submitted and approved by TxDOT and Governmental Entities having jurisdiction of roadways affected by the closure. Availability of frontage roads, ramp locations and detour distances shall be considered in the design. Complete mainlane closure may only be allowed during night times.

18.3.1.2 Restricted Hours

A. Holiday Restrictions

No work that restricts or interferes with traffic shall be allowed from 12:00 noon on the day preceding and 10:00 pm on the day after the following holiday schedule. 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 5th)
- Labor Day Weekend (Friday through Monday)
- Thanksgiving Holiday (Wednesday through Sunday)
- Christmas Holiday (December 23 through 26)

B. Event Restrictions

No work that restricts or interferes with traffic shall be allowed for the following regional events. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant. TxDOT also has the right to modify the list of major events as they are added, rescheduled or warranted.

- NASCAR Nationwide and Sprint Cup Racing Series (3 races total) at Texas Motor Speedway usually held in late March/early April (restricted from 3:00 p.m. of the night preceding the first event until Monday 5:00 a.m. following the event).
- NASCAR nationwide and sprint cup series (3 races total) at Texas Motor Speedway usually held in late October/early November (restricted from 3:00 p.m. of the night preceding the first event until Monday 5:00 a.m. following the event).
- Indy Series Racing and NASCAR Truck Series Racing (2 races) at Texas Motor Speedway usually held in June (restricted from 3:00 p.m. of the night preceding the first event until Monday 5:00 a.m. following the event).
- January 2011 Super Bowl Game Day (from the Sunday preceding game day to the Tuesday after game day)

18.3.1.3 Other TMP Requirements

Additional Traffic Management Plan requirements are as follows:

1) Developer shall notify the traveling public by placing changeable message signs a minimum of seven (7) Days in advance of actual roadway closure or major traffic modifications. Where available and when possible, the Developer shall coordinate and utilize Dynamic Message Signs on the regional ITS system.

2) Developer shall utilize off-duty uniformed police officers for mainlane closures.

18.4 Construction Requirements

No additional requirements.

18.4.1 Developer Responsibility

No additional requirements.

18.4.2 Access

No additional requirements.

18.4.3 Detours

Supplement Section 18.2.1 of Book 3 with the following:

Developer shall use State routes for detour routes, wherever applicable. If State routes are unavailable, Developer shall use local arterials, provided that Developer has obtained the necessary permits from the Governmental Entity having jurisdiction.

Developer shall provide motorists with guidance on diverting 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 to divert traffic around the Facility. Motorist guidance to and along detour routes shall be provided, together with regional guidance.

18.4.3.1 Local Approvals

Developer shall communicate any ramp closure and staging analysis with the Governmental Entity having jurisdiction within the Facility. When ramp movements are diverted or detoured along existing roads, Developer shall be responsible for any and all user costs that may be assessed for the use of these existing roads. This may include traffic operation analysis, temporary traffic control devices, and road user costs, all payable to the local road authority. Developer shall be responsible for obtaining the necessary approvals from agencies having jurisdiction over the routes used.

19 MAINTENANCE

19.1 General Requirements

Supplement Section 19.1 of Book 3 with the following:

The Maintenance Services shall include all activities to be performed by Developer to satisfy the Performance Requirements and the Handback Requirements with respect to the maintained Elements, together with other duties described in this Section 19.

19.1.1 General Maintenance Obligations

No additional requirements.

Incorporate Section 19.1.2, Section 19.1.3, and Section 19.1.4 as follows:

19.1.2 Developer's Obligation to Remedy and Repair

19.1.2.1 Performance Requirements during DB Phase of Existing Elements

Developer is responsible for operations and maintenance of all Elements within the limits of the Facility, including the existing Elements. Developer is not responsible for any ITS Elements within the limits of the Facility, except that any ITS Elements, including devices, infrastructure, and components thereof, that are modified, reconstructed or installed by the Developer are the Developer's responsibility for operation and maintenance.

Developer shall perform an inspection and evaluation of the asset conditions for existing infrastructure and existing improvements.

Developer shall prepare and submit to the Independent Engineer and TxDOT for review and comment a Work plan that demonstrates how the Performance Requirements for each Element having an asset condition not meeting the Performance Requirements specified in Table 19-2 will be fully met and maintained by Service Commencement.

Developer shall take necessary action such that the Category 1 hazards to motorists is mitigated within the period given in the column entitled "Cat 1 Hazard Mitigation" in the Table 19-2.

Developer shall take necessary action to maintain, and repair as necessary, Elements such that the Pavement Condition Score for Element Category 1.2 shall not be less than 50.

Developer shall take necessary action to maintain, and repair as necessary, Elements such that the free cross-sectional area for Element Category 2.1 shall not be less than 70%.

19.1.2.2 Performance Requirements of Temporary Ramps and Diversions

Temporary ramps and diversion routes that require modification for the maintenance of traffic during Construction Work and/or Renewal Work are to be maintained in a functional and fair condition.

19.1.2.3 Performance Requirements After Service Commencement

After an Element has been constructed, re-constructed, or renewed or after Service Commencement Date, Developer is to maintain the Elements in accordance with the Performance and Measurement Table. In meeting the requirements of Section 19, where a hazardous Defect (Category 1 Defect) is revealed by any inspection or is otherwise brought to the attention of Developer, Developer shall take immediate steps to alert Users to the hazard and shall categorize, correct, make safe and repair the Defect in accordance with Table 19-2, Performance and Measurement Table Baseline.

For Category 1 Defects, Developer shall:

- Take necessary action such that the hazard to Users is mitigated within the period given in the column entitled "Cat 1 Hazard Mitigation" in the Table 19-2.

- Permanently remedy the Defect within the period given in the column entitled "Cat 1 Permanent Remedy" in Table 19-2.

For all other Defects (Category 2 Defects), Developer shall undertake the permanent repair within the period specified in the column entitled "Cat 2 Permanent Repair" in Table 19-2.

The Agreement sets forth Developer's obligation to remedy and repair the Facility as a preventative measure, including Renewal Work not scheduled in Developer's annually recurring highway maintenance and repair program. Developer shall use the results of the inspections described in his Maintenance Management Plan and other relevant information to determine, on an annual basis, the Residual Life of each Element of the Facility. From this, Developer shall determine the scope of the Renewal Work Schedule. Renewal Work shall be performed at the point in time necessary to establish a Useful Life for each Element that will avoid deterioration of any Element to the extent that such deterioration would cause noncompliance with a Performance Requirement.

19.1.3 TxDOT Obligation to Remedy and Repair

In the period between the Proposal Due Date and NTP2, TxDOT will reasonably perform the type of routine maintenance of each Element Category which is normally included as an annually recurring cost in the TxDOT highway maintenance and repair budgets including repairs required to restore asset condition following accidents and Incidents. TxDOT is not obligated to extend the Residual Life of any Element through reconstruction, rehabilitation, restoration, renewal, or replacement.

19.1.4 Transition of Maintenance

The Developer shall coordinate with TxDOT to achieve a smooth transition of maintenance activities from TxDOT. The Developer shall assume full responsibility for all maintenance activities as described in Section 8.3 of the Agreement.

19.2 Maintenance Management Plan (MMP)

No additional requirements.

19.3 Handback Requirements

Section 19.3 of Book 3 is replaced as follows:

Developer 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 Term of the Agreement. Developer shall submit the Handback Plan, including a Residual Life Methodology plan, to TxDOT for review and approval no later than the first day of the fifth full calendar year before the anticipated Termination Date.

For Elements that have a stated number of years in the "Required Final Residual Life" column in Table 19-1, the Required Residual Life for the Element is equal to the number of years in the "Required Final Residual Life" column in Table 19-1. For any Element of the Facility for which a "Required Final Residual Life" is not specified in Table 19-1, the Required Residual Life for the Element shall equal the documented serviceable life of the Element or five years, whichever is less.

Developer shall perform an initial, an intermediate, and a final Residual Life Inspection that covers all physical Elements within the Facility as noted below. Within 30 Days following performance of each Residual Life Inspection, Developer shall submit to TxDOT the findings of the inspection, Residual Life test results and Residual Life calculations, as more particularly described in Section 8.10.1.2 of the Agreement.

On the Termination Date, Developer shall certify in writing to TxDOT that all physical Elements of the Facility other than those Elements for which Developer exercised its option pursuant to Section 8.10.1.2 of the Agreement meet or exceed their respective Residual Life requirements defined herein.

This paragraph shall apply only if the Northeast Interchange is within the limits of the Facility and included in the scope of the Agreement. The existing bridges in the Northeast Interchange are not required to meet the Handback Requirements at the end of the Term if (a) such existing bridges were constructed by TxDOT prior to the Effective Date, (b) such existing bridges are within the limits of the Facility, and (c) no portion of such existing bridges are reconstructed by Developer during the Term. The Handback Requirements shall apply to any other portions of the Northeast Interchange. If any portion of an existing bridge constructed by TxDOT in the Northeast Interchange is reconstructed by Developer, then the full length of that reconstructed bridge shall meet the Handback Requirements. All other provisions of the CDA Documents shall apply with respect to the Northeast Interchange and the existing bridges.

If the Interchange Capacity Improvement area is within the limits of the Facility and included in the Agreement, then the Elements along IH35W and the IH35W/IH820 interchange constructed by Developer shall meet the Handback Requirements.

Incorporate Section 19.3.1, Section 19.3.1.1, Section 19.3.1.2, Section 19.3.1.3, Section 19.3.2, and 19.4 as follows:

19.3.1 Residual Life Inspections

Developer shall perform Residual Life Inspections and testing with appropriate coverage such that the results are representative of the whole Facility as described in the Table 19-1, Residual Life Table. TxDOT shall be given the opportunity to witness any of the inspections and/or tests.

Developer 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.

19.3.1.1 Initial Residual Life Inspection

Not later than 60 months prior to the end of the Term, Developer shall perform an initial Residual Life Inspection (the Initial Inspection), including all Elements set forth in the Residual Life Table. Within 30 Days following performance of the Initial Inspection, Developer shall submit to TxDOT the findings of the inspection, including Residual Life test results, the report of the independent testing organization(s), and Developer's calculation of Residual Life at Handback for each inspected Auditable Section.

19.3.1.2 Intermediate Inspection

Not later than 18 months before the end of the Term, Developer shall perform an intermediate Residual Life Inspection (the 'Intermediate Inspection') including all Elements within the Facility, regardless of whether Developer has undertaken Renewal Work for a particular Element in the period since the Initial Inspections.

19.3.1.3 Final Inspection

Not later than 30 Days before the end of the Term, Developer shall perform a final Residual Life Inspection (the 'Final Inspection') including all Elements within the Facility, regardless of whether Developer has undertaken Renewal Work for a particular Element in the period since the Initial Inspections.

19.3.2 Renewal Work Schedule for Handback Requirements

The Renewal Work Schedule for each of the five years before the end of the Term shall include, in addition to any other requirements specified in the CDA Documents:

- Developer's calculation of Residual Life for each Element calculated in accordance with the Residual Life Methodology and taking into account the results of the inspections set forth above.
- The estimated cost of the Renewal Work at the end of its Residual Life for each Element for which Developer exercised its option under Section 8.10.1 of the Agreement.

Incorporate Section 19.4 as follows:

19.4 General Inspections

Developer shall cause trained and competent personnel to plan and implement a program of inspections of the Facility which:

- Verifies the continuing safety of the Facility for Users.
- Prioritizes Defects requiring immediate and urgent attention because they are likely to create a danger or serious inconvenience to Users (Category 1 Defects).
- Identifies Category 2 Defects to be included for repair either within Developer's annually recurring highway maintenance and repair program or as Renewal Work.
- Is responsive to reports or complaints received from Customer Groups.
- Takes account of Incidents and Emergencies affecting the Facility.
- Monitors the effects of extreme weather conditions.
- Collates data to monitor performance of the Facility and to establish priorities for future maintenance operations and Renewal Work.

Developer shall ensure that personnel performing inspections of road pavements and structures are certified as inspectors and/or raters in accordance with the Technical Documents.

19.4.1 Inspection Frequency

Developer shall establish inspection procedures and carry out inspections so that:

- All Category 1 Defects are identified and remedied such that the hazard to Users is mitigated within the period given in the column entitled "Category 1 Hazard Mitigation" in the Performance and Measurement Table.
- All Category 1 Defects are identified and permanently remedied within the period given in the column entitled "Category 1 Permanent Remedy" in the Performance and Measurement Table.
- All Category 2 Defects excluding those items which have no impact on any parties other than Developer are identified and permanently repaired within the period given in the column entitled "Category 2 Permanent Repair" in the Performance and Measurement Table.

The periods stated in the Performance and Measurement Table under each of the above headings shall be deemed to start upon the date Developer first obtained knowledge of, or first reasonably should have known of, the Defect. For this purpose Developer shall be deemed to first obtain knowledge of the failure not later than the date of delivery of the initial notice to Developer. Developer shall investigate reports and complaints on the condition of the Facility received from all sources. Developer shall record these as O&M Records together with details of all relevant inspections and actions taken in respect of Defects, including temporary protective measures and repairs.

19.4.2 Inspection Standards

In performing inspections to identify Category 1 and Category 2 Defects, Developer shall, for any Element defined in the column entitled "Element" on the Performance and Measurement Table, conform at a minimum to the inspection standards set forth for that Element in the column entitled "Inspection and Measurement Method" on the Performance and Measurement Table.

19.4.3 General Inspections

Developer shall perform General Inspections in accordance with the MMP so that the repairs of all Defects are included in planned programs of work.

O&M Records in respect of General Inspections shall include details of the manner of inspection (e.g. center lane closure or shoulder), the weather conditions and any other unusual features of the inspection.

General Inspections shall be performed such that Category 2 Defects are identified and repaired within the period shown in the Performance and Measurement Table or, if the Defect is not specified in the Performance and Measurement Table, within six months of the Defect occurring; provided that Defects which require special equipment to identify or are listed under the heading of Specialist Inspections in Section 19.1 below may have different identification periods.

19.4.4 Specialist Inspections

Developer shall undertake Specialist Inspections for Elements listed in Table 19-1A below and shall include the inspection results as O&M Records.

Table 19-1A – Specialist Inspections

Element	Frequency
Roadway	Annual survey of pavement condition for the entire Facility, 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 the Performance and Measurement Table.
Bridges	Inspections and load rating calculations at the frequency specified in the Technical Documents. In addition, NBIS inspections as per FHWA Laws and at the frequency specified in FHWA regulations.
Electrical supplies to lighting, signs, traffic signals and communications equipment	Inspections as required by FHWA or electrical Laws.
Toll equipment	Inspections as required by the equipment manufacturer.

19.4.5 Developer Audit Inspections

Developer shall undertake detailed inspections of randomly selected Auditable Sections for audit purposes (the "Developer's Audit Inspections") at least once quarterly. On each occasion that a Developer's Audit Inspection is undertaken, it shall include at least five percent of the total available Auditable Sections. Developer shall assess the condition of each Element of the Facility, as set forth in the column entitled “Element” on the Performance and Measurement Table using the inspection and measurement method set forth in the column entitled “Inspection and Measurement Method”. Developer’s Audit Inspections shall include physical inspection of those Elements that are safely accessible without traffic control. Where the measurement method would require specialist equipment or would require traffic lane closures to implement, Developer shall assess the condition of the relevant Element by reference to the current O&M Records held in Developer’s database.

Developer shall create a new O&M Record for each Element physically inspected in accordance with the column entitled “Measurement Record” on the Performance and Measurement Table. Developer's Audit Inspections shall be undertaken to a schedule agreed with the Independent Engineer on Auditable Sections randomly selected by the Independent Engineer. The Independent Engineer shall be given the opportunity by seven Days notice, to accompany Developer when it undertakes the physical inspections associated with the Audit Inspection.

In taking over operations and maintenance of existing facilities Developer shall establish the Asset Condition Score for the existing facilities by initiating Audit Inspections of existing facilities 90 Days after NTP 2. TxDOT will make available any maintenance records in its possession that will assist in establishing the Asset Condition.

19.4.6 Asset Condition Score by Developer

Within ten Days of the quarterly Developer's Audit Inspections, Developer shall assess its achievement of the Performance Requirements by self scoring against the Targets set forth on the Performance and Measurement Table.

Developer shall report quarterly to TxDOT and the Independent Engineer an Asset Condition Score to include, for each Element Category, all of the Auditable Sections inspected in the most recent Developer's Audit Inspection. Developer shall assess the Asset Condition Score according to the measurement criteria set forth in Table 19-1B below.

Table 19-1B Asset Condition Score Criteria for Element Categories

(Reported quarterly for each Element Category for all inspected Auditable Sections)

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

Notes to Table 19-1B:

1. The Asset Condition Score for any Element Category shall be determined by the lowest Asset Condition Score for any Element within the Element Category. The calculation of Asset Condition Score is demonstrated by the following example:
   Assume there are 520 Auditable Sections, of these 5%, or 26 are audited each quarter. There are five Targets to be assessed for 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 to the Element. However, if one of the remaining Elements in the Element Category achieves an Asset Condition Score of four the Asset condition Score for the Element Category will be four.
2. The mean of the Asset Condition Scores across Elements in any Element Category is calculated to 1 decimal point and also recorded.
3. Where a measurement record relates to a service measured over time or an Element that is not represented in more than 25% of Auditable Sections then the Asset Condition Score will be based on the total service and not a 5% random sample. This applies to the performance measurement

of Element Categories; Structures, Traffic Signals, Incident Response, Customer Service, Snow and Ice Control, Facility Buildings and Toll Equipment or other Element Categories meeting the above criteria identified following establishment of the Auditable Sections.

4. Pavement Condition Score is a component of Asset Condition Score for Element Category "Pavement", but Pavement Condition Score shall also be reported annually for the entire Facility.
5. Developer acknowledges that Asset Condition Score is a mechanism to benchmark the performance of the Facility against the performance of other similar facilities and that TxDOT may, during the Term, alter the Asset Condition Score criteria to reflect Good Industry Practice.
6. "Mean" in this context shall be the arithmetic mean.

Each Asset Condition Score of less than three or mean Asset Condition Score across Elements of less than 3.5 (for any Element Category) is deemed a Noncompliance (see Exhibit 18 of the Agreement).

20 BICYCLE AND PEDESTRIAN FACILITIES

20.1 General Requirements

No additional requirements.

20.2 Design Requirements

20.2.1 Bicycle Facilities

Supplement Section 20.2.1 of Book 3 with the following:

Developer shall accommodate existing on-street bicycle facilities and proposed bicycle routes identified in the NCTCOG Metropolitan Transportation Plan regional Veloweb trail system.

Developer shall provide bicycle facilities across IH820 at the two (2) locations noted below that do not currently have bike trials but future facilities will be able to use these crossings.

- Provide a "shared use path" on the west side of the Iron Horse Blvd./Meadow Lakes Drive Bridge, separated from the roadway by a traffic rail. At a minimum, the shared use path will be 10' wide.
- Provide a "shared use path" on the west side of Holiday Lane. At a minimum, the shared use path will be 10' wide.

20.2.2 Pedestrian Facilities

Supplement Section 20.2.2 of Book 3 with the following:

Developer shall design all Elements of the Ultimate Configuration to provide pedestrian facilities at all crossing streets. In the initial construction, Developer shall provide pedestrian facilities that meet of exceed the requirements identified in Table 11-3 to accommodate the existing and proposed pedestrian facilities. Developer shall accommodate existing pedestrian facilities and proposed pedestrian facilities identified in the NCTCOG Metropolitan Transportation Plan regional Veloweb trail system.

Additional requirements are as follows:

- Developer shall provide a pedestrian/golf cart path crossing at the Iron Horse Golf Course. One barrel of the Singing Hills Creek Culvert serves as a cart path connecting the two (2) sides of the golf course. The cart path will remain open at all times during construction.
- Developer shall provide a pedestrian bridge crossing the Facility at a location in the vicinity of Sta. 2103+90.
- The existing pedestrian bridge crossing at approximate Sta. 2367+00 may be eliminated in the Ultimate Configuration.

20.2.3 Final Design

No additional requirements.

21 TOLLING

21.1 General Requirements

Section 21.1 of Book 3 is replaced with the following:

In the FMP, Developer shall set forth an approach, procedures, and methods for an Open Road Toll (ORT) Electronic Toll Collection System (ETCS).

Developer shall include the ETCS design in the Final Design Documents and shall submit it in accordance with the FMP and CDA Documents. Developer shall demonstrate that its ETCS design is capable of serving the Ultimate Configuration.

Developer shall design, develop, test, integrate, deploy, operate, and maintain the ETCS to properly transmit to NTTA a record of the tolls due from all Users in accordance with the toll rate policy and methodology set forth in the Agreement and all records are subject to an audit. Developer shall provide data to, and receive data from, NTTA by means of the ETCS so as to enable Developer to maximize collection of all toll payments from Users in a timely, accurate, and efficient manner.

Developer is required to use NTTA for toll services as defined in the NTTA Tolling Service Agreement (NTTA TSA).

21.2 Design Requirements

Section 21.2 of Book 3 is replaced with the following:

Developer shall prepare the ETCS design in accordance with the requirements of this Section 21 and all applicable TxDOT standards. Developer shall specially identify, within the FMP, proposed Deviations from the requirements of this Section 21 and TxDOT standards.

21.3 ETCS Design and Operational Criteria

21.3.1 ETCS Infrastructure Requirements

21.3.1.1 Mainline Tolling

Section 21.3.1.1 of Book 3 is replaced with the following:

Mainlane tolling (MT) shall be located such that all User vehicles using the managed toll lanes are assessed a toll. Pending Developer's design, MT and RT shall incorporate declaration zones to determine whether vehicles are classified as high occupancy meeting the requirements of Exhibit 4.

21.3.1.2 Ramp Tolling

No additional requirements.

21.3.1.3 Utility and Personnel Access-way.

No additional requirements.

Incorporate Section 21.3.1.4 as follows:

21.3.1.4 Declaration of High Occupancy Vehicles

Developer shall implement a system that identifies vehicles using the managed toll lanes as high occupant vehicles for applicable toll discounts as specified by the terms of the Agreement. Until technological advances provide sufficient accuracy and reliability, consideration for declaration area locations, declaration methods, and enforcement area locations are to be considered, including locations that may be within the Facility limits as well as the possibility of areas that are off-site.

Developer shall coordinate and cooperate with TxDOT and the law enforcement agencies for the validation of the HOV discount.

21.3.2 ETCS Functional Requirements

No additional requirements.

21.3.2.1 General

Section 21.3.2.1 of Book 3 is replaced with the fifth paragraph of the ICD of the NTTA TSA and supplemented the following:

The ETCS shall be interoperable with all transponders issued by tolling authorities sanctioned by the Texas Department of Transportation. The different types of transponders currently in use in Texas are shown in Table 21-3. The Developer shall provide and integrate the transponder readers and antennas that are compatible with the ATA protocol compatible transponders.

Table 21-3: Transponder Models

TransCore Model Number	Power	Internal/External	Mounting Surface	Agency
AT5544	Battery	Either (sealed case)	Non-metallic	HCTRA/TxDOT
AT5545	Battery	Either (sealed case)	Metallic	HCTRA
AT5547	Battery	Internal	Non-metallic	HCTRA
AT5140	Battery	External (bumper)	Metallic or non-metallic	HCTRA
13-0700-900	Beam	External (bumper)	Metallic or non-metallic	HCTRA
AT5100	Beam	Internal	Non-metallic	NTTA
AT5145	Beam	External (bumper)	Metallic or non-metallic	NTTA/TxDOT
13-07xx-xxx	Beam	Internal	Non-metallic	HCTRA/NTTA/TxDOT

21.3.2.2 User Classification Sub-system (UCS)

No additional requirements.

21.3.2.3 Video Exception Sub-system (VES)

No additional requirements.

Incorporate Section 21.3.3 as follows

21.3.3 Supplemental Lighting

Any supplemental lighting that the Developer chooses to install shall be deployed within the Facility ROW and shall not cause light pollution at Tolling Zones that are in close proximity to neighborhoods.

Image capture system lighting design shall avoid blinding or otherwise impairing the vision of motorists. The image capture system lighting design shall consider traffic in adjacent lanes and roads as well as traffic traveling in the opposite direction, where applicable.

21.4 Advance Toll Information Signs

Section 21.4 of Book 3 is replaced with the following:

Developer shall design, install, operate, and maintain advance toll information signs in accordance with TxDOT standards.

Developer shall submit to TxDOT for review, no later than 90 Days before start of construction, a layout of the Facility identifying the proposed locations and details (including proposed wording) of all advance toll information signs. The advance toll information signs shall be coordinated with other Facility signs. Signs shall be located to provide maximum visibility to Users and situated:

- At all RTF locations providing User access to the Facility managed toll lanes
- Prior to all entrance ramps to the Facility managed toll lanes

Developer shall consult with TxDOT and shall obtain graphic design of the current TxDOT logo or logos that Developer shall integrate into the design and fabrication of guide and trailblazer signs.

21.5 ETCS Performance Requirements

No additional requirements.

22 OPERATIONS

22.1 General Requirements

Section 22.1 is replaced with the following:

The responsibility of Developer for operations Work will begin as noted in Section 8.3 of the Agreement and continue for the Term of the Agreement. Developer shall institute an effective operations management system to monitor the condition of the Facility and each Element within the Facility and institute an effective maintenance program to comply with the performance measures established in the Maintenance Management Plan.

22.2 General Operations Obligations

The second paragraph of Section 22.2 of Book 3 is replaced with the following:

Developer shall submit the Operations Management Plan (OMP) for operations during the DB phase to TxDOT for approval at least 60 Days prior to NTP2; approval of the plan by TxDOT shall be a condition of NTP2. The OMP for the DB phase shall be developed to a level of level of detail appropriate for the operations to be performed during the DB phase.

The OMP shall be updated as necessary to include the operations to be performed after Service Commencement. The updated OMP shall be submitted to TxDOT at least 60 Days prior to Service Commencement; approval of the plan by TxDOT shall be a condition of Service Commencement.

Developer shall use the time between NTP1 and NTP2 to coordinate a smooth transition of operation responsibilities from TxDOT to the Developer, which will be effective as noted in Section 8.3 of the Agreement.

The first bullet of the third paragraph of Section 22.2 of Book 3 is replaced with the following:

- Incident Reports: For each Incident, the report shall identify the nature of the Incident, time, date, location, parties involved, and actions taken. Developer shall include details for any traffic control in place at the time of the Incident. For Incidents involving deaths, a report shall be submitted to TxDOT within 24 hours of the Incident.

22.3 Operation of the Project

No additional requirements.

22.3.1 Corridor Management

No additional requirements.

22.3.2 Condition Preservation

No additional requirements.

22.3.3 Patrols

No additional requirements.

22.3.4 ITS Operations

No additional requirements.

22.3.5 Traffic Control and Incident Management

Supplement Section 22.3.5 of Book 3 with the following:

Developer shall commence the implementation of safety procedures (including road signing, information for Users, information for Law enforcement agencies) as soon as practicable.

Developer shall not reopen any area of the Facility which has been closed, until all appropriate safety and traffic management measures have been completed.

22.3.6 Policing

No additional requirements.