TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

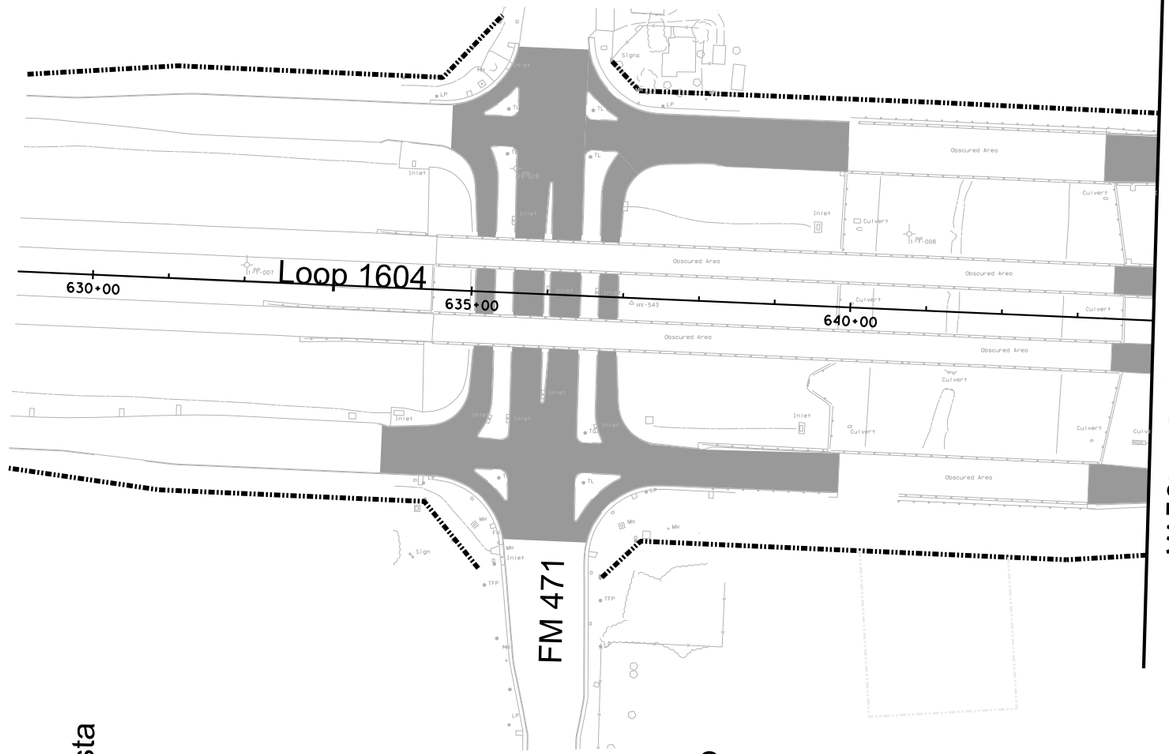
FOR

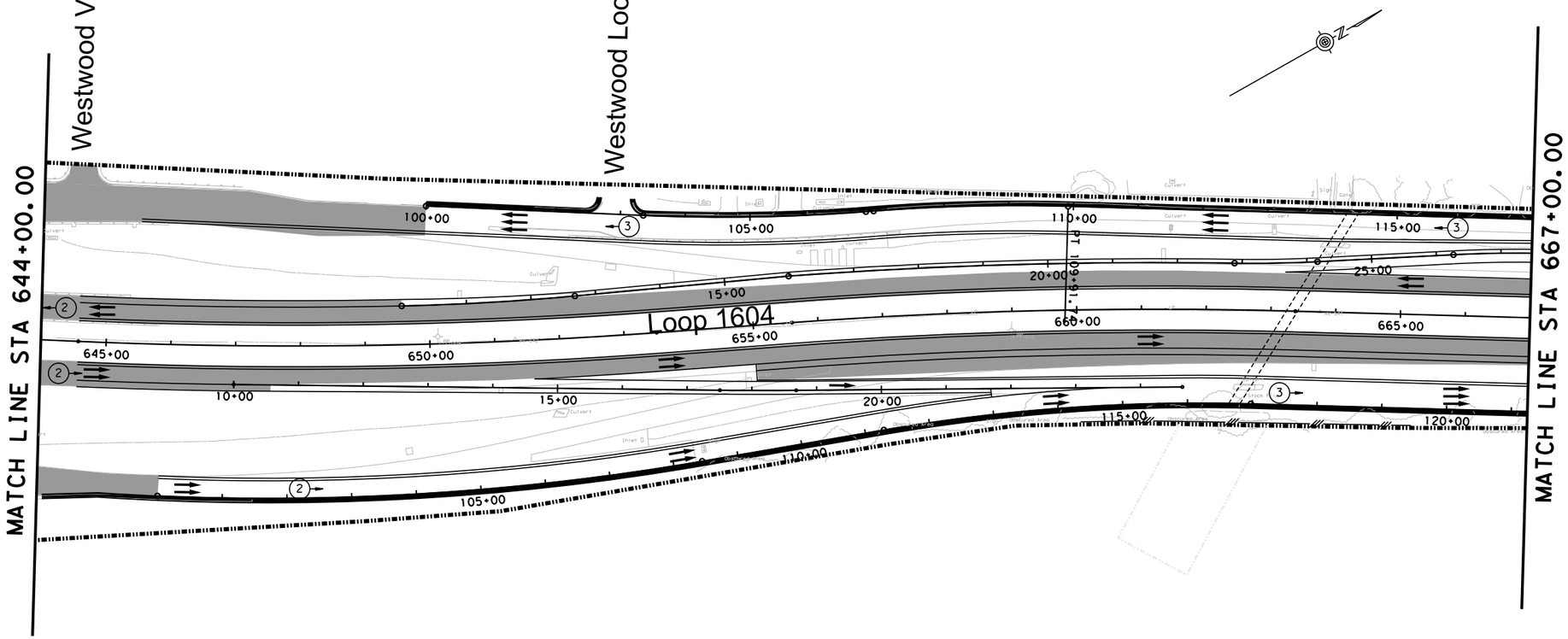
LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 1-1
BASE SCOPE LIMITS OF MILL AND OVERLAY

Executed Version

Dated as of: December 5, 2013





LEGEND

- LIMITS OF MILL AND OVERLAY
- /// CONTROL-OF-ACCESS
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION

Texas Department of Transportation

LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 1 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET 1
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL

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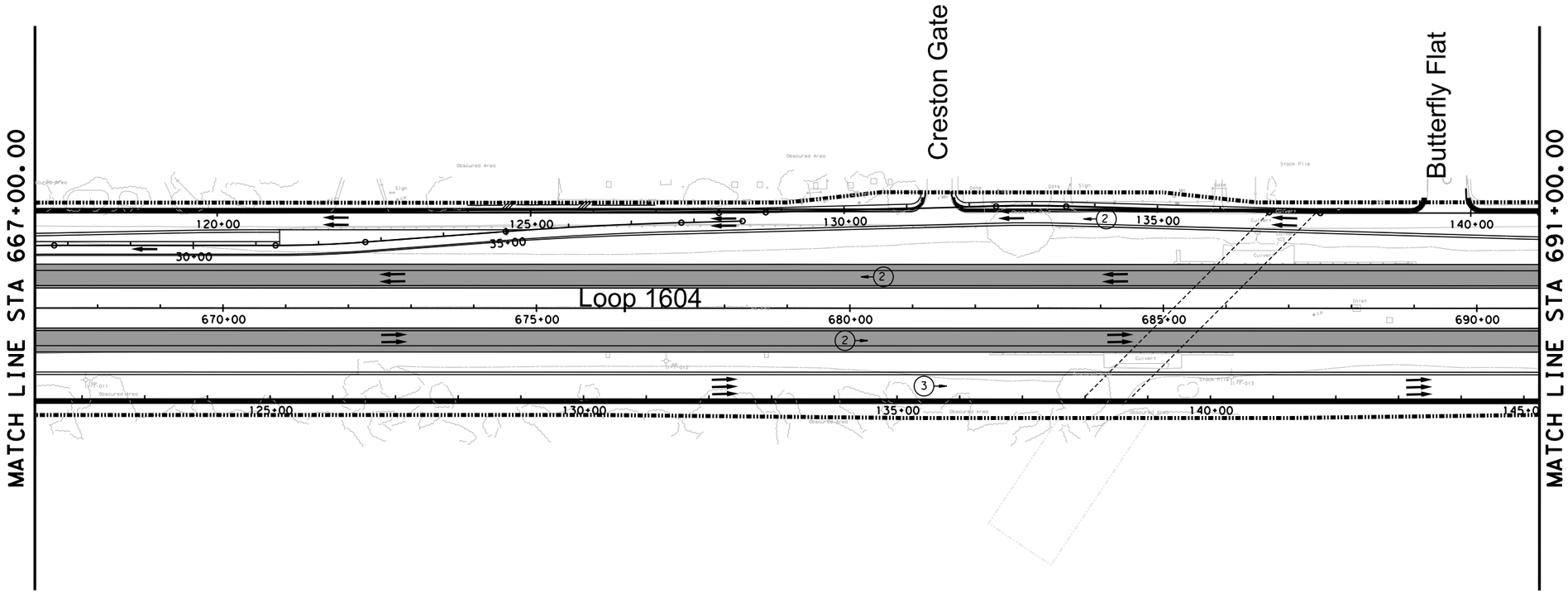
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 2 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL	2

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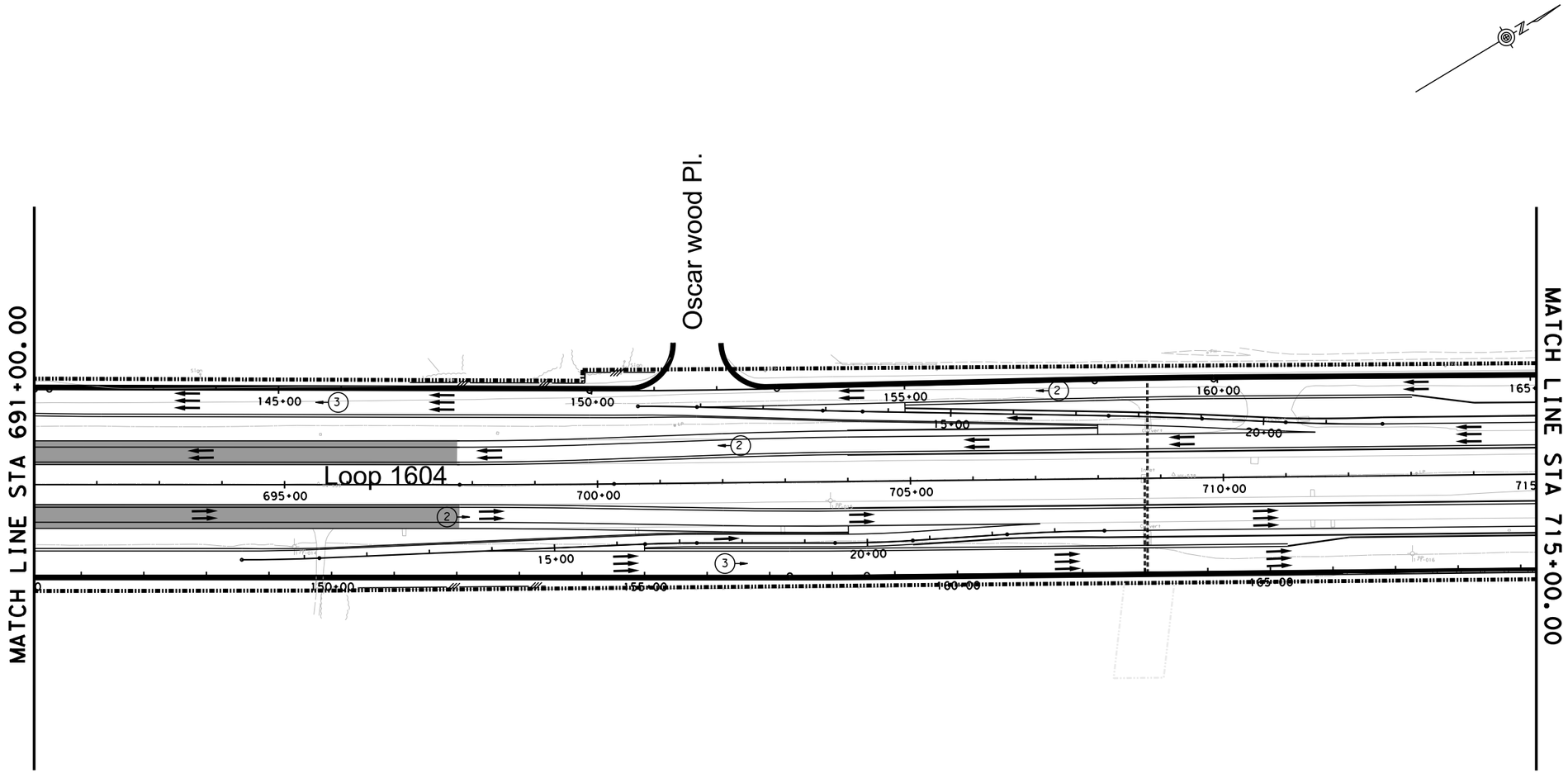
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 3 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
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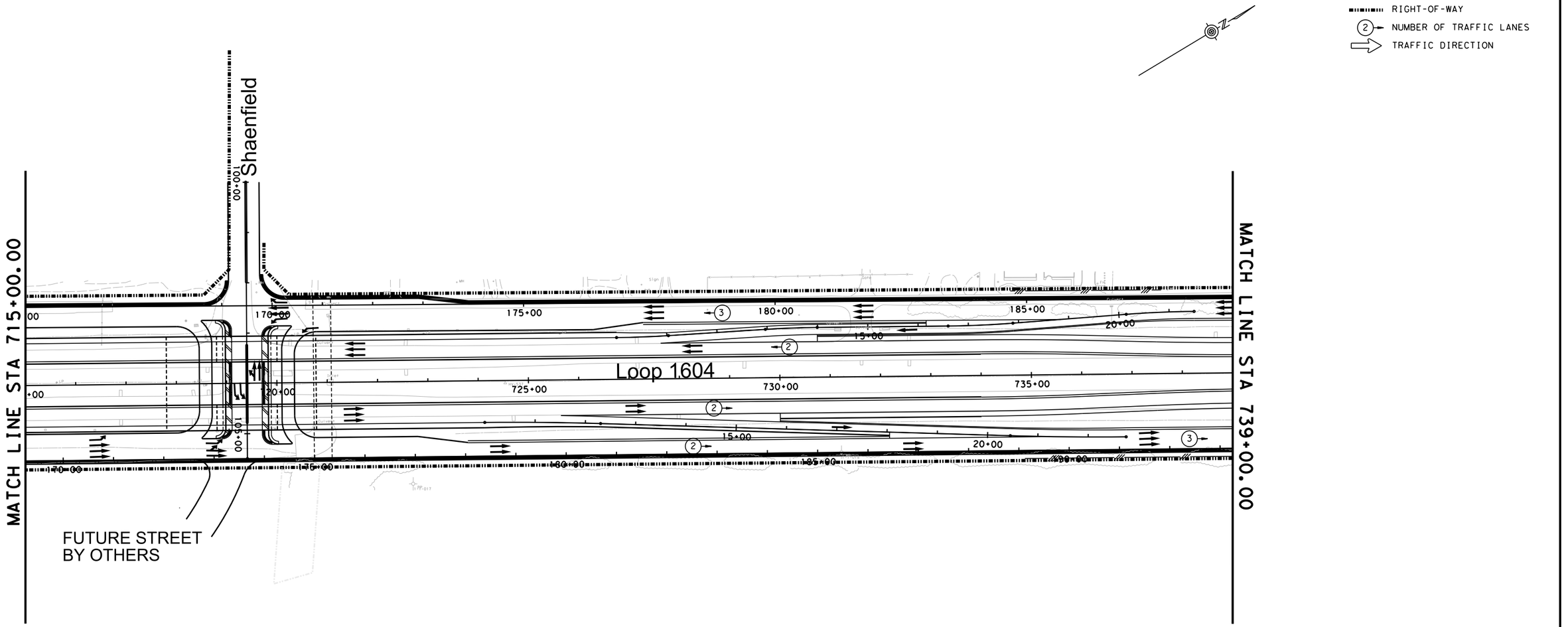
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 4 OF 10

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- RIGHT-OF-WAY
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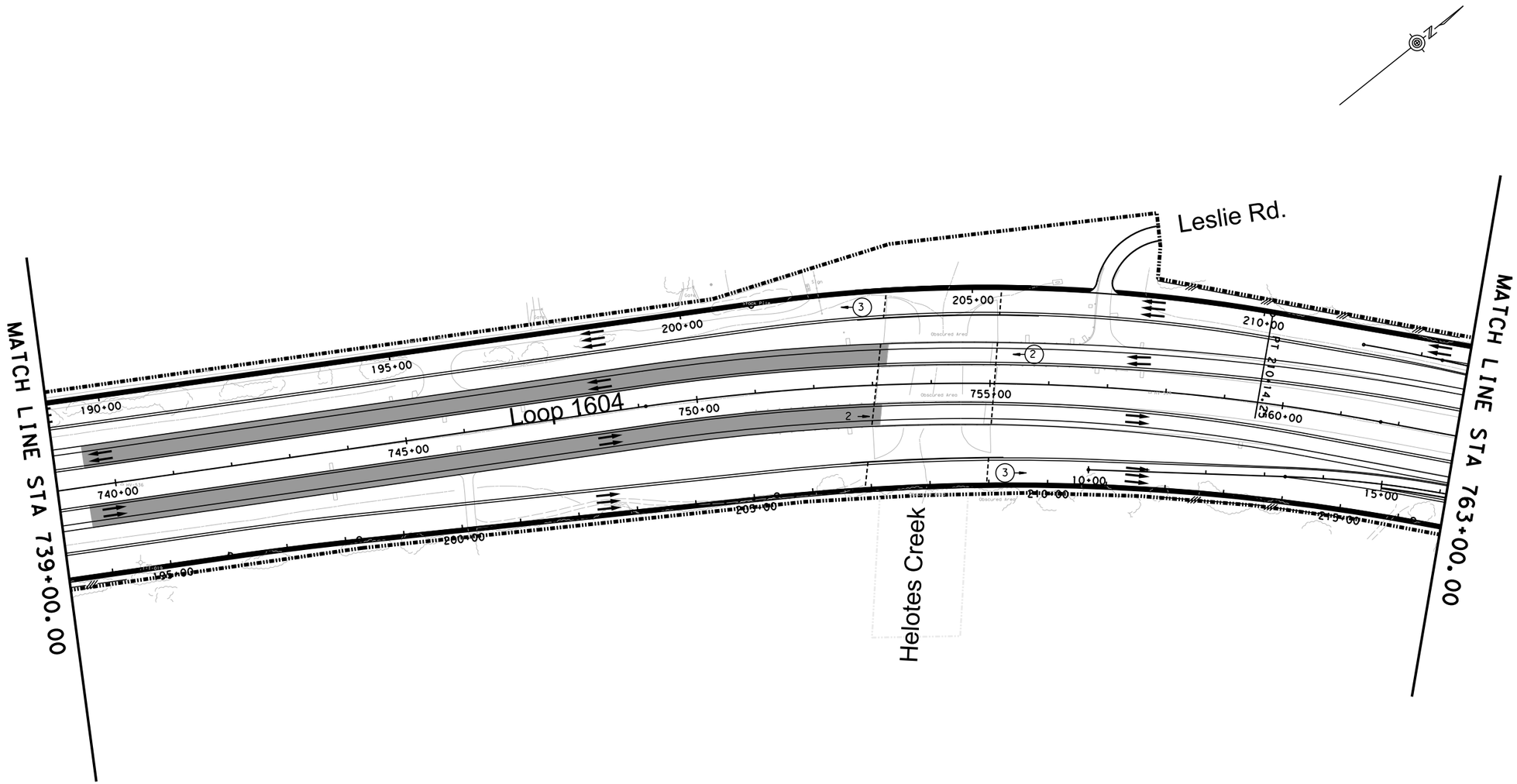
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 5 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604		SHEET
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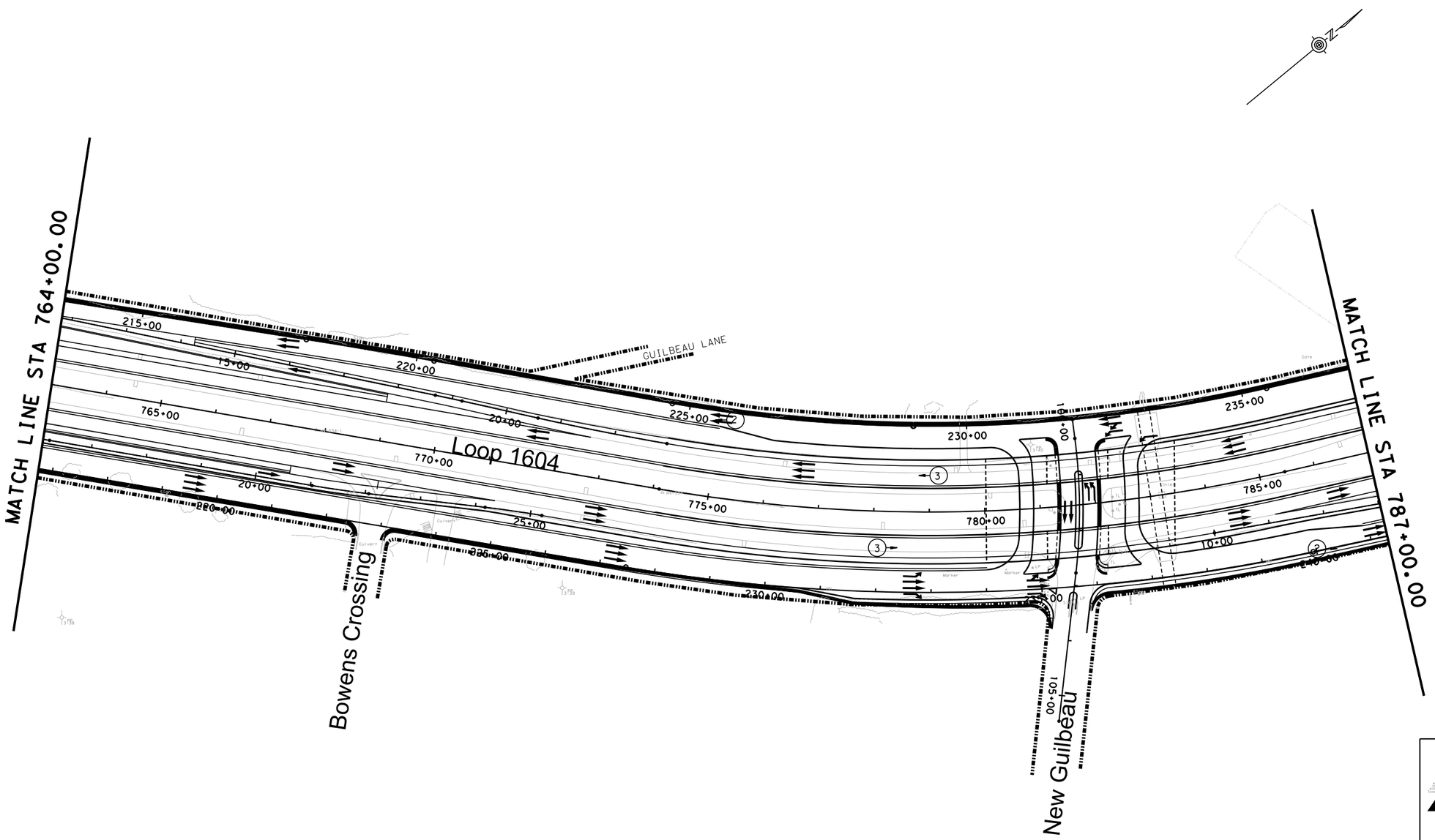

LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 6 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
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- RIGHT-OF-WAY
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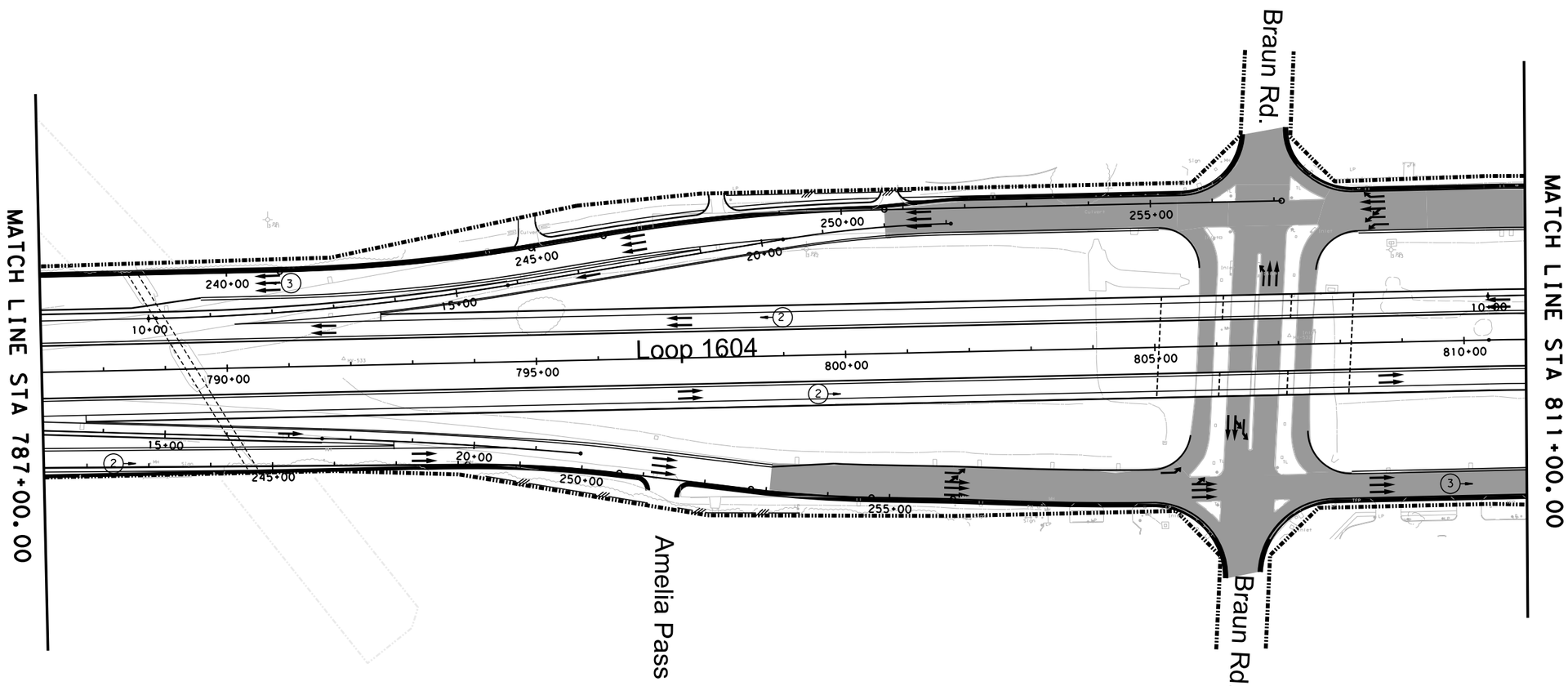
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 7 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
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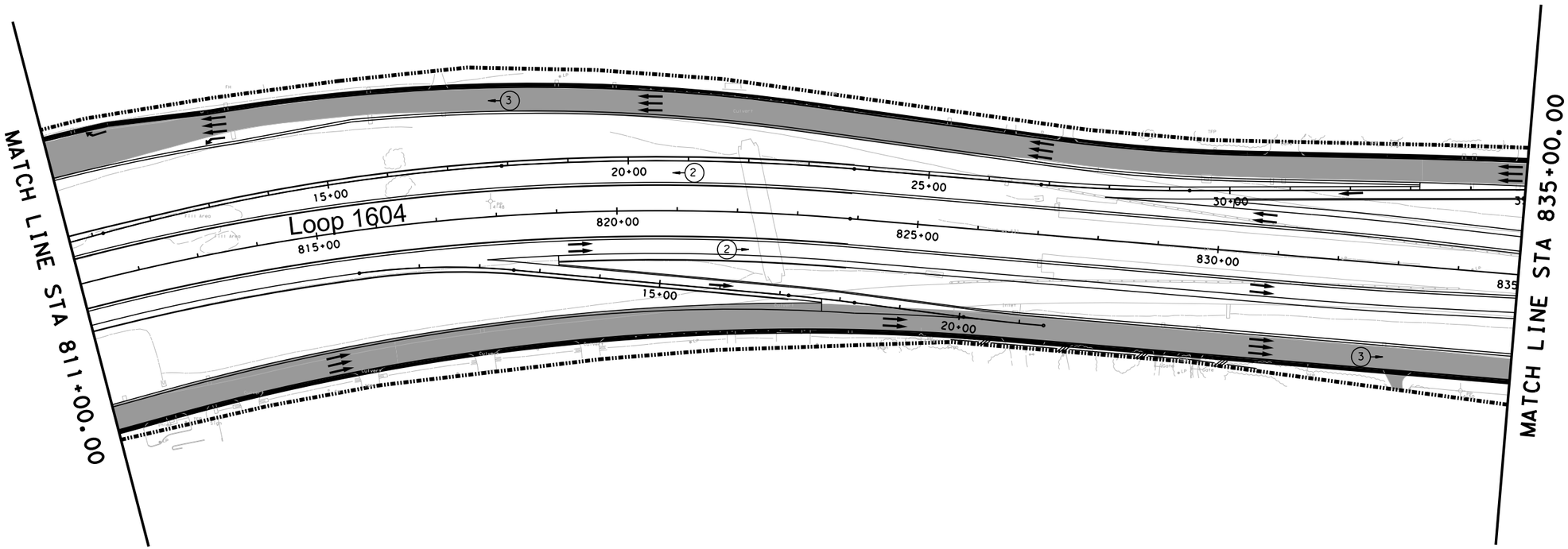
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 8 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
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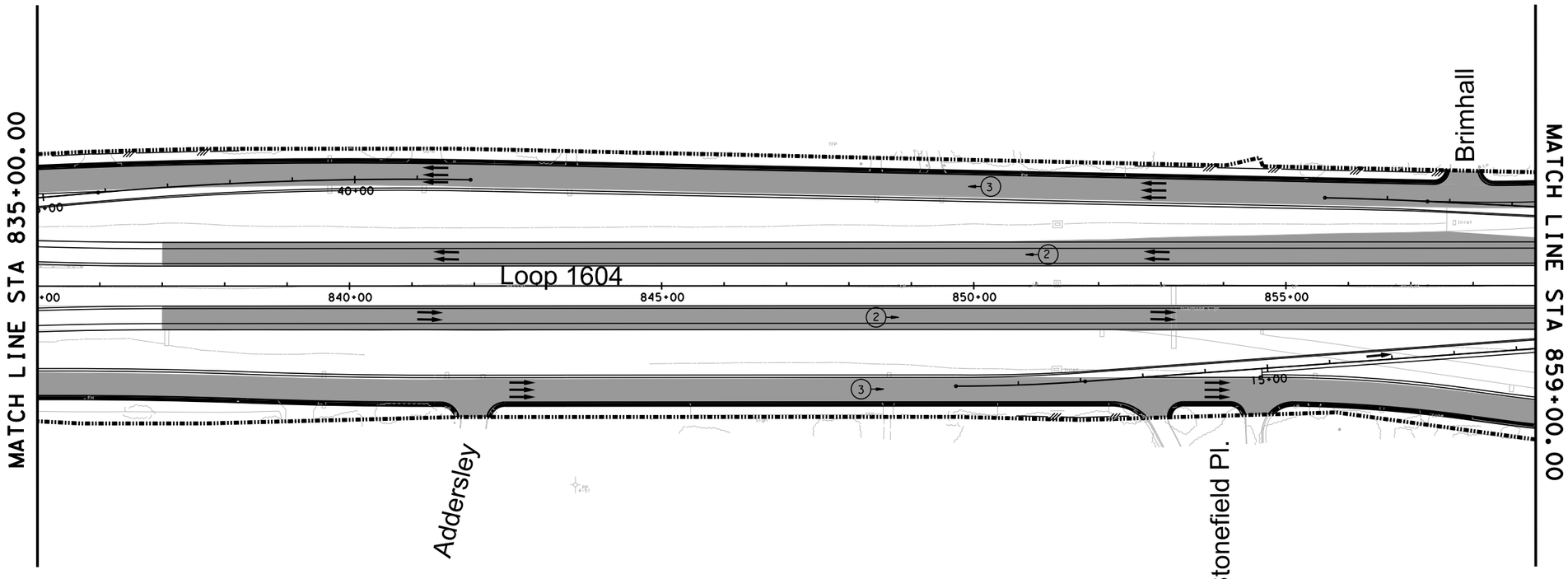
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 9 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
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TIME: 10:49:17 AM

LEGEND

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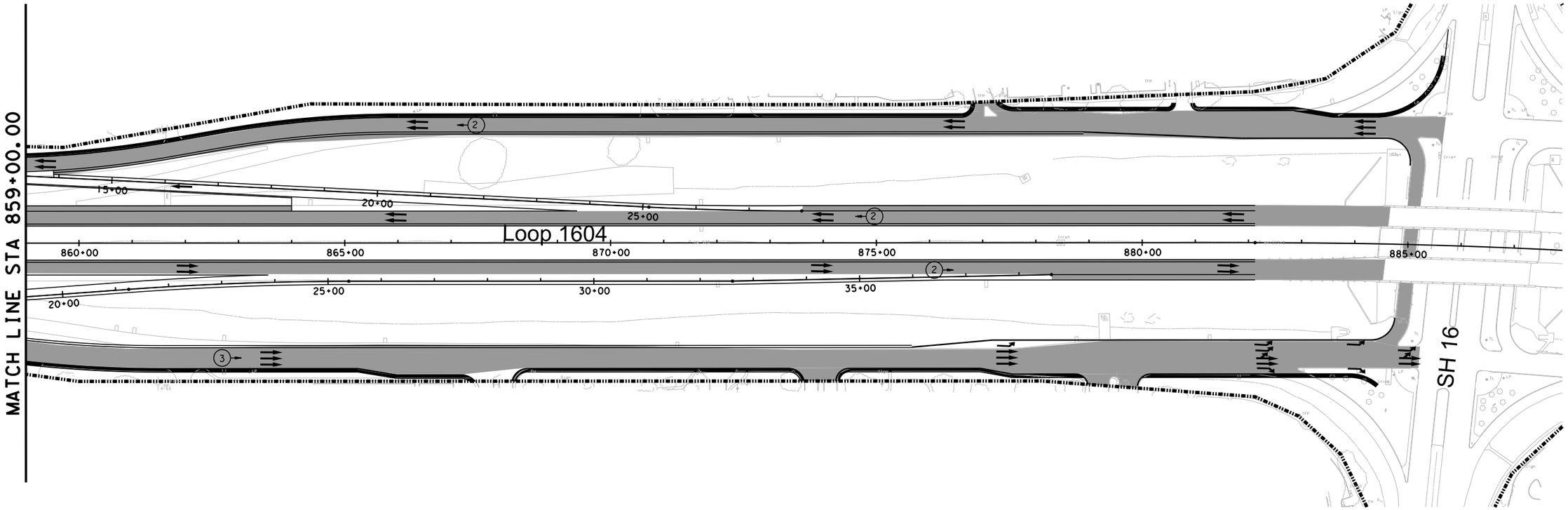
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



Texas Department of Transportation
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LOOP 1604 BASE SCOPE
ATTACHMENT 1-1

LIMITS OF MILL AND OVERLAY

SHEET 10 OF 10

COUNTY: BEXAR	HIGHWAY: LOOP 1604	SHEET
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL	10

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DATE: 7/10/2013
TIME: 10:49:17 AM

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

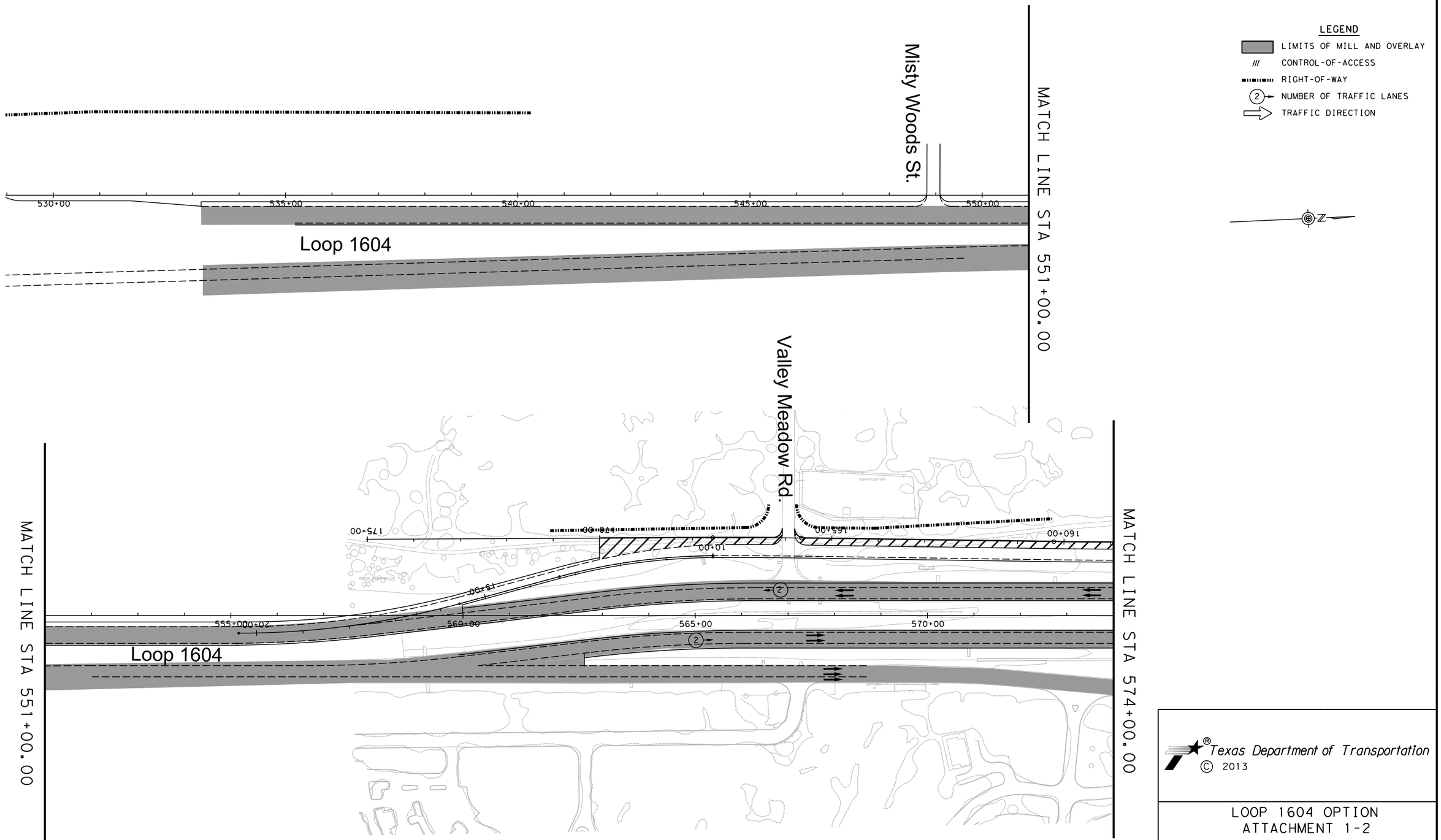
FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 1-2
OPTION LIMITS OF MILL AND OVERLAY

Executed Version

Dated as of: December 5, 2013



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DATE: 7/9/2013
TIME: 3:44:32 PM

Texas Department of Transportation
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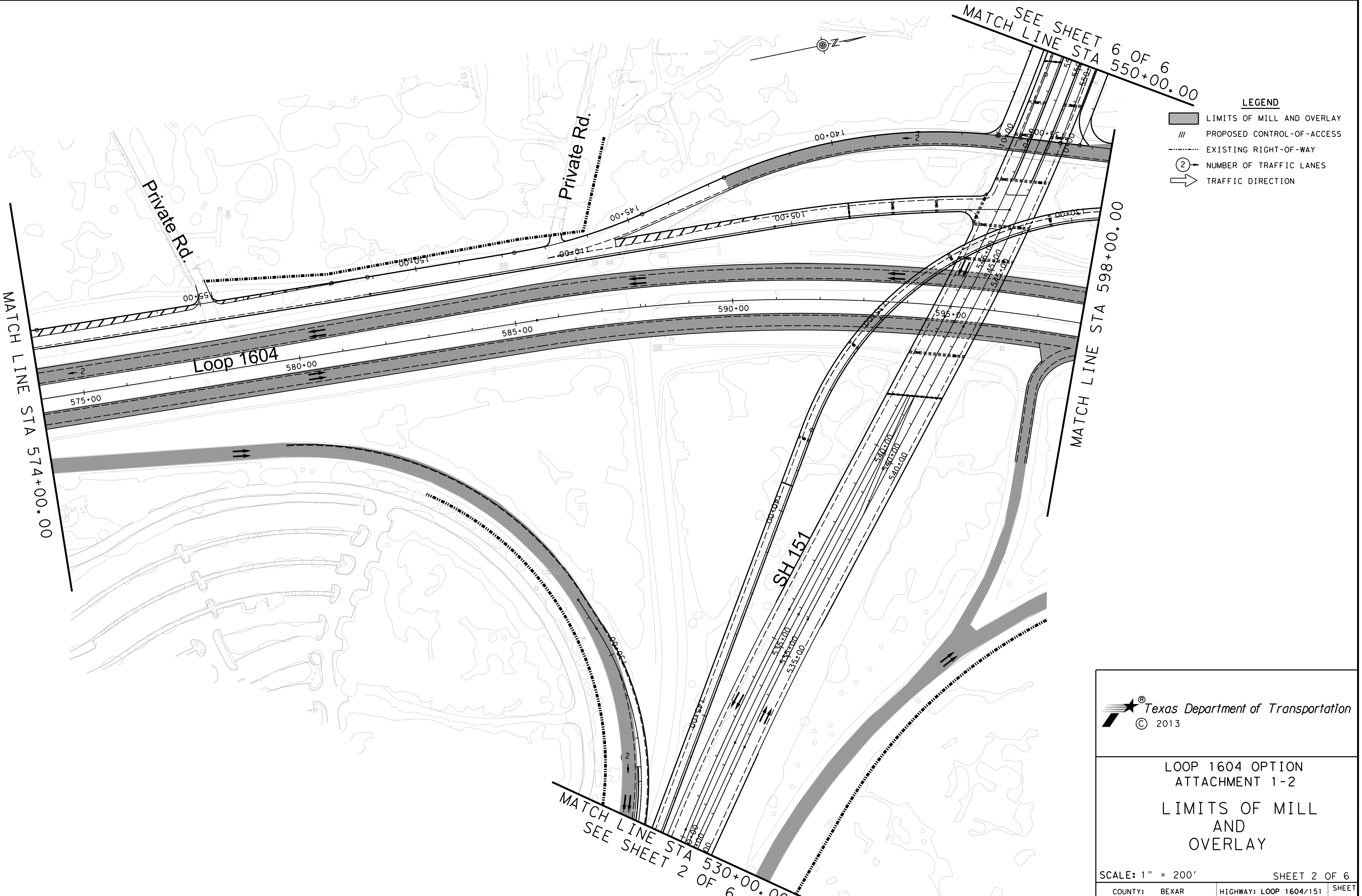
LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL AND OVERLAY

SCALE: 1" = 200'

SHEET 1 OF 6

COUNTY: BEXAR	HIGHWAY: LOOP 1604/151	SHEET 1
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL


SEE SHEET 6 OF 6
MATCH LINE STA 550+00.00
LEGEND
LIMITS OF MILL AND OVERLAY
PROPOSED CONTROL-OF-ACCESS
EXISTING RIGHT-OF-WAY
NUMBER OF TRAFFIC LANES
TRAFFIC DIRECTION
Private Rd.
Private Rd.
140+00
145+00
150+00
155+00
105+00
110+00
Loop 1604
575+00
580+00
585+00
590+00
595+00
MATCH LINE STA 574+00.00
MATCH LINE STA 598+00.00
SH 151
540+00
535+00
MATCH LINE STA 530+00.00
SEE SHEET 2 OF 6

Texas Department of Transportation
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LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL
AND
OVERLAY

SCALE: 1" = 200'

SHEET 2 OF 6

COUNTY: BEXAR		HIGHWAY: LOOP 1604/151	SHEET 2
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL	

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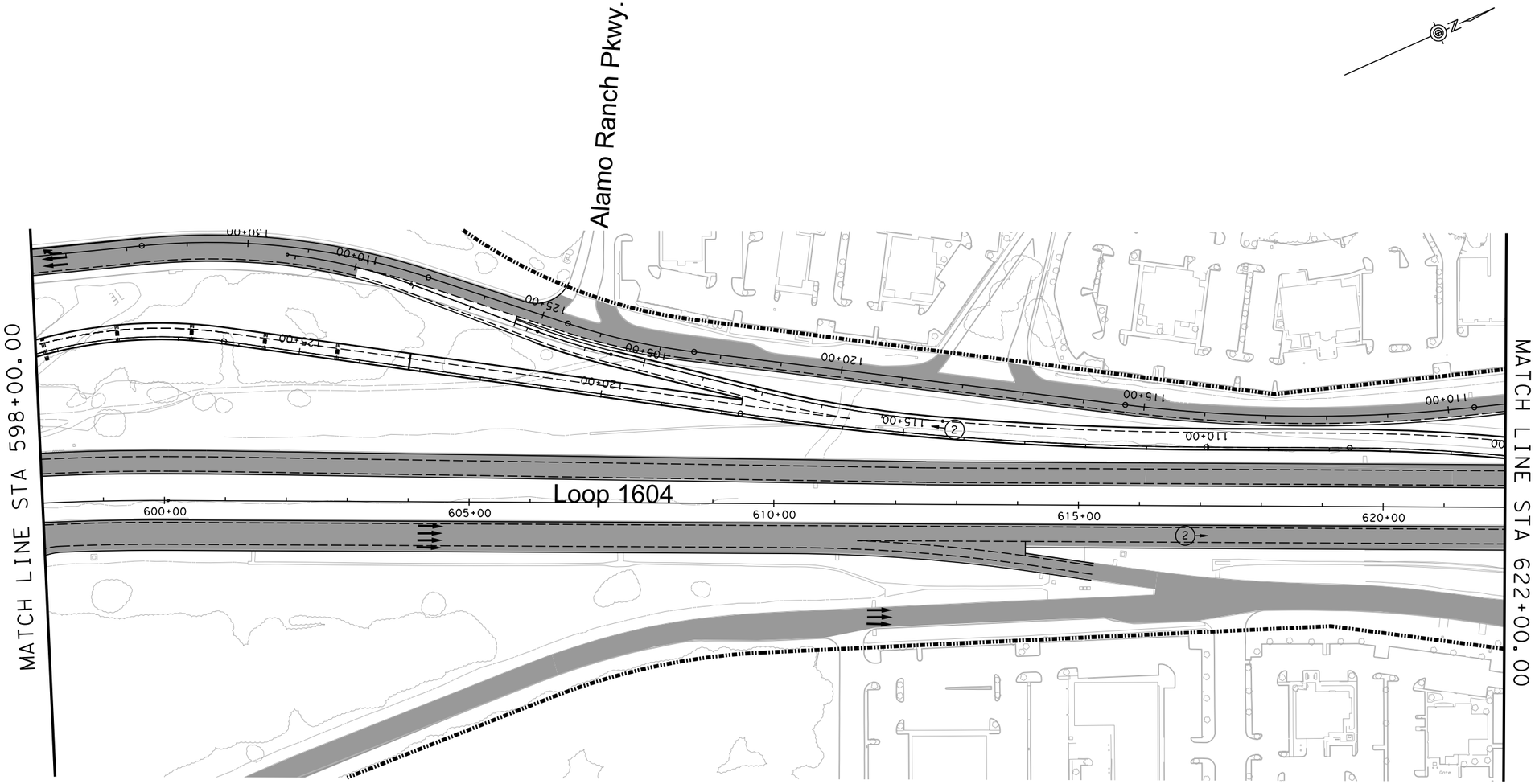
DATE: 7/9/2013 TIME: 3:44:33 PM

LEGEND

- LIMITS OF MILL AND OVERLAY
- /// CONTROL-OF-ACCESS
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL AND OVERLAY

SCALE: 1" = 200'

SHEET 3 OF 6

COUNTY: BEXAR	HIGHWAY: LOOP 1604/151	SHEET
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL	3

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DATE: 7/9/2013
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LEGEND

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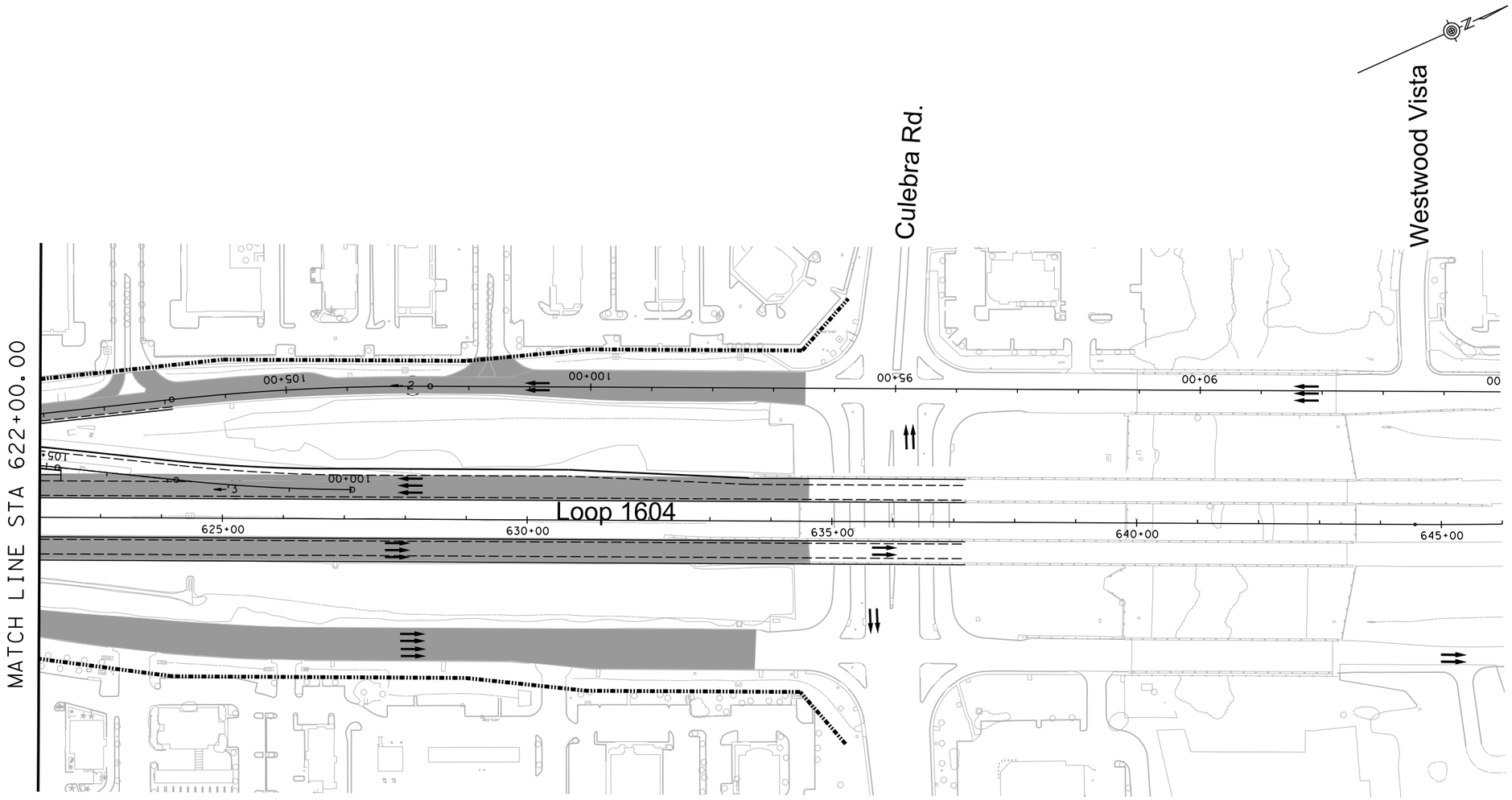
- /// CONTROL-OF-ACCESS
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL AND OVERLAY

SCALE: 1" = 200'

SHEET 4 OF 6

COUNTY: BEXAR	HIGHWAY: LOOP 1604/151	SHEET 4
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL

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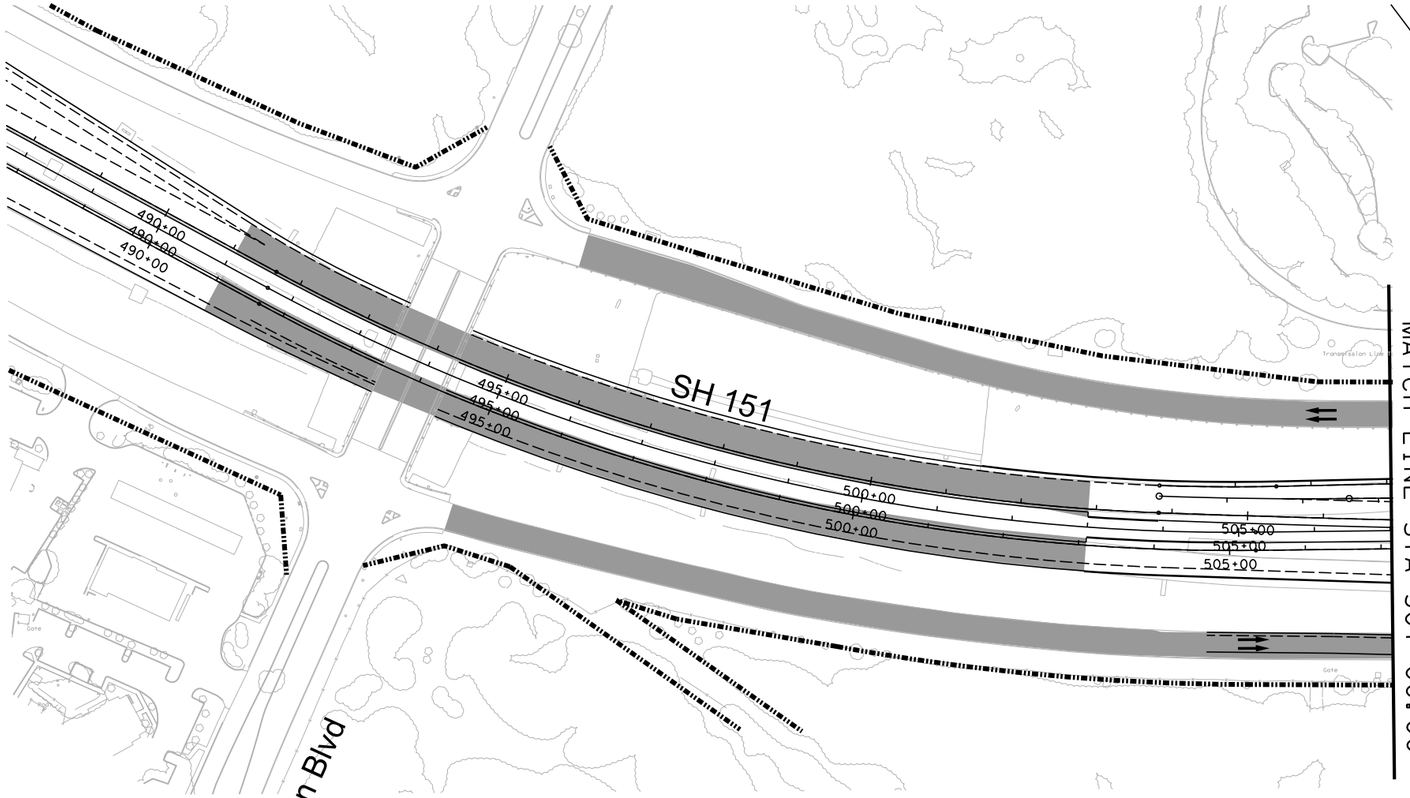

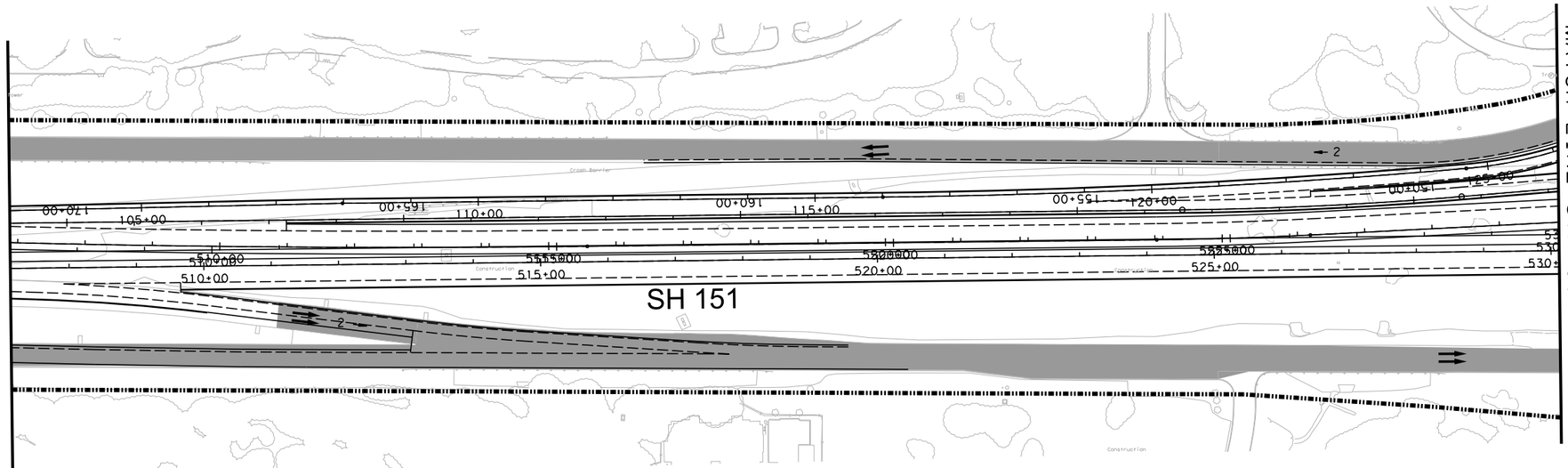

LEGEND

- LIMITS OF MILL AND OVERLAY
- /// CONTROL-OF-ACCESS
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION

Texas Department of Transportation

LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL AND OVERLAY

SCALE: 1" = 200'

SHEET 5 OF 6

COUNTY: BEXAR	HIGHWAY: LOOP 1604/151	SHEET 5
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL

FILE: Z:\Projects\JEC0201WA 02\new splder files\alt3_Overlay05.dgn
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TIME: 3:44:35 PM

LEGEND

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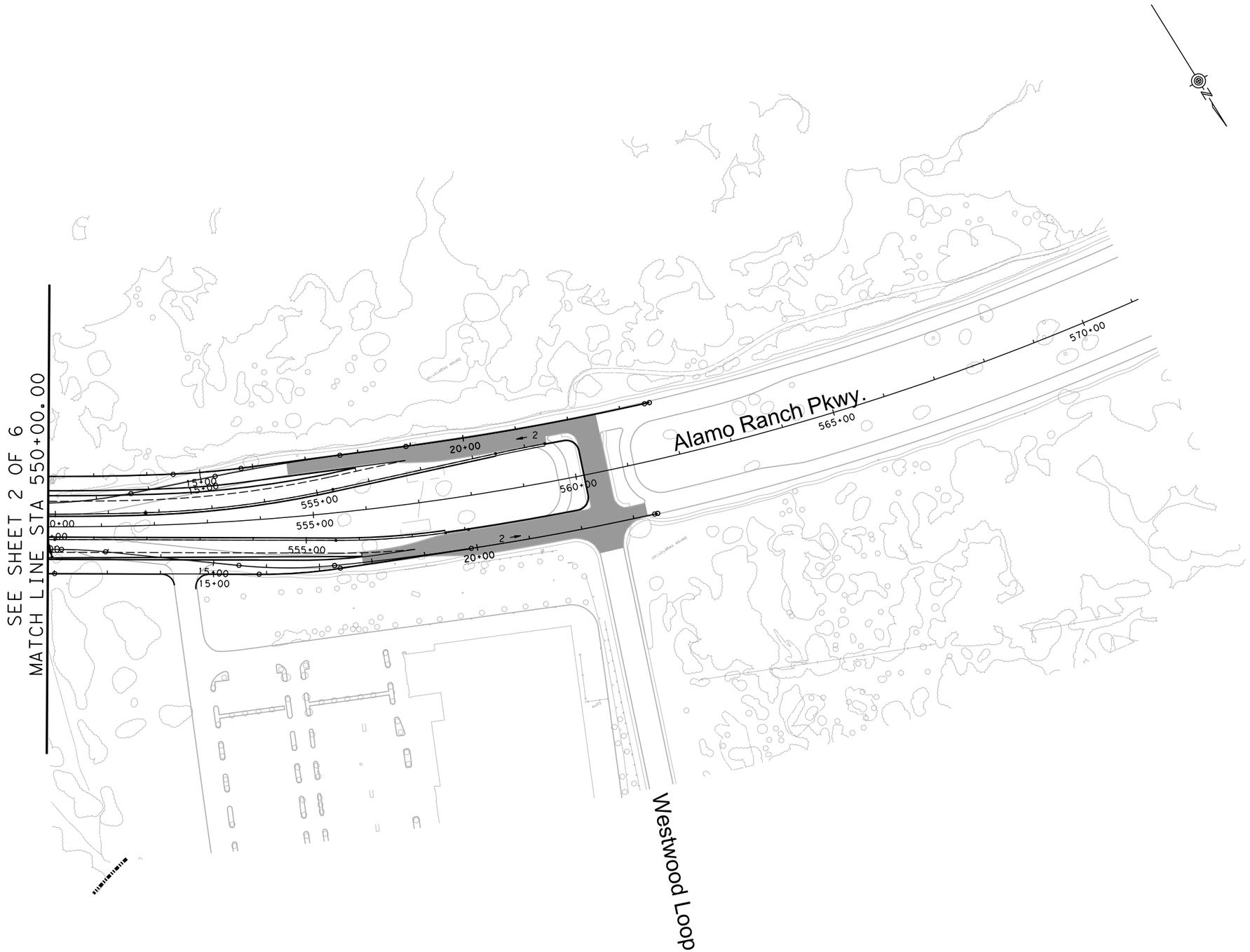
- RIGHT-OF-WAY
- (2) NUMBER OF TRAFFIC LANES
- TRAFFIC DIRECTION



LOOP 1604 OPTION
ATTACHMENT 1-2

LIMITS OF MILL AND OVERLAY

SCALE: 1" = 200'

SHEET 6 OF 6

COUNTY: BEXAR	HIGHWAY: LOOP 1604/151	SHEET 6
DESIGN: GL, JS	GRAPHICS: GL	CHECK: JS, GL

FILE: Z:\Projects\JEC0201WA 02\new spider files\alt3_Overlay06.dgn
DATE: 7/9/2013 TIME: 3:44:36 PM

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 1-3
OPTION ENVIRONMENTAL SCHEMATIC
SCOPE OF WORK

Executed Version

Dated as of: December 5, 2013

Option Environmental Schematic Scope of Work

The schematic design shall be prepared to meet TxDOT standards and practices as detailed in the *TxDOT Roadway Design Manual* and the *TxDOT Project Development Process Manual, Chapter 2, Section 5*. DB Contractor shall:

A. Include ATCs requested by TxDOT into the design of the Option.

B. Supplement geotechnical surveys and pavement design data provided by TxDOT, if needed.

   Supplemental data shall meet the requirements of the Technical Provisions.

C. Develop preliminary geotechnical report

   The preliminary geotechnical report shall meet the requirements of Section 8.2.1 of the Technical Provisions.

D. Supplement survey data provided by TxDOT, if needed.

   Supplemental survey data shall meet the requirements of the Technical Provisions.

E. Place title block at both ends of the schematic plots. The title blocks shall include the following elements:
   i. "Preliminary Design Schematic"
   ii. Control-section-job number
   iii. Project limits
   iv. Station equations
   v. County
   vi. Design speeds
   vii. Average daily traffic (current and projected years)
   viii. Scale (graphic and written)
   ix. Roll or sheet number
   x. Responsible engineer office
   xi. Signature block for responsible engineer/company and signatures
   xii. Current date
   xiii. Design exceptions
   xiv. Highway/roadway classification(s)
   xv. project location map

F. Develop existing and proposed typical sections. The existing and proposed typical section shall contain the following elements:
   i. Number of lanes
   ii. Pavement, shoulder and median widths
   iii. Location of profile grade line and horizontal alignment line
   iv. Existing and proposed ROW lines and border width

v. Pavement cross slope
vi. Type of pavement structure (graphical representation of layers or bridge)
vii. Side slopes
viii. Station limits (where applicable)
ix. Curb, rail and/or barrier
x. Sidewalks

G. Develop geometric layout

Utilize collected data and travel demand model to perform an existing and future-year transportation analysis. Employ approved traffic modeling software to verify acceptable (at a minimum, LOS, ramp separation, weaving distances) operations of ramp, main lane and frontage road configurations.

The horizontal alignment and vertical profile shall consider: existing terrain; utilities; roadway and roadway intersections; bicycle lanes; horizontal and vertical clearances; drainage structures and improvements, pedestrian facilities and ADA compliance; bus facilities; side street access improvements; aesthetic and landscape treatments; ROW boundaries; bridge and structure locations; guide signs, retaining, and/or noise wall locations and other pertinent design criteria elements.

The geometric schematic plan view shall contain the following design elements:

i. Geopak calculated roadway alignments for mainlanes, ramps, direct connectors, frontage roads and intersecting streets at grade separations (including PC and PT points and bearings) and horizontal curve data shown in tabular format.
ii. Pavement edges, curb lines, sidewalks for all roadway improvements
iii. Proposed structure locations including abutment, bent and rail locations
iv. Limits of retaining and/or noise walls
v. Existing and proposed drainage structures
vi. Existing and proposed major utilities
vii. Existing property lines
viii. ROW requirements provided by TxDOT
ix. Control-of-access limits provided by TxDOT
x. Limits of construction, pavement widening, pavement transitions, etc.
xi. Existing and projected (design year) traffic volumes
xii. Location and text of the proposed mainlane guide signs and the preliminary locations for changeable message signs
xiii. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways
xiv. North arrow
xv. Benchmark locations and elevations
xvi. City limit lines

The geometric schematic profile view shall contain the following design elements:

i. Calculated profile grade and vertical curve data including "K" values for the mainlanes, frontage roads, connectors, ramps, and intersecting streets

ii. Existing ground line profiles along the mainlanes
iii. Grade separations and overpasses
iv. Calculated vertical clearances at grade separations and overpasses
v. Existing and proposed bridges and/or drainage structures (including design year and 100-year flood elevations)
vi. Begin and end stations
vii. Elevations on the vertical scale
viii. Station numbers on the horizontal scale
ix. Proposed and existing elevations of reference line

The calculated profile grade for frontage roads, connectors, ramps and intersecting streets can be shown on separate supplemental profile rolls.

H. Determine guide signing

After collecting and reviewing existing data, prepare a signing schematic for large signs including proposed wording, advance distance notification intervals and sign support structure type (roadside or overhead) for review. In lieu of a separate signing schematic, the signing information may be included in the geometric schematic plan.

I. Perform preliminary planning for bridges

A bridge type evaluation shall be performed for the purpose of establishing structural depth and geometric conditions for the elevated structures. The bridge type shall be evaluated considering geometric constraints, environmental constraints, constructability limitations and construction cost evaluations and shall consider both the superstructure configuration and the necessary substructure configuration to meet constraints.

J. Establish preliminary retaining and/or noise wall locations

Proposed wall locations shall be identified as necessary in areas subject to constraints (space, sight distance, or other conditions) or where needs for noise mitigation measures have been identified. The retaining and/or noise wall locations shall be detailed in the geometric schematic plan.

K. Perform preliminary hydrologic and hydraulic studies

Conduct a comprehensive drainage study for the Option in conjunction with development of the schematic for limits of the Option. The study approach and findings shall be documented in a single report. A professional engineer registered in the state of Texas shall sign and seal five copies of the drainage analysis/preliminary report. Design of the work shall be prepared in accordance with applicable requirements of TxDOT Specifications, Standards and Manuals.

i. Schedule and attend meetings on a regular basis for drainage coordination. Coordinate through TxDOT all communication with applicable government agencies.
ii. Identify existing drainage outfalls along the project route.
iii. Obtain available hydrologic and hydraulic data and computer models (HEC-1 and HEC-2) from FEMA (and/or applicable local drainage authorities to the extent possible) for use in analysis and determination of existing 2, 5, 10, 25, 50, 100 water surface elevations at creeks, and ditch crossings along the project.
iv. Prepare a watershed map and identify existing drainage boundaries
v. Compute peak flows for the existing and proposed outfall drainage systems in accordance with TxDOT's Hydraulic Manual based on the rational method or other approved methodology.
vi. Obtain the profile of natural ground along the proposed right-of-way from the mapping.
vii. Superimpose the 2, 5, 10, 25, 50, and 100-year water surface elevations on the profile of the natural ground along each proposed right-of-way
viii. Determine a hydraulic gradeline starting at the outfall channels for each proposed storm sewer system in order to obtain a design tailwater for each system.
ix. Based on preliminary roadway vertical profile define proposed drainage system including storm sewer and outfall channel improvements.
x. Determine drainage areas and flows for any cross culvert drainage systems. Size proposed systems in accordance with TxDOT design criteria.
xi. Perform calculations and layouts for water quality treatment as required by the Water Pollution Abatement Plan (WPAP).
xii. Preliminary Impact Analysis - Impact analyses are required on creeks, and ditches as related to the TxDOT and FEMA criteria for 10-year and 100-year storms. The required approach for impact prediction is presented below:
xiii. Compute right-of-way corridor 100-year floodplain volumes for proposed roadway elevations and calculate the quantity of the cut and fill within the 100-year floodplain, if any occur. No decrease in 100-year floodplain storage is allowed by TxDOT or other government agencies.
xiv. Compute existing and proposed peak flows using hydraulic and hydrologic methodology and computer models.
xv. Compute mitigation volume required for the 100-year storm.
xvi. Prepare conceptual 100-year sheet flow analysis for project utilizing existing and proposed conditions.
xvii. Define a mitigation plan for development impacts as well as floodplain mitigation. Identify floodplain mitigation sites in coordination with environmental mitigation sites, to the extent practicable, and provide geometry.
xviii. Determine final sizing of detention facilities and incorporate NPDES stormwater controls.
xix. Prepare draft Preliminary Impact Analysis report for the project. If mitigation is needed, location of storage volume and/or approaches to satisfy government agencies shall be defined. The report shall include discussions of alternatives considered, a comparative cost associated with each alternative, and a recommended solution.

L. The DB Contractor shall use Geopak to generate preliminary cross-sections every one hundred (100) feet in conjunction with the Geometric Schematic. The DB Contractor shall prepare roll plots of the cross-sections.

M. Identify existing utilities

The existing utilities identified shall be included in the schematic drawings on a separate drawing level. Any known proposed utility corridors shall be shown on the typical sections of the schematic plan.

N. Conceptual traffic control and construction sequencing

A preliminary traffic control and sequence of construction plan shall be prepared to describe construction activities during each stage of construction. The sequence of construction shall be described primarily through the use of typical sections for the corridor in general, and with plan view exhibits showing how operations and access at typical intersections and typical driveways will be maintained. Handling of traffic shall be considered in the development of preliminary designs.

Deliverables

- Preliminary geotechnical report
- Two (2) draft copies of the Preliminary Drainage Study
- Two (2) copies of Technical Memorandum containing Traffic Modeling results and existing and future-year transportation analysis
- Eight (8) copies of the Geometric Schematic layouts (1 inch = 100 feet)
- Eight (8) copies of the Supplemental Profiles rolls
- Three (3) copy of the Preliminary Cross-Sections in a roll plot format
- Six (6) final copies of the Preliminary Drainage Study
- Eight (8) copies of the Preliminary Construction Sequence Layouts
- Native electronic files shall be furnished to TxDOT on a CD or DVD Recordable media

Texas Department of Transportation

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 2-1
PROJECT MANAGEMENT PLAN CONTENTS

Executed Version
Dated as of: December 5, 2013

Attachment 2-1 – Project Management Plan Contents

The Project Management Plan - Contents and Schedule for provision of the component parts

Legend
A = Submitted by DB Contractor within 30 days of NTP1 and approved by TxDOT prior to Commencement of Design
B = Submitted by DB Contractor within 90 days of NTP 1; Approved by TxDOT prior to Commencement of Construction
C = Submitted by DB Contractor no later than 60 days prior to NTP2

Part	Ref	Section	Contents	Required by
1. Project Administration				
		Organization	Organization diagram	A
		Personnel	Names and contract details, titles, and job roles	A
		Subcontractors	Subcontracting plan	A
		Schedule	Baseline Schedule in accordance with Section 2	A
		Quality Control	Procedures to establish and encourage continuous improvement	A
		Audit	Procedures to facilitate review and audit by TxDOT	A
			Auditing and management review of DB Contractor's own activities under the PMP	A
			Auditing and management review of Subcontractor's activities and management procedures	A
			Name of DB Contractor's representative(s) with defined authority for establishing, maintaining, auditing and reporting on the PMP	A
		PMP Update	Procedures for preparation of amendments and submission of amendments to any part of the PMP	A
		Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems DB Contractor will use.	A
			Document management procedures in compliance with the Technical Provisions Section 2.	A
2. Quality Management				
2A. Design Quality Program				
		Organization	DB Contractor's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the DBA Documents	A
		Personnel	Resource Plan for the DB Contractor and its Subcontractors	A
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A

Part	Ref	Section	Contents	Required by
2A. Design Quality Program (continued)				
		Personnel (continued)	Names and contact details, titles, job roles and specific experience required for the Key Personnel and for other principal personnel during design	A
			Names and contact details, titles, job roles of principal personnel for Subcontractors and any third party with which DB Contractor will coordinate activities.	A
		Offices and equipment	Description of the necessary offices and office equipment to be provided by DB Contractor during design	A
		Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants	A
			Responsibility of Subcontractors and Affiliates	A
			Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Contracts	A
		Interfaces	Interfacing between the DB Contractor, Subcontractor and the independent certifiers during design including interfaces between the structural design auditor, the safety auditor, and the quality reviewer	A
			Coordination with Utility Owners	A
		Environmental	Control of the interface between environmental requirements (including landscaping) and the design of the Project	A
		Procedures	Procedures describing how the principal activities will be performed during the design stage: to include geotechnical site investigation, surveys and mapping, environmental management, safety audit, structural audit, and checking	A
		Quality Control/Quality Assurance	Quality control and quality assurance including a resource table for monitoring and auditing all design services, design review and certification, verification of plans	A
			Procedures for environmental compliance	A
			Procedures to establish DB Contractor's hold points in the design process where checking and review will take place	A
			Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities	A
			Procedures to establish and encourage continuous improvement	A
		Audit	Name of DB Contractor's representative(s) with defined authority for establishing, maintaining, auditing and reporting on the DQP	A
			Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	A
		Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems DB Contractor will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A
			Identify environmental documentation and reporting requirements, including Environmental Permits, Issues and Commitments (EPIC) sheets	A

2B. Construction Quality Program (CQP)				
		Organization	DB Contractor's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the DBA Documents	A
		Personnel	Resource Plan for the DB Contractor and its Subcontractors	B
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	B
			Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to construction	A
			Names and contact details, titles, job roles of principal personnel for Subcontractors and any third party with which DB Contractor will coordinate his activities	B
			Procedures for implementation of the Environmental Protection Training Program for all employees in accordance with Section 4 of the Technical Provisions	B
		Offices and equipment	Description of the necessary offices and office equipment to be provided by DB Contractor during construction	A
		Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants	B
			Responsibility of Subcontractors and affiliates	A
			Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Contracts	B
			Procedures for implementation of Environmental Protection Training Program for employees of Subcontractors in accordance with Section 4 of the Technical Provisions	B
		Interfaces	Interfacing between the DB Contractor, Subcontractors, and independent certifiers during construction, including any testing contractor	A
		Procedures	List of Project specific construction procedures	B
			Construction detailed procedure for each major activity whether directly undertaken or subcontracted to include pavement, structures, drainage, communications	B
		Quality Control/Quality Assurance	Construction Monitoring Plan	B
			Control, identification and traceability of materials, including any material or samples temporarily or otherwise removed from site for testing or other reasons.	B
			Examinations and audit of Construction Work, review of examination and audit, issue of certificates	B
			Observation and reporting of all tests in compliance with Section 2	B
			Procedures for tests and inspections for the purpose of the Subcontractor certifying that prior to burying, each part of the Works is complete and conforms to the DBA Documents	B
			Quality control and quality acceptance procedures including a resource table for monitoring and auditing during construction any work and testing undertaken by Subcontractors and Suppliers both on and off Site	B
			Procedures to establish DB Contractor's hold points in construction	B
			Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities	B
			Procedures to establish and encourage continuous improvement	A

2B. Construction Quality Program (CQP) (continued)				
		Audit	Inspection and test plans that identify the proforma and/or databases to be used for recording the inspection and test results and methodology for transmitting acceptance testing and inspection reports to TxDOT	B
			Name of DB Contractor's representative with defined authority for establishing, maintaining, auditing and reporting on the CQP	A
			Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority.	B
		Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems DB Contractor will us	B
			Document management procedures in compliance with the Technical Provisions Section 2	A
3. Environmental Management				
		Organization	DB Contractor’s main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the DBA Documents	A
			Environmental Contact Tree	A
		Personnel	Resource Plan for the DB Contractor and its Subcontractors	B
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
			Names and contact details, titles, job roles and specific experience required for Key Personnel and for other environmental personnel	A
			Implement Environmental Protection Training Program for all employees in accordance with Section 4	A
		Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants	A
			Responsibility of Subcontractors and Affiliates	A
		Environmental	Comprehensive Environmental Protection Program (CEPP)	B
		Quality Control and Quality Acceptance	Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities	A
			Procedures to establish and encourage continuous improvement	A
			Procedures for environmental compliance	A
		Audit	Name, title, roles and responsibilities of supporting environmental management staff reporting to the person with defined authority	A
		Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems DB Contractor will use	A
			Identify environmental documentation and reporting requirements	A

4. Public Information and Communications				
			Description of methods and procedures for Emergency event communications and disseminating public information, as described in Section 3 of the Technical Provisions	A
		Personnel	Names and contact details and description of approach to coordinating communications through TxDOT	A
5. Safety and Health				
			Policies, plans, training programs, Work Site controls, and Incident response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project	A
			Procedures for immediately notifying TxDOT of all incidents arising out of or in connection with the performance of the Work	A
6. TxDOT-DB Contractor Communications				
			The manner in which the DB Contractor's organization will respond to unexpected requests for information, communicate changes or revisions to necessary DB Contractor personnel, and notify affected stakeholders before and after changes are made	A
			Processes and procedures for communication of Project information between the DB Contractor's organization and TxDOT	A
7. ROW Acquisition Management				
		Organization	DB Contractor's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the DBA Documents	A
		Personnel	Resource plan for the DB Contractor and its Subcontractors	A
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
			Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to ROW acquisition and Utility Adjustment activities.	A
			Names and contact details, titles, job roles of principal personnel for Subcontractors and any third party with which DB Contractor will coordinate activities	A
		Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants	A
			Responsibility of Subcontractors and affiliates	A
			Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Contracts	A
			Procedures for implementation of the Environmental Protection Training Program for employees of Subcontractors in accordance with Section 4	A
		Interfaces	Interfacing between the DB Contractor, Subcontractors and independent certifiers during Project ROW acquisition including the interfaces between Project ROW acquisition, Project design, and any quality reviewer	A
			Coordination with Utility Owners	A
			Utility Adjustment Plan	B
		Relocation	Relocation Plan (Right of Way)	B

7. ROW Acquisition Management (continued)				
		Environmental	Control of the interface between environmental requirements (including Hazardous Materials and demolition) and Project ROW acquisition activities	A
			Applicable procedures for the Hazardous Materials Management Plan in accordance with Section 4	A
			Applicable procedures to implement the Pollution Prevention Plan (P2 Plan), recycling program and waste management in accordance with t Section 4	A
			Address Project Environmental Compliance and Mitigation Plan (ECMP) requirements	A
		Schedule Procedures	Logic linked ROW acquisition activities on a parcel-by-parcel basis as part of the Project Baseline Schedule, including adequate time periods for TxDOT review and condemnation activities in accordance with Section 7	A
			Procedures describing how the principal activities will be performed during the Project ROW acquisition, whether directly undertaken or subcontracted	A
		Quality Control	Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities	A
			Procedures to establish and encourage continuous improvement	A
			Quality control procedures and quality review standards for Project ROW acquisition in accordance with Section 7	A
			Procedures for environmental compliance	A
		Audit	Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	A
		Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems DB Contractor will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A
			Identify environmental documentation and reporting requirements	A
8. Traffic Management Plan				
			Description of items listed in Section 18.2.1 of the Technical Provisions	B
9. Demolition and Abandonment Plan				
			Description of types and sizes of Utilities and structures to be abandoned during the term and description of methods to ensure abandoned structures will be structurally sound.	C
			Description of methods for demolition of existing Elements.	C

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 2-2

WORK BREAKDOWN STRUCTURE REQUIREMENTS

Executed Version

Dated as of: December 5, 2013

The following Work Breakdown Structure (WBS) shall be the basis for organizing all Work under the DBA Documents and shall be used to structure the baseline schedule and other cost control systems, including the Payment Progress Process if applicable.

Table 1 represents the minimum levels of the WBS that all cost and schedule information shall rollup to once the Project Baseline Schedule is fully developed.

The WBS shall conform to level structure as follows:

Table 1: WBS Minimum Requirements

1 Loop 1604 Western Extension

1.1. Project Administration

1.1.1. Mobilization

1.1.1.1. Developer

1.1.1.2. DB Contractor

1.1.2. Submittals and Permitting

1.1.2.1. (By Governmental Agency)

1.1.2.1.1. (By Specific Permit/Submittal Requirement)

1.2. Right-of Way Acquisition

1.2.1. Acquisition By TxDOT

1.2.1.1. (By Parcel No.)

1.2.2. Acquisition by Developer

1.2.2.1. (By Parcel No.)

1.3. Utility Adjustments

1.3.1. Utility Coordination

1.3.1.1. Administration and Planning

1.3.1.1.1. Site Utility Engineering

1.3.1.1.2. Conceptual Design

1.3.1.2. (By Owner)

1.3.1.2.1. Master Agreements

1.3.1.2.2. Utility Assemblies

1.3.2. Utility Relocations

1.3.2.1. (By Owner)

1.3.2.1.1. (By Line No.)

1.4. Design

1.4.1. General Activities and Field Work

1.4.1.1. Design Mobilization

1.4.1.2. Schematics

1.4.1.3. Survey Work

1.4.1.4. Geotechnical Investigations

1.4.1.5. Additional Field Investigations

1.4.2. Develop Specifications

1.4.2.1. (By Discipline)

1.4.3. Geotechnical Design

1.4.3.1. General

1.4.3.2. Earthwork Geotech

1.4.3.3. Bridge Geotech

1.4.3.4. Culvert Geotech

1.4.3.5. Wall Geotech

1.4. Design (Continued)

- 1.4.4. Pavement Design
  - 1.4.4.1. Data Analysis and Draft Report
  - 1.4.4.2. Final Design and Report
- 1.4.5. Drainage Design
  - 1.4.5.1. Hydrologic and Hydraulic Design
  - 1.4.5.2. Preliminary System Design
  - 1.4.5.3. Detailed Drainage Design
- 1.4.6. Roadway Design
  - 1.4.6.1. Alignments
  - 1.4.6.2. Sections
  - 1.4.6.3. Detailed Design
- 1.4.7. Bridge Design
  - 1.4.7.1. Establish Criteria and Procedures
  - 1.4.7.2. Bridge layouts
  - 1.4.7.3. Substructure Design
  - 1.4.7.4. Superstructure Design
- 1.4.8. Retaining Wall Design
  - 1.4.8.1. Establish Criteria and Procedures
  - 1.4.8.2. Fill Wall Design
  - 1.4.8.3. Cut Wall Design
- 1.4.9. Traffic Management
  - 1.4.9.1. (By Phase)
- 1.4.10. Environmental Design
  - 1.4.10.1. Erosion Control/SWPPP
  - 1.4.10.2. Noise Wall Design
  - 1.4.10.3. Wetland and habitat Mitigation
  - 1.4.10.4. TCEQ Best Management Practices
- 1.4.11. Landscape and Aesthetic Design
  - 1.4.11.1. Landscape Design
  - 1.4.11.2. Aesthetic Design
- 1.4.12. Electrical Design
  - 1.4.12.1. Illumination
  - 1.4.12.2. Traffic Signals
- 1.4.13. ITS & TCS Design
  - 1.4.13.1. Duct Bank System & Power Supply
  - 1.4.13.2. ITS/TCS Equipment & Structures
    - 1.4.13.2.1.1.
- 1.4.14. Signage and Marking Design
  - 1.4.14.1. Overhead
  - 1.4.14.2. Small signs and pavement markings
- 1.4.15. Design Packages
  - 1.4.15.1. Package Preparation
  - 1.4.15.2. QA/QC Review
  - 1.4.15.3. Submittal
  - 1.4.15.4. TxDOT/IE Reviews
  - 1.4.15.5. Comment Resolution

1.5. Construction

- 1.5.1. General
  - 1.5.1.1. Mobilization
  - 1.5.1.2. Administration

1. 5. Construction (Continued)

1.5.1.3. Quality Control

1.5.2. By Work Areas – NBFR, SBFR, NBGPL, SBGPL, ML, XR, etc.

1.5.2.1. Removals

1.5.2.1.1. Building Removals

1.5.2.1.2. ROW Preparation

1.5.2.1.3. Roadway Removals

1.5.2.1.4. Bridge Removals

1.5.2.2. Earthwork

1.5.2.2.1. Topsoil Stripping and Placing

1.5.2.2.2. Excavation

1.5.2.2.3. Embankment

1.5.2.2.4. Special Geotechnical Measures

1.5.2.3. Landscaping

1.5.2.3.1. Seeding and Sodding

1.5.2.3.2. Fertilizer and Watering

1.5.2.3.3. Special Aesthetic Landscaping (if applicable)

1.5.2.4. Subgrade Treatment and Base

1.5.2.4.1. Lime Treatment

1.5.2.4.2. Flexible Base

1.5.2.5. Pavement

1.5.2.5.1. Asphalt Pavement

1.5.2.5.2. Concrete Pavement

1.5.2.5.3. Curb & Gutter

1.5.2.5.4. Driveways

1.5.2.5.5. Sidewalks and Median Paving

1.5.2.6. Retaining Walls

1.5.2.6.1. (By Wall No.)

1.5.2.7. Bridges

1.5.2.7.1. (By Bridge No.)

1.5.2.8. Drainage

1.5.2.8.1. Culverts

1.5.2.8.2. Storm Sewer

1.5.2.8.3. Riprap

1.5.2.9. Traffic Control and Temporary Work

1.5.2.9.1. Barricades, Signs & Traffic Handling

1.5.2.9.2. Erosion Control

1.5.2.9.3. Detour Construction/Removal

1.5.2.9.4. Portable Traffic Barrier

1.5.2.9.5. Workzone Pavement Marking

1.5.2.9.6. Temporary Bridges

1.5.2.9.7. Temporary Walls/Shoring

1.5.2.9.8. Temporary Drainage

1.5.2.9.9. Temporary Illumination

1.5.2.10. Permanent Barriers

1.5.2.10.1. Permanent Concrete Barriers

1.5.2.10.2. Metal Beam Guard Fence

1.5.2.10.3. Crash Attenuators

1.5.2.11. Signals and Illumination

1.5.2.11.1. Roadway Illumination

1.5.2.11.2. High Mast Illumination

1. 5. Construction (Continued)

- 1.5.2.11.3. Electrical Services
- 1.5.2.11.4. Traffic Signals
- 1.5.2.12. ITS/TCS
  - 1.5.2.12.1. Duct Bank System
  - 1.5.2.12.2. Equipment Foundations
  - 1.5.2.12.3. Support Structures and Equipment
- 1.5.2.13. Permanent Signing and Marking
  - 1.5.2.13.1. Overhead Sign Structures
  - 1.5.2.13.2. Small Signs
  - 1.5.2.13.3. Pavement Markings
- 1.5.2.14. Environmental Mitigation
  - 1.5.2.14.1. Noise Walls
  - 1.5.2.14.2. Wetland and Habitat Mitigation
- 1.5.2.15. Hazardous Materials
  - 1.5.2.15.1. Site Assessments
  - 1.5.2.15.2. Remediation

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 2-4
I2MS TEST FIELD FORMS

Executed Version
Dated as of: December 5, 2013

I2MS Test Field Report

File: I2MSFieldReport.xls
File Type: Microsoft Excel (spreadsheet)
File Description: Describes what fields are required to be submitted per test, including pertinent header and footer information. All fields are required to be submitted if possible.

I2MS Test Form Fields

Purpose

The purpose of this document is to provide information on the tables and fields within I2MS.

Material Test Forms

Material Test Forms are forms used to run tests for a sample. A test form contains header and footer information which all forms have in common. Each test form also has a form body containing fields specific to the test method(s) being performed.

Header Fields

The header information is the metadata of the form. It is vital for searching for and analyzing records. All of the test forms have similar header information.

Table Name: HEADER_VALUE_OVT **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Course Lift	course_lift	nvarchar	250		TRUE
Direction	direction	nvarchar	250	CVL	TRUE
Distance From CL	dist_from_cl	nvarchar	250		TRUE
Feature	feature	nvarchar	250	CVL	TRUE
Grade	grade	nvarchar	100	CVL	TRUE
Material	material	nvarchar	100	CVL	TRUE
Misc	misc	nvarchar	250		TRUE
Report Type	report_type	nvarchar	250	CVL	TRUE
Roadway	roadway	nvarchar	250	CVL	TRUE
Sample ID	sample_id	nvarchar	13		TRUE
Sample Location	sample_location	nvarchar	250		TRUE
Sample Type	sample_type	nvarchar	100	CVL	TRUE
Sampled By	sampled_by	nvarchar	250	CVL	TRUE
Sampled Date	sampled_date	datetime		MM/dd/yyyy	TRUE
Section	section	nvarchar	100	CVL	TRUE
Spec Item	spec_item	nvarchar	100	CVL	TRUE
Spec Year	spec_year	nvarchar	250		TRUE
Special Provision	special_provision	nvarchar	250	CVL	TRUE
Split Sample ID	split_sample_id	nvarchar	250		TRUE
Station	station	nvarchar	250	Pattern: [0-9]+\+[0-9][0-9](\.[0-9][0-9])?	TRUE
Structure Number	structure_number	nvarchar	250	CVL	TRUE
Supplier	supplier	nvarchar	100	CVL	TRUE

Footer Fields

The footer contains approval data and comments for each of the test forms.

Table Name: FOOTER_VALUE_OVT **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Authorized By	authorized_by	nvarchar	100	CVL	TRUE
Authorized Date	authorized_date	smalldatetime		MM/dd/yyyy	TRUE
Completed Date	completed_date	smalldatetime		MM/dd/yyyy	TRUE
Digital Signature ID 1	dig_sig_id1	int			FALSE
Digital Signature ID 2	dig_sig_id2	int			FALSE
Remarks	remarks	text			TRUE
Reviewed By	reviewed_by	nvarchar	100	CVL	TRUE

Body Fields

Moisture Content of Aggregates (DB-103-E)

Table Name: VALUE_DB103E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Mass of Dry Sample	dry_sample_tare	decimal	(19, 8)		FALSE
Moisture Content	moisture_content	decimal	(19, 8)		TRUE
Payable Weight of Class 2 Flex Base	payable_weight	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tare Mass	tare_mass	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Mass of Wet Sample Tare	wet_sample_tare	decimal	(19, 8)		FALSE

Liquid Limit, Plastic Limit, Plastic Index (DB-104-6)

Table Name: VALUE_DB104E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Liquid Limit	liquid_limit_total	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB104E_SAMPLE **Maximum Rows: 6**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Liquid Limit (%)	liquid_limit	decimal	(19, 8)		FALSE
Mass of Dry Sample + Tare (g)	mass_dry_sample	decimal	(19, 8)		FALSE
Mass of Wet Sample + Tare (g)	mass_wet_sample	decimal	(19, 8)		FALSE
Moisture Content, %	moisture_content	decimal	(19, 8)		FALSE
Number of Blows	number_blows	int			FALSE
Tare Mass (g)	tare_mass	decimal	(19, 8)		FALSE

Table Name: VALUE_DB105E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Plastic Limit	plastic_limit_total	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB105E_SAMPLE **Maximum Rows: 3**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Mass of Dry Sample + Tare (g)	mass_dry_sample	decimal	(19, 8)		FALSE
Mass of Wet Sample + Tare (g)	mass_wet_sample	decimal	(19, 8)		FALSE
Plastic Limit (%)	plastic_limit	decimal	(19, 8)		FALSE
Tare Mass (g)	tare_mass	decimal	(19, 8)		FALSE
Mass of Water (g)	water_mass	decimal	(19, 8)		FALSE

Table Name: VALUE_DB106E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Plastic Index	plasticity_index	int			TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Use Bar Linear Shrinkage to Calculate Plasticity Index?	use_bar_linear	nvarchar	100	{Yes, No}	FALSE

Bar Linear Shrinkage (DB-107-E)

Table Name: VALUE_DB107E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Calculate Plasticity Index	calculate_plasticity_index	bit		{Yes, No}	FALSE
Final Length	final_length	decimal	(19, 8)		FALSE
Initial Length	initial_length	decimal	(19, 8)		FALSE
Linear Shrinkage	linear_shrinkage	decimal	(19, 8)		TRUE
Maximum By Specification	maximum_by_specification	decimal	(19, 8)		FALSE
Minimum By Specification	minimum_by_specification	decimal	(19, 8)		FALSE
Plasticity Index	plasticity_index	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Unit	unit	nvarchar	100		FALSE

Particle Size Analysis (DB-110-E)

Table Name: VALUE_DB110E_SIEVE **Maximum Rows: 6**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		TRUE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Lower Spec Limit	lower_spec_limit	decimal	(19, 8)		FALSE
Master Grading	master_grading	nvarchar	100		TRUE
Sieve Size	sieve_size	nvarchar	100	CVL	TRUE
Upper Spec Limit	upper_spec_limit	decimal	(19, 8)		FALSE
Weight Retained	weight_retained	decimal	(19, 8)		FALSE

Table Name: VALUE_DB110E_TEST **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Method	individual_cumulative	nvarchar	100	{Cumulative, Individual}	FALSE
Negative No.40	negative_no_40	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total	total	nvarchar	100		FALSE

Moisture-Density Work Sheet (DB-113-E)

Table Name: VALUE_DB113E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density Scale Max	dry_density_scale_max	decimal	(19, 8)		FALSE
Dry Density Scale Min	dry_density_scale_min	decimal	(19, 8)		FALSE
Dry Density Scale unit	dry_density_scale_unit	decimal	(19, 8)		FALSE
Hygroscopic Moisture	hygroscopic_moisture	decimal	(19, 8)		FALSE
Max Density(kg)	max_density_kg	decimal	(19, 8)		FALSE
Max Density (pcf)	max_density_pcf	decimal	(19, 8)		TRUE
Moisture scale max	moisture_scale_max	decimal	(19, 8)		FALSE
Moisture scale min	moisture_scale_min	decimal	(19, 8)		FALSE
Moisture scale unit	moisture_scale_unit	decimal	(19, 8)		FALSE
Optimum Moisture	optimum_moisture	decimal	(19, 8)		TRUE
Oven Dry Weight	oven_dry_weight	decimal	(19, 8)		FALSE
Soil Description	soil_desc	nvarchar	100		TRUE
Specific Gravity (Apparent)	specific_gravity	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weight of Aggr., Pycn. & Water	weight_of_aggr	decimal	(19, 8)		FALSE
Weight of Pycnometer & Water	weight_of_pycnometer	decimal	(19, 8)		FALSE

Table Name: VALUE_DB113E_SPECIMEN **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density	dry_density	decimal	(19, 8)		FALSE
Dry Mass Material	dry_mass_material	decimal	(19, 8)		FALSE
Dry Mass Pan & Specimen	dry_mass_pan_specimen	decimal	(19, 8)		FALSE
Estimated Dry Density	est_dry_density	decimal	(19, 8)		FALSE
Height of Specimen	height_specimen	decimal	(19, 8)		FALSE
Mass Material	mass_material	decimal	(19, 8)		FALSE
Mass Water	mass_water	decimal	(19, 8)		FALSE
Mass Water Added	mass_water_added	decimal	(19, 8)		FALSE
Percent Water Content	pct_water_content	decimal	(19, 8)		FALSE
Percent Water On Total	pct_water_total	decimal	(19, 8)		FALSE
Tare Mass Mold	tare_mass_mold	decimal	(19, 8)		FALSE
Tare Mass Pan	tare_mass_pan	decimal	(19, 8)		FALSE
Volume Per Linear	volume_per_linear	decimal	(19, 8)		FALSE
Volume of Specimen	volume_specimen	decimal	(19, 8)		FALSE
Wet Density of Specimen	wet_density_specimen	decimal	(19, 8)		FALSE
Wet Mass Of Pan & Specimen	wet_mass_pan_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen	wet_mass_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen & Mold	wet_mass_specimen_mold	decimal	(19, 8)		FALSE

Moisture-Density Relationship of Subgrade and Embankment Soils (DB-114-E)

Table Name: VALUE_DB114E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density Scale Max	dry_density_scale_max	decimal	(19, 8)		FALSE
Dry Density Scale Min	dry_density_scale_min	decimal	(19, 8)		FALSE
Dry Density Scale unit	dry_density_scale_unit	decimal	(19, 8)		FALSE
Hygroscopic Moisture	hygroscopic_moisture	decimal	(19, 8)		FALSE
Max Density (kg)	max_density_kg	decimal	(19, 8)		FALSE
Max Density (pcf)	max_density_pcf	decimal	(19, 8)		TRUE
Moisture scale max	moisture_scale_max	decimal	(19, 8)		FALSE
Moisture scale min	moisture_scale_min	decimal	(19, 8)		FALSE
Moisture scale unit	moisture_scale_unit	decimal	(19, 8)		FALSE
Optimum Moisture	optimum_moisture	decimal	(19, 8)		TRUE
Oven Dry Weight	oven_dry_weight	decimal	(19, 8)		FALSE
Soil Descript	soil_description	nvarchar	100		TRUE
Specific Gravity	specific_gravity	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weight of Aggr., Pycn. & Water	weight_of_aggr	decimal	(19, 8)		FALSE
Weight of Pycnometer & Water	weight_of_pycnometer	decimal	(19, 8)		FALSE

Table Name: VALUE_DB114E_SPECIMEN **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density	dry_density	decimal	(19, 8)		FALSE
Dry Mass Material	dry_mass_material	decimal	(19, 8)		FALSE
Dry Mass Pan & Specimen	dry_mass_pan_specimen	decimal	(19, 8)		FALSE
Estimated Dry Density	est_dry_density	decimal	(19, 8)		FALSE
Height of Specimen	height_specimen	decimal	(19, 8)		FALSE
Mass Material	mass_material	decimal	(19, 8)		FALSE
Mass Water	mass_water	decimal	(19, 8)		FALSE
Mass Water Added	mass_water_added	decimal	(19, 8)		FALSE
Percent Water Content	pct_water_content	decimal	(19, 8)		FALSE
Percent Water Total	pct_water_total	decimal	(19, 8)		FALSE
Tare Mass Mold	tare_mass_mold	decimal	(19, 8)		FALSE
Tare Mass Pan	tare_mass_pan	decimal	(19, 8)		FALSE
Volume Per Linear mm	volume_per_linear	decimal	(19, 8)		FALSE
Volume of Specimen	volume_specimen	decimal	(19, 8)		FALSE
Wet Density of Specimen	wet_density_specimen	decimal	(19, 8)		FALSE
Wet Mass of Pan & Specimen	wet_mass_pan_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen	wet_mass_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen & Mold	wet_mass_specimen_mold	decimal	(19, 8)		FALSE

Nuclear Density and Moisture Determination (DB-115-1)

Table Name: VALUE_DB115_1 **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Density Count	density_count	int			FALSE
Density, %	density_pct	decimal	(19, 8)		TRUE
Pass/Fail	density_pct_pass_fail	nvarchar	100		FALSE
Max Density Specification Requirement	density_specification_req_max	decimal	(19, 8)		FALSE
Low Density Specification Req	density_specification_req_min	decimal	(19, 8)		FALSE
density_standard	density_standard	int			FALSE
Determined By Test Method	determined_by_test_method	nvarchar	100	{DB-113-E, DB-114-E}	FALSE
Dry Density, pcf	dry_density_pcf	decimal	(19, 8)		TRUE
Gauge No.	gauge_no	nvarchar	100		TRUE
Maximum Dry Density	max_dry_density_pcf	decimal	(19, 8)		TRUE
Moisture Content, %	moisture_content_pct	decimal	(19, 8)		TRUE
Moisture Content Pct Pass or Fail	moisture_content_pct_pass_fail	nvarchar	100	{Pass, Fail}	FALSE
Moisture Count	moisture_count	int			FALSE
Max Moisture Specification Requirement	moisture_specification_req_max	decimal	(19, 8)		FALSE
Low Moisture Specification Req	moisture_specification_req_min	decimal	(19, 8)		FALSE
Moisture Standard	moisture_standard	int			FALSE
Optimum Moisture Content	optimum_moisture_content_pct	decimal	(19, 8)		TRUE
Probe Depth	probe_depth	decimal	(19, 8)		TRUE
Soil Description	soil_desc	nvarchar	100		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Wet Density , pcf	wet_density_pcf	decimal	(19, 8)		FALSE

Soil /Aggregate Field Unit Weight Tests (DB-115-2)

Table Name: VALUE_DB115_2 **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Compaction, %	compaction_pct	decimal	(19, 8)		FALSE
Compaction Required	compaction_req_pct	decimal	(19, 8)		FALSE
Dry unit weight	dry_unit_weight	decimal	(19, 8)		FALSE
Dry Weight Total Moisture Sample	dry_weight_total_moisture	decimal	(19, 8)		FALSE
Final Weight Apparatus & Sand	final_weight_apparatus	decimal	(19, 8)		FALSE
Final Weight of Sand	final_weight_sand	decimal	(19, 8)		FALSE
Initial Weight Apparatus & Sand	initial_weight_apparatus	decimal	(19, 8)		FALSE
Initial Weight of Sand	initial_weight_sand	decimal	(19, 8)		FALSE
Maximum dry unit weight	max_dry_unit_weight	decimal	(19, 8)		FALSE
Moisture Required	moisture_req_pct	decimal	(19, 8)		FALSE
Optium Moisture (% if of dry unit weight)	optimum_moisture	decimal	(19, 8)		FALSE
Pass/Fail % Density	pass_fail_pct_density	nvarchar	100		FALSE
Pass/Fail % Moisture	pass_fail_pct_moisture	nvarchar	100		FALSE
% Moisture	pct_moisture	decimal	(19, 8)		FALSE
Sand bulk unit weight	sand_bulk_unit_weight	decimal	(19, 8)		FALSE
Soil Descript	soil_desc	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Total Volume-Sand Userd	total_volume	decimal	(19, 8)		FALSE
Volume of Hole	volume_hole	decimal	(19, 8)		FALSE
Volume of Surface	volume_surface	decimal	(19, 8)		FALSE
Weight of Material From Hole	weight_material_hole	decimal	(19, 8)		FALSE
Wet Unit Weight	wet_unit_weight	decimal	(19, 8)		FALSE
Wet Weight Total Moisture Sample	wet_weight_total_moisture	decimal	(19, 8)		FALSE

Test Resistance to Degradation By Wet Ball Mill Method (DB-116-E)

Table Name: VALUE_DB116E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Method	cumulative_method	nvarchar	50	{Cumulative, Individual}	FALSE
Total of 3000g weight retained	individual_weight_retained_3000g_total	decimal	(19, 8)		FALSE
Total of 3500g weight retained	individual_weight_retained_3500g_total	decimal	(19, 8)		FALSE
Percent Soil Binder	pct_soil_binder	decimal	(19, 8)		FALSE
Percent Soil Binder Increase	pct_soil_binder_increase	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Wet Ball Mill -No.40 Individual Percent Retained	wbm_individual_pct_retained_minusno40	decimal	(19, 8)		FALSE
Wet Ball Mill No.40 Individual Percent Retained	wbm_individual_pct_retained_no40	decimal	(19, 8)		FALSE
Wet Ball Mill Initial Weight	wbm_initial_weight	decimal	(19, 8)		FALSE
Wet Ball Mill Value	wbm_value	decimal	(19, 8)		TRUE
Wet Ball Mill -No.40 Weight Retained	wbm_weight_retained_minusno40	decimal	(19, 8)		FALSE
Wet Ball Mill No.40 Weight Retained	wbm_weight_retained_no40	decimal	(19, 8)		FALSE
Total of weight retained	weight_retained_total	decimal	(19, 8)		FALSE
Washed Sieve Analysis No.40 Individual Percent Retained	wsa_individual_pct_retained_no40	decimal	(19, 8)		FALSE
Washed Sieve Analysis -No.40 Individual Percent Retained	wsa_inidividual_pct_retained_minusno40	decimal	(19, 8)		FALSE
Washed Sieve Analysis Initial Weight	wsa_initial_weight	decimal	(19, 8)		FALSE
Washed Sieve Analysis -No.40 Weight Retained	wsa_weight_retained_minusno40	decimal	(19, 8)		FALSE
Washed Sieve Analysis No.40 Weight Retained	wsa_weight_retained_no40	decimal	(19, 8)		FALSE

Table Name: VALUE_DB116E_SIEVE **Maximum Rows: 7**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		FALSE
3000g Cumulative Weight Retained	cumulative_weight_retained_3000g	decimal	(19, 8)		FALSE
3500g Cumulative Weight Retained	cumulative_weight_retained_3500g	decimal	(19, 8)		FALSE
Individual Percent Retained	individual_pct_retained	decimal	(19, 8)		FALSE
3000g Individual Weight Retained	individual_weight_retained_3000g	decimal	(19, 8)		FALSE
3500g Individual Weight Retained	individual_weight_retained_3500g	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		FALSE
Weight Retained	weight_retained	decimal	(19, 8)		FALSE

Triaxial Compression Tests (DB-117-E)

Table Name: VALUE_DB117E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Corrected Strength, 00 psi	average_corrected_strength_0psi	decimal	(19, 8)		TRUE
Average Corrected Strength, 15 psi	average_corrected_strength_15psi	decimal	(19, 8)		TRUE
Classification	classification	nvarchar	100		FALSE
Cohesion, psi	cohesion_psi	decimal	(19, 8)		FALSE
Correlation Factor	correlation_factor	decimal	(19, 8)		FALSE
Grade, 00 psi	grade_0psi	nvarchar	100		FALSE
Grade, 15 psi	grade_15psi	nvarchar	100		FALSE
Internal Angle of Friction	internal_angle_friction	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB117E_SPECIMEN **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2	area	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2	avg_cross_sectional_area	decimal	(19, 8)		FALSE
Average Diameter, in.	avg_diameter	decimal	(19, 8)		FALSE
Corrected Stress, psi.	corrected_stress_psi	decimal	(19, 8)		FALSE
Dry Density of Specimen, pcf	dry_density_specimen_pcf	decimal	(19, 8)		FALSE
Final Weight of Stones	final_weight_stones	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.	initial_height	decimal	(19, 8)		FALSE
Lateral Pressure, psi.	lateral_pressure_psi	decimal	(19, 8)		FALSE
New Height of Specimen, in.	new_height	decimal	(19, 8)		FALSE
Moisture of Specimen, %	pct_moisture_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.	pct_strain	decimal	(19, 8)		FALSE
Uncorrected Stress, psi.	uncorrected_stress_psi	decimal	(19, 8)		FALSE
Weight of Specimen	weight_specimen	decimal	(19, 8)		FALSE
Weight of Stones and Specimen	weight_stones_specimen	decimal	(19, 8)		FALSE

Determining Soil pH (DB-128-E)

Table Name: VALUE_DB128E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Soil pH	soil_ph	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Measuring Resistivity of Soil Materials (DB-129-E)

Table Name: VALUE_DB129E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Resistance using resistivity meter	resistance_using_meter	decimal	(19, 8)		FALSE
Resistivity	resistivity_result	decimal	(19, 8)		TRUE
A= Area of one electrode	sbf_area	decimal	(19, 8)		FALSE
Distance between electrodes	sbf_distance	decimal	(19, 8)		FALSE
Soil Box Factor	sbf_factor	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Measuring Thickness of Pavement Layer (DB-140-E)

Table Name: VALUE_DB140E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Depth:	avg_depth	decimal	(19, 8)		TRUE
Depth 1:	depth_1	decimal	(19, 8)		FALSE
Depth 2:	depth_2	decimal	(19, 8)		FALSE
Depth 3:	depth_3	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

OVF HMAC Test Data: DB-200-F, DB-207-FPR, DB-227-F, DB-236-F, DB-207-F (DB-200/07/36)

Table Name: VALUE_DB207F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Specific Gravity of Asphalt Binder	specific_gravity	decimal	(19, 3)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE
Voids in Mineral Aggregate (VMA)	vma	decimal	(19, 1)		TRUE

Table Name: VALUE_DB207FPR **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Actual Specific Gravity (Ga):	GA	nvarchar	100		TRUE
Lab Molded Density, %:	LMD	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB227F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Rice Specific Gravity (Gr):	rice_specific_gravity	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB229F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB229F_SIEVE **Maximum Rows: 10**

Field Description	Field Name	Datatype	Length	Values	Required
Current JMF	Current_JMF	nvarchar	100		FALSE
Design JMF	Design_JMF	nvarchar	100		FALSE
Adjusted Individual % Retained	pct	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100	CVL	TRUE

Table Name: VALUE_DB236F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Asphalt Content, %:	AC	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Sieve Analysis of Non-Surface Treatment Aggregates (DB-200-F)

Table Name: VALUE_DB200F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Weight Retained Minusno14	cumulative_weight_retained_minusno14	decimal	(19, 8)		FALSE
Dry Weight After Washing	dry_weight_after_washing	decimal	(19, 8)		FALSE
Limit As Percent	limit_as_percent	nvarchar	100	{Passing, Retained}	FALSE
Original Dry Weight	original_dry_weight	decimal	(19, 8)		FALSE
Sieve Analysis Result 1	sieve_analysis_result1	nvarchar	100		FALSE
Sieve Analysis Result 2	sieve_analysis_result2	decimal	(19, 8)		FALSE
Sieve Analysis Result 3	sieve_analysis_result3	decimal	(19, 8)		FALSE
Sieve Analysis Result 4	sieve_analysis_result4	decimal	(19, 8)		FALSE
Sieving Loss	sieving_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total Weight	total_weight	decimal	(19, 8)		FALSE
Washing Loss	washing_loss	decimal	(19, 8)		FALSE

Table Name: VALUE_DB200F_SIEVE **Maximum Rows: 12**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_pct_passing	decimal	(19, 8)		TRUE
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		FALSE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Individual Weight Retained	individual_weight_retained	decimal	(19, 8)		FALSE
Lower Limit Grading	lower_limit_grading	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100	{2", 1-3/4", 1-1/2", 1-1/4", 1", 7/8", 3/4", 5/8", 1/2", 7/16", 3/8", 5/16", 1/4", No. 4, No. 6, No. 8, No. 10, No. 14, No. 16, No. 20, No. 30, No. 40, No. 50, No. 80, No. 100, No. 200 }	TRUE
Upper Limit Grading	upper_limit_grading	decimal	(19, 8)		FALSE
Within Grading Limits	within_grading_limits	bit			TRUE

Sand Equivalent (DB-203-F)

Table Name: VALUE_DB203F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Sand Equivalent	average_sand_equivalent	decimal	(19, 8)		TRUE
Clay No.1 Reading	clay1_reading	decimal	(19, 8)		FALSE
Clay No.2 Reading	clay2_reading	decimal	(19, 8)		FALSE
Sand No.1 Calculated	sand1_calculated	decimal	(19, 8)		FALSE
Sand No.1 Reading	sand1_reading	decimal	(19, 8)		FALSE
Sand No.1 Reported	sand1_reported	decimal	(19, 8)		FALSE
Sand No.2 Calculated	sand2_calculated	decimal	(19, 8)		FALSE
Sand No.2 Reading	sand2_reading	decimal	(19, 8)		FALSE
Sand No.2 Reported	sand2_reported	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

QC/QA Test Data (DB-207-FPL)

Table Name: VALUE_DB207FPL **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
In Place Air Void, %	air_void	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Deleterious Material & Decantation For Coarse Aggr (DB-217-F)

Table Name: VALUE_DB217F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Original Weight Retained	part1_orig_weight_retained	decimal	(19, 8)		FALSE
Percent Deterious Material	part1_pct_deleterious_material	decimal	(19, 8)		TRUE
Sieve Size	part1_sieve_size	nvarchar	100		FALSE
Weight Deleterious Material	part1_weight_deleterious_material	decimal	(19, 8)		FALSE
Dry Weight after Washing	part2_dry_weight_after_washing	decimal	(19, 8)		FALSE
Percent Loss By Decantation	part2_loss_by_decantation	decimal	(19, 8)		TRUE
Original Weight Retained	part2_orig_weight_retained	decimal	(19, 8)		FALSE
Sieve Size	part2_sieve_size	nvarchar	53		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Sieve Analysis for Fine & Coarse Aggregate (DB-401-A)

Table Name: VALUE_DB401A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Equivalent Exceed 85	equivalent_exceed_85	bit			FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total	total	decimal	(19, 8)		FALSE

Table Name: VALUE_DB401A_SIEVE **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_pct_passing	decimal	(19, 8)		FALSE
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		TRUE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Individual Weight Retained	individual_weight_retained	decimal	(19, 8)		FALSE
Lower Spec Limit	lower_retained_spec_limit	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		TRUE
Upper Spec Limit	upper_retained_spec_limit	decimal	(19, 8)		FALSE
Within Master Grading	within_master_grading	varchar	20		TRUE

Table Name: VALUE_DB402A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Fineness Modulus	fineness_modulus	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE

Decantation Test For Concrete Aggregates (DB-406-A)

Table Name: VALUE_DB406A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Mass After Washing	dry_mass_after_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Containing Sample and Water To Fill After Washing	mass_of_pycnometer_after_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Containing Sample and Water To Fill Before Washing	mass_of_pycnometer_before_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Filled With Water at Approx. Same Temperature as above	mass_of_pycnometer_with_water	decimal	(19, 8)		FALSE
Original Dry Mass of Sample	original_dry_mass	decimal	(19, 8)		FALSE
% Loss	percent_loss_part1	decimal	(19, 8)		TRUE
Percent Loss	percent_loss_part2	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Test By:	test_by	nvarchar	100	{Part I - Lab Method, Part II - Field Method}	FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested By - Part II	tested_by_part2	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Tested Date - Part II	tested_date_part2	datetime		MM/dd/yyyy	FALSE

Organic Impurities in Fine Aggregate for Concrete (DB-408-A)

Table Name: VALUE_DB408A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Color of the Supernatant Liquid	color_of_supernatant_liquid	nvarchar	100	{LIGHTER THAN STANDARD, EQUAL TO STANDARD, DARKER THAN STANDARD}	TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Deleterious Material (DB-413-A)

Table Name: VALUE_DB413A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Clay	clay_value1	decimal	(19, 8)		FALSE
Clay Percentage	clay_value2	decimal	(19, 8)		TRUE
Friable	friable_value1	decimal	(19, 8)		FALSE
Friable Percentage	friable_value2	decimal	(19, 8)		TRUE
Laminated	laminated_value1	decimal	(19, 8)		FALSE
Laminated Percentage	laminated_value2	decimal	(19, 8)		TRUE
Other	other_value1	decimal	(19, 8)		FALSE
Othesr Percentage	other_value2	decimal	(19, 8)		FALSE
Deleterious Material Retained	percent_deleterious_material_retained	decimal	(19, 8)		TRUE
Shale	shale_value1	decimal	(19, 8)		FALSE
Shale Percentage	shale_value2	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total	total	decimal	(19, 8)		FALSE
Total Weight Sample	total_weight_sample	decimal	(19, 8)		FALSE

Field Form Concrete Sample - Cylinders (DB-418-A)

Table Name: VALUE_DB418A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Actual Water	actual_water	nvarchar	100		TRUE
Agg. Correction Factor	agg_correction_factor	nvarchar	100	CVL	TRUE
Agg. Size	agg_size	nvarchar	100	CVL	TRUE
Air Temperature	air_temperature	nvarchar	100		TRUE
Batch Size	batch_size	nvarchar	100		TRUE
Batch Time	batch_time	nvarchar	100		TRUE
Class of Concrete	class_of_concrete	nvarchar	100	CVL	TRUE
Concrete Temperature	concrete_temperature	nvarchar	100		TRUE
Corrected Air Content	corrected_air_content	decimal	(19, 8)		TRUE
Design Water	design_water	nvarchar	100		TRUE
Mix ID	mix_id	nvarchar	100		TRUE
Placement Air	placement_air	decimal	(19, 8)		TRUE
Placement Slump	placement_slump	decimal	(19, 8)	CVL	TRUE
Pump Air Loss	pump_air_loss	decimal	(19, 8)		TRUE
Pump Slump Loss	pump_slump_loss	decimal	(19, 8)		TRUE
Req. Strength	req_strength	nvarchar	100		TRUE
Sample Time	sample_time	nvarchar	100		TRUE
Average 7 Day Compressive Strength	seven_day_average	decimal	(19, 8)		FALSE
Slump	slump	decimal	(19, 8)		TRUE
Specimen Size	specimen_size	nvarchar	100	{4x8, 6x12}	TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Ticket #	ticket_number	nvarchar	100		TRUE
Total Water	total_water	nvarchar	100		TRUE
Truck #	truck_number	nvarchar	100		TRUE
Average 28 Day Compressive Strength	twenty_eight_day_average	decimal	(19, 8)		FALSE
Unit Wt.	unit_weight	nvarchar	100		TRUE
Water Added	water_added	nvarchar	100		TRUE

Table Name: VALUE_DB418A_AVERAGE **Maximum Rows: 3**

Field Description	Field Name	Datatype	Length	Values	Required
Average Age	average_age	nvarchar	100		TRUE
Average Strength	average_strength	decimal	(19, 8)		TRUE

Table Name: VALUE_DB418A_SPECIMEN **Maximum Rows: 7**

Field Description	Field Name	Datatype	Length	Values	Required
Age(days)	age	nvarchar	100	CVL	TRUE
Area	area	decimal	(19, 8)		TRUE
Load(lbs)	load_lbs	decimal	(19, 8)		TRUE
Pass/Fail	pass_fail	nvarchar	5		FALSE
Specimen	specimen	nvarchar	100		FALSE
Strength	strength	decimal	(19, 8)		TRUE
Test Date	test_date	smalldatetime		MM/dd/yyyy	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Type Fracture	type_fracture	varchar	50	{A, B, C, D, E}	TRUE

Determining Pavement Thickness By Direct Measurement (DB-423-A)

Table Name: VALUE_DB423A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Measure Unit	measure_unit	nvarchar	100	{Inches, Millimeters}	FALSE
Pavement Depth	pavement_depth	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB423A_LOCATION **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average	average	decimal	(19, 8)		TRUE
Measurement 1	measurement_1	decimal	(19, 8)		FALSE
Measurement 2	measurement_2	decimal	(19, 8)		FALSE
Measurement 3	measurement_3	decimal	(19, 8)		FALSE
Measurement Identification / Location	measurement_id_location	nvarchar	100		FALSE

Soil-Cement, Soil-Lime Testing (DB-120-E) ** INACTIVE **

Table Name: VALUE_DB120E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Avg. Corrected Stress, psi:	avg_corrected_stress_psi	decimal	(19, 8)		FALSE
Percent Cement, (%)	percent_cement	decimal	(19, 8)		TRUE
Performed By DB-120-E:	performed_by	nvarchar	200		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Target Percent Cement, %:	target_percent_cement	decimal	(19, 8)		FALSE
Target Stress, psi:	target_stress_psi	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	200	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB120E_SPECIMEN **Maximum Rows: 3**

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2:	area	decimal	(19, 8)		FALSE
Avg. Corrected Stress, psi:	avg_corrected_stress	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2:	avg_cross_section_area	decimal	(19, 8)		FALSE
Average Diameter, in.:	avg_diameter	decimal	(19, 8)		FALSE
Circumference, in.:	circumference	decimal	(19, 8)		FALSE
Corrected Stress, psi.:	corrected_stress	decimal	(19, 8)		FALSE
Dead Load, lbs.:	dead_load	decimal	(19, 8)		FALSE
Deformation at Max Load, in.	deformation_at_max_load	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.:	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.:	initial_height_specimen	decimal	(19, 8)		FALSE
Lateral Pressure, psi.:	lateral_pressure	decimal	(19, 8)		FALSE
Max. Load Reading, div.	max_load_reading	decimal	(19, 8)		FALSE
New Height of Specimen, in.:	new_height_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.:	pct_strain	decimal	(19, 8)		FALSE
Percent Cement, (%)	percent_cement	decimal	(19, 8)		FALSE
Ring Factor, lbs./div	ring_factor	decimal	(19, 8)		FALSE
Specimen Number:	specimen_no	int			FALSE
Uncorr'd Stress, psi.:	uncorrected_stress	decimal	(19, 8)		FALSE

Soil-Lime Testing: DB-121-E (DB-121-E) ** INACTIVE **

Table Name: VALUE_DB121E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Corrected Strength, 00 psi	average_corrected_strength_0psi	decimal	(19, 8)		TRUE
Average Corrected Strength, 15 psi	average_corrected_strength_15psi	decimal	(19, 8)		FALSE
Classification	classification	nvarchar	100		FALSE
Cohesion, psi	cohesion_psi	decimal	(19, 8)		FALSE
Correlation Factor	correlation_factor	decimal	(19, 8)		FALSE
Grade, 00 psi	grade_0psi	nvarchar	100		FALSE
Grade, 15 psi	grade_15psi	nvarchar	100		FALSE
Internal Angle of Friction	internal_angle_friction	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB121E_SPECIMEN **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2	area	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2	avg_cross_sectional_area	decimal	(19, 8)		FALSE
Average Diameter, in.	avg_diameter	decimal	(19, 8)		FALSE
Corrected Stress, psi.	corrected_stress_psi	decimal	(19, 8)		FALSE
Dry Density of Specimen, pcf	dry_density_specimen_pcf	decimal	(19, 8)		FALSE
Final Weight of Stones	final_weight_stones	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.	initial_height	decimal	(19, 8)		FALSE
Lateral Pressure, psi.	lateral_pressure_psi	decimal	(19, 8)		FALSE
New Height of Specimen, in.	new_height	decimal	(19, 8)		FALSE
Moisture of Specimen, %	pct_moisture_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.	pct_strain	decimal	(19, 8)		FALSE
Uncorrected Stress, psi.	uncorrected_stress_psi	decimal	(19, 8)		FALSE
Weight of Specimen	weight_specimen	decimal	(19, 8)		FALSE
Weight of Stones and Specimen	weight_stones_specimen	decimal	(19, 8)		FALSE

Density of Asphalt Stabilized Base (DB-126-E) ** INACTIVE **

Table Name: VALUE_DB126E **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Percent Asphalt in Mix(max)	asphalt_pct_max	decimal	(19, 8)		FALSE
Percent Asphalt in Mix(min)	asphalt_pct_min	decimal	(19, 8)		FALSE
Broken Method	broken_method	nvarchar	20	{Fast Break, Slow Break}	FALSE
Date Broken(max)(max)	date_broken_max	smalldatetime		MM/dd/yyyy	FALSE
Date Broken(min)	date_broken_min	smalldatetime		MM/dd/yyyy	FALSE
Density of Specimen(max)	density_of_specimen_max	decimal	(19, 8)		FALSE
Density of Specimen(min)	density_of_specimen_min	decimal	(19, 8)		FALSE
Gauge Reading(max)	gague_reading_psi_max	decimal	(19, 8)		FALSE
Gauge Reading (min)	gague_reading_psi_min	decimal	(19, 8)		FALSE
Height of Specimen(max)	height_max	decimal	(19, 8)		FALSE
Height of Specimen(min)	height_min	decimal	(19, 8)		FALSE
Measured Weight(max)	measured_weight_max	decimal	(19, 8)		FALSE
Measured Weight(min)	measured_weight_min	decimal	(19, 8)		FALSE
Minimum Allowable Density	min_allowable_density	decimal	(19, 8)		FALSE
Minimum Percent Density	min_pct_density	decimal	(19, 8)		FALSE
Minimum Specimen Unconfined Compressive Strength	min_specimen_UCS	decimal	(19, 8)		FALSE
Mold Number(max)	mold_number_max	nvarchar	100		FALSE
Mold Number(min)	mold_number_min	nvarchar	100		FALSE
Date Molded(max)	molded_date_max	smalldatetime		MM/dd/yyyy	FALSE
Date Molded(min)	molded_date_min	smalldatetime		MM/dd/yyyy	FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Unconfined Compressive Strength (max)	UCS_max	nvarchar	100		FALSE
Unconfined Compressive Strength (min)	UCS_min	nvarchar	100		FALSE
Volume of Mold(max)	volume_of_mold_max	decimal	(19, 8)		FALSE
Volume of Mold(min)	volume_of_mold_min	decimal	(19, 8)		FALSE
Volume of Specimen(max)	volume_of_specimen_max	decimal	(19, 8)		FALSE
Volume of Specimen(min)	volume_of_specimen_min	decimal	(19, 8)		FALSE
Weight of Filters(max)	weight_of_filters_max	decimal	(19, 8)		FALSE
Weight of Filters(min)	weight_of_filters_min	decimal	(19, 8)		FALSE
Weight of Material(max)	weight_of_mat_max	decimal	(19, 8)		FALSE
Weight of Material(min)	weight_of_mat_min	decimal	(19, 8)		FALSE
Weight of Plates(max)	weight_of_plates_max	decimal	(19, 8)		FALSE
Weight of Plates(min)	weight_of_plates_min	decimal	(19, 8)		FALSE
Weight of Specimen(max)	weight_of_specimen_max	decimal	(19, 8)		FALSE
Weight of Specimen(min)	weight_of_specimen_min	decimal	(19, 8)		FALSE

Sieve Analysis of Surface Treatment Aggregate (DB-200-ST) ** INACTIVE **

Table Name: VALUE_DB200ST **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Sphalt	asphalt_pct	decimal	(19, 8)		FALSE
Dry Weight After Washing	dry_weight_after_washing	decimal	(19, 8)		FALSE
Moisture	moisture_pct	decimal	(19, 8)		FALSE
Original Dry Weight	orig_dry_weight	decimal	(19, 8)		FALSE
Total	pan_weight	decimal	(19, 8)		FALSE
Percent Difference	percent_difference	decimal	(19, 8)		FALSE
Sieving Loss	sieving_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Total Weight	total_weight	decimal	(19, 8)		FALSE
Type	type	nvarchar	100	{A, B, C, D, E, L, PA, PB, PC, PD, PE, PL}	FALSE
Washing Loss	washing_loss	decimal	(19, 8)		FALSE
Weight Difference	weight_difference	decimal	(19, 8)		FALSE
PrePan	weight_retained	decimal	(19, 8)		FALSE

Table Name: VALUE_DB200ST_SIEVE **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_percent_passing	decimal	(19, 8)		FALSE
Lower Retained Limit	lower_retained_limit	decimal	(19, 8)		FALSE
Cumulative Percent Retained	percent_retained_cumulative	decimal	(19, 8)		FALSE
Individual Percent Retained	percent_retained_individual	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		FALSE
Upper Retained Limit	upper_retained_limit	decimal	(19, 8)		FALSE
Cumulative Weight Retained	weight_retained_cumulative	decimal	(19, 8)		FALSE
Individual weight Retained	weight_retained_individual	decimal	(19, 8)		FALSE
Within Master Grading	within_master_grading	nvarchar	100		FALSE

Determining Flakiness Index (DB-224-F) ** INACTIVE **

Table Name: VALUE_DB224F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Flakiness Index	flakiness_index	decimal	(19, 8)		TRUE
Number of Particles	num_particles_1	decimal	(19, 8)		FALSE
Number of Particles	num_particles_2	decimal	(19, 8)		FALSE
Number of Particles	num_particles_3	decimal	(19, 8)		FALSE
Number of Particles Passing for 1/4" slot	slot_1_4	decimal	(19, 8)		FALSE
Number of Particles Passing for 3/8" slot	slot_3_8	decimal	(19, 8)		FALSE
Number of Particles Passing for 5/32" slot	slot_5_32	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total Particles	total_particles	decimal	(19, 8)		FALSE
Total Passing Particles	total_passing_particles	decimal	(19, 8)		FALSE

Determining Draindown Characteristics in Bituminous Materials (DB-235-F) ** INACTIVE **

Table Name: VALUE_DB235F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Percent of Draindown for Two Samples	avg_pct_draindown	decimal	(19, 8)		FALSE
Final Weight Plate	final_weight_plate_1	decimal	(19, 8)		FALSE
Final Weight Plate	final_weight_plate_2	decimal	(19, 8)		FALSE
Initial Sample Weight	init_sample_weight_1	decimal	(19, 8)		FALSE
Initial Sample Weight	init_sample_weight_2	decimal	(19, 8)		FALSE
Initial Weight Plate	init_weight_plate_1	decimal	(19, 8)		FALSE
Initial Weight Plate	init_weight_plate_2	decimal	(19, 8)		FALSE
Percent Of Draindown	pct_draindown_1	decimal	(19, 8)		FALSE
Percent Of Draindown	pct_draindown_2	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Resistance To Degradation By Abrasion & Impact in Los Angeles Machine (DB-410-A) ** INACTIVE **

Table Name: VALUE_DB410A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Final Weight	final_weight	decimal	(19, 8)		FALSE
Initial Weight	initial_weight	decimal	(19, 8)		FALSE
La Abrasion Type	la_abrasion_type	nvarchar	100	CVL	FALSE
La Abrasion Value	la_abrasion_value	decimal	(19, 8)		FALSE
Loss of Weight	loss_of_weight	decimal	(19, 8)		FALSE
Number of Spheres	number_of_spheres	int			FALSE
Percent Loss	percent_loss	decimal	(19, 8)		FALSE
Sieve	sieve	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Weight of Charge	weight_of_charge	nvarchar	100		FALSE

Table Name: VALUE_DB410A_SAMPLE **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Actual Weight	actual_weight	decimal	(19, 8)		FALSE
Passing Sieve	passing_sieve	nvarchar	100		FALSE
Projected Weight	projected_weight	nvarchar	100		FALSE
Retained Sieve	retained_sieve	nvarchar	100		FALSE
Within Range	within_range	bit			FALSE

Magnesium Sulfate Soundness (DB-411-M) ** INACTIVE **

Table Name: VALUE_DB411M **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Normalized Individual Percent Retained Total	ni_pct_retained_total	decimal	(19, 8)		FALSE
% Loss Total	pct_loss_total	decimal	(19, 8)		FALSE
Soundness Loss	soundness_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weighted Average % Loss Total	weighted_avg_pct_loss_total	decimal	(19, 8)		FALSE

Table Name: VALUE_DB411M_CYCLE **Maximum Rows: 5**

Field Description	Field Name	Datatype	Length	Values	Required
Cycle	cycle	nvarchar	5		FALSE
In Oven Date	in_oven_date	smalldatetime		MM/dd/yyyy	FALSE
In Oven Time In	in_oven_time_in	smalldatetime		MM/dd/yyyy	FALSE
In Oven Time Out	in_oven_time_out	smalldatetime		MM/dd/yyyy	FALSE
In Solution Date	in_solution_date	smalldatetime		MM/dd/yyyy	FALSE
In Solution Time In	in_solution_time_in	smalldatetime		MM/dd/yyyy	FALSE
In Solution Time Out	in_solution_time_out	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Date	out_oven_date	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Time In	out_oven_time_in	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Time Out	out_oven_time_out	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Date	out_solution_date	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Time In	out_solution_time_in	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Time Out	out_solution_time_out	smalldatetime		MM/dd/yyyy	FALSE
Remarks	remarks	nvarchar	250		FALSE

Table Name: VALUE_DB411M_PARTICLE **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Final Weight (g)	final_weight	decimal	(19, 8)		FALSE
Initial Weight (g)	initial_weight	decimal	(19, 8)		FALSE
Loss of Weight (g)	loss_of_weight	decimal	(19, 8)		FALSE
Normalized Individual Percent Retained	ni_pct_retained	decimal	(19, 8)		FALSE
% Loss	pct_loss	decimal	(19, 8)		FALSE
Particle Size Range Passing	size_range_passing	nvarchar	100		FALSE
Particle Size Range Retained	size_range_retained	nvarchar	100		FALSE
Weighted Average % Loss	weighted_avg_pct_loss	decimal	(19, 8)		FALSE

Testing Of Drilled Cores Of Portland Cement Concrete (DB-424-A, Part III) ** INACTIVE **

Table Name: VALUE_DB424A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested By - Part II	tested_by_part2	nvarchar	100	CVL	FALSE
Tested By - Part III	tested_by_part3	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Tested Date - Part II	tested_date_part2	datetime		MM/dd/yyyy	FALSE
Tested Date - Part III	tested_date_part3	datetime		MM/dd/yyyy	FALSE

Table Name: VALUE_DB424A_CORE **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Age (Days)	age	int			FALSE
Compressive Strength	compressive_strength1	decimal	(19, 8)		FALSE
Compressive Strength	compressive_strength2	decimal	(19, 8)		FALSE
Diameter of Core (inches)	core_diameter1	decimal	(19, 8)		FALSE
Diameter of Core (inches)	core_diameter2	decimal	(19, 8)		FALSE
Length of Core (inches)	core_length1	decimal	(19, 8)		FALSE
Length of Core (inches)	core_length2	decimal	(19, 8)		FALSE
Core Number	core_number1	nvarchar	100		FALSE
Core Number	core_number2	nvarchar	100		FALSE
Failure Type	failure_type1	nvarchar	100		FALSE
Failure Type	failure_type2	nvarchar	100		FALSE
Max Load (Lbs)	max_load1	decimal	(19, 8)		FALSE
Max Load (Lbs)	max_load2	decimal	(19, 8)		FALSE

Texture Depth By Sand Patch Method (DB-436-A) ** INACTIVE **

Table Name: VALUE_DB436A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Diameter	avg_diameter	decimal	(19, 8)		FALSE
Diameter 1	measurement_1	decimal	(19, 8)		FALSE
Diameter 2	measurement_2	decimal	(19, 8)		FALSE
Diameter 3	measurement_3	decimal	(19, 8)		FALSE
Diameter 4	measurement_4	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	varchar	200	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE
Thickness	thickness	decimal	(19, 8)		FALSE
Volume of Cylinder	vol_cylinder	decimal	(19, 8)		FALSE

Concrete Sample - Beams (DB-448-A) ** INACTIVE **

Table Name: VALUE_DB448A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Actual Water	act_water	decimal	(19, 8)		FALSE
Added Gal	added_gal	decimal	(19, 8)		FALSE
Agg. Correction Factor	agg_corr_factor	decimal	(19, 8)	CVL	FALSE
Agg Size	agg_size	nvarchar	100	CVL	FALSE
Air Temperature	air_temp	decimal	(19, 8)		FALSE
Batch Size	batch_size	decimal	(19, 8)		FALSE
Batch Time	batch_time	smalldatetime		MM/dd/yyyy	FALSE
Class of Concrete	class_concrete	nvarchar	100	CVL	FALSE
Concrete Temperature	concrete_temp	decimal	(19, 8)		FALSE
Corrected Air Content	corrected_air_content	decimal	(19, 8)	CVL	FALSE
Design Water	des_water	decimal	(19, 8)		FALSE
Mix ID	mix_id	nvarchar	100	CVL	FALSE
Qty Load	qty_load	decimal	(19, 8)		FALSE
Req. Strength, psi	req_strength	decimal	(19, 8)		FALSE
Sample Time	sample_time	smalldatetime		MM/dd/yyyy	FALSE
Slump	slump	decimal	(19, 8)	CVL	FALSE
Specimen Dimensions	spec_dimensions	nvarchar	100	CVL	FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Ticket Number	ticket_num	decimal	(19, 8)		FALSE
Total Water	total_water	decimal	(19, 8)		FALSE
Truck Number	truck_num	decimal	(19, 8)		FALSE
Unit Weight	unit_weight	decimal	(19, 8)		FALSE

Table Name: VALUE_DB448A_SPECIMEN **Maximum Rows: 6**

Field Description	Field Name	Datatype	Length	Values	Required
Age	age	nvarchar	100	CVL	FALSE
Avg Depth	avg_depth	decimal	(19, 8)		FALSE
Avg. Width	avg_width	decimal	(19, 8)		FALSE
Correction Factor	corr_factor	decimal	(19, 8)		FALSE
Max Load, lbs	max_load_psi	decimal	(19, 8)		FALSE
Mod Rupture	mod_rupture	decimal	(19, 8)		FALSE
Pass Fail	pass_fail	nvarchar	100		FALSE
Specimen	specimen	nvarchar	100		FALSE
Test Date	test_date	smalldatetime		MM/dd/yyyy	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE

Coarse Aggregate Angularity By Fractured Faces Count (DB-460-A) ** INACTIVE **

Table Name: VALUE_DB460A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Number of Particles w/ one or no FF	number_of_particles_with_one	int			FALSE
Number of Particles w/ 2 or more FF	number_of_particles_with_two	int			FALSE
Number of Questionable Particles	number_of_questionable_particles	int			FALSE
Percent Crushed Particles	percent_crushed_particles	decimal	(19, 8)		FALSE
Percent Crushed Particles	percent_crushed_particles_result	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total Number of Particles	total_number_of_particles	int			FALSE

Effect of Water On Bituminous Paving Mixtures (DB-530-C) ** INACTIVE **

Table Name: VALUE_DB530C **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Estimated Percent of Stripping	est_pct_stripping	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE

Determining Chloride and Sulfate Content in Soils (DB-620-J) ** INACTIVE **

Table Name: VALUE_DB620J **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Chloride (CL) (PPM)	chloride_ppm	decimal	(19, 8)		FALSE
Crucible + Residue Weight	crucible_residue_weight	decimal	(19, 8)		FALSE
Crucible Weight	crucible_weight	decimal	(19, 8)		FALSE
Ending	ending	decimal	(19, 8)		FALSE
Normality of AgNO3	normality_of_agno3	decimal	(19, 8)		FALSE
Residue Weight	residue_weight	decimal	(19, 8)		FALSE
Sample Weight	sample_weight_chloride	decimal	(19, 8)		FALSE
Sample Weight	sample_weight_sulfate	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Starting	starting	decimal	(19, 8)		FALSE
Sulfate (SO4) (PPM)	sulfate_ppm	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	nvarchar	100		FALSE
Total	total	decimal	(19, 8)		FALSE

CQAF Sample

File: CQAFSample.xml
File Type: XML (Extensible Markup Language). The de facto standard for transferring data.
File Description: An example of an electronic submission that can be read into I2MS. The example provided was used for a previous project and passed the verification process for that particular project's inputs. This file can be submitted to I2MS via a web service run on I2MS using SOAP (Simple Object Access Protocol), which is a standard programming protocol by which software developers send data between systems.

CQAF Sample

```
<?xml version='1.0' encoding='UTF-8'?>
<form name="DB-115-1" version_no="1.0" key="0020905270501151" date="2009-05-27T00:00:00" display_key="00209052705">
	<owner_name value="CQAF" />
	<security username="CQAFDataXfer" password="as9-3958$h@" />
	<header>
		<column name="sample_id" value="00209052705" />
		<column name="sampled_date" value="5/27/2009 12:00:00 AM" />
		<column name="sample_type" value="Random-Independent" />
		<column name="split_sample_id" />
		<column name="report_type" value="Original" />
		<column name="section" value="5.1" />
		<column name="sampled_by" value="Al Jones" />
		<column name="spec_year" value="2004" />
		<column name="material" value="14" />
		<column name="spec_item" value="247" />
		<column name="supplier" value="Pit" />
		<column name="special_provision" />
		<column name="structure_number" />
		<column name="grade" value="1" />
		<column name="sample_location" />
		<column name="feature" value="Mainlane" />
		<column name="course_lift" value="2" />
		<column name="station" value="342+49" />
		<column name="dist_from_cl" value="5' LT" />
		<column name="misc" />
		<column name="roadway" value="Loop 375" />
		<column name="direction" value="NB" />
	</header>
	<test name="DB-115-1">  <!-- This can be the same value as the form name. -->
		<table name="VALUE_DB115_1">
			<row>
				<column  name="determined_by_test_method"  value="DB-113-E" />
				<column name="max_dry_density_pcf" value="132.5" />
				<column name="optimum_moisture_content_pct" value="7.7" />
				<column name="density_standard" value="4200" />
				<column name="moisture_standard" value="420" />
				<column name="density_count" value="1045" />
				<column name="moisture_count" value="231" />
				<column name="probe_depth" value="10" />
				<column name="wet_density_pcf" value="140.5" />
				<column name="dry_density_pcf" value="133.5" />
				<column name="moisture_content_pct" value="5.2" />
				<column name="gauge_no" value="3242" />
				<column name="moisture_content_pct_pass_fail" />
				<column name="density_pct" value="100.7" />
				<column name="density_pct_pass_fail" />
```

CQAF Sample

```
                        <column name="density_specification_req_max" />
                        <column name="moisture_specification_req_max" />
                        <column name="soil_desc" />
                        <column name="density_specification_req_min" value="100" />
                        <column name="moisture_specification_req_min" value="5.2" />
                        <column name="tested_by" value="Al Jones" />
                        <column name="tested_date" value="5/27/2009 12:00:00 AM" />
                        <column name="stamp_code" value="1" />
                    </row>
                </table>
            </test>
            <footer>
                <column name="remarks" />
                <column name="reviewed_by" />
                <column name="completed_date" />
                <column name="authorized_by" />
                <column name="authorized_date" />
            </footer>
</form>
```

Web Form Validation

File: WebFormValidation.xsd
File Type: XSD (XML Schema Document). Describes a schema used for an XML document.
File Description: Describes elements, annotations, and documentation used in the aforementioned XML. XSD files are the standard used to describe XML file formats and are often used to assist in developing XML files with added features such as intellisense (which is an added type ahead feature used by developers).

Web Form Validation

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="FormValidation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:element name="form">
      <xs:complexType>
         <xs:sequence>
            <xs:choice minOccurs="1" maxOccurs="1" id="owner">
                  <xs:annotation>
                        <xs:documentation>
                              The owner of the record must be supplied to upload successfully. The user login provided in the security element
                              must have permission to add a record for the owner as part of the validation process.

                              The record owner can be identified by a variety of properties.  In general, when submitting XML from an external source,
                              the owner_name attribute is the preferred method.
                        </xs:documentation>
                  </xs:annotation>
               <xs:element name="owner_name" minOccurs="1" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The name of the owner of this record.  For example, "OVF" or "CQAF".
                        </xs:documentation>
                  </xs:annotation>
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:string" use="required" />
                  </xs:complexType>
               </xs:element>
               <xs:element name="owner_guid" minOccurs="1" maxOccurs="1">
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:string" use="required" />
                  </xs:complexType>
               </xs:element>
               <xs:element name="owner_id" minOccurs="1" maxOccurs="1">
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:int" use="required" />
                  </xs:complexType>
               </xs:element>
            </xs:choice>
            <xs:element name="security" minOccurs="1" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              User login credentials must be provided to upload a record. Supply a username and password.
                        </xs:documentation>
                  </xs:annotation>
               <xs:complexType>
```

Web Form Validation

```
            <xs:attribute name="user_guid" type="xs:string" />
            <xs:attribute name="username" type="xs:string" />
            <xs:attribute name="password" type="xs:string" />
          </xs:complexType>
        </xs:element>
        <xs:element name="header" minOccurs="0" maxOccurs="1">
            <xs:annotation>
                <xs:documentation>
                    The collection of header column values common to multiple forms.
                </xs:documentation>
            </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="column" type="ColumnType" maxOccurs="unbounded" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="test" minOccurs="0" maxOccurs="unbounded">
            <xs:annotation>
                <xs:documentation>
                    Container element for Body Table elements, which contain the
data specific to the form type being uploaded.
                    This element can be used to logically group the body tables by the
test method they represent, but it is not required to do so.
                    All body table elements can be placed under one test element,
and the test name attribute is inconsequential.
                </xs:documentation>
            </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="table" minOccurs="1" maxOccurs="unbounded">
                <xs:annotation>
                    <xs:documentation>
                        A collection of rows of form data for a specific table.

                        The number of rows permitted for each table depends on
the form and table name. For testing forms, the number of rows allowed for each table can be
found in the I2MS Test Form Fields report.
                    </xs:documentation>
                </xs:annotation>
               <xs:complexType>
                <xs:sequence>
                  <xs:element name="row" minOccurs="0" maxOccurs="unbounded">
                    <xs:annotation>
                        <xs:documentation>
                            A collection of body column values.
                        </xs:documentation>
                    </xs:annotation>
```

Web Form Validation

```
                                    <xs:complexType>
                                    <xs:sequence>
                                      <xs:element name="column" type="ColumnType" minOccurs="0" maxOccurs="unbounded" />
                                    </xs:sequence>
                                  </xs:complexType>
                                </xs:element>
                              </xs:sequence>
                              <xs:attribute name="name" type="xs:string" use="required">
                                    <xs:annotation>
                                          <xs:documentation>
                                                The name of the body table.

                                                For testing forms, the list of supported table names can be found in the I2MS Test Form Fields report.
                                          </xs:documentation>
                                    </xs:annotation>
                              </xs:attribute>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                        <xs:attribute name="name" type="xs:string" use="required" />
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="footer" minOccurs="0" maxOccurs="1">
                        <xs:annotation>
                              <xs:documentation>
                                    The collection of footer column values common to multiple forms.
                              </xs:documentation>
                        </xs:annotation>
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="column" type="ColumnType" minOccurs="0" maxOccurs="unbounded" />
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                  <xs:attribute name="name" form="unqualified" type="xs:string" use="required" >
                        <xs:annotation>
                              <xs:documentation>
                                    The short name of the I2MS form for which data is being submitted.  This value determines the data columns that are supported and required
                                    for the header, body, and footer elements.

                                    For testing forms, the list of supported form names can be found in the I2MS Test Form Fields report.
```

Web Form Validation

The form name is the value in parentheses for each subheading under the Body Fields section.

```
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
        <xs:attribute name="key" form="unqualified" use="required">
            <xs:annotation>
                <xs:documentation>
                    A value representing the test record in I2MS.  This value is required to be unique for each owner (OVF/CQAF).
                    The same key is used for all revisions of the record.  To add a new revision, supply the same key with the new form data and a
                    new value for the version_no attribute.
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:maxLength value="100"></xs:maxLength>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="version_no" use="required">
            <xs:annotation>
                <xs:documentation>
                    The version number of this revision within the series of revisions identified by the key attribute.
                    The revision in the series with the greatest version number will be considered the latest revision regardless of the order in which revisions were submitted to I2MS.
                    Submitting a record with the same key and version number as another record in the system is an error.
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:decimal">
                    <xs:totalDigits value="19" />
                    <xs:fractionDigits value="9" />
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="display_key">
            <xs:annotation>
                <xs:documentation>
                    The value displayed to users as the ID value of the record (for example, Sample ID for testing forms).
                    This value is not required to be unique.
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:string">
```

```
                        <xs:maxLength value="100"></xs:maxLength>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="version_key">
                <xs:annotation>
                    <xs:documentation>
                        An optional identifier for this revision.  For example, when submitting XML to I2MS from an external source,
                        this could be the Version ID of the record in the external system.
                    </xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="100"></xs:maxLength>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="action_name" type="xs:string">
                <xs:annotation>
                    <xs:documentation>
                        The name of a custom workflow action to execute when submitting the form.  The user login submitting the form
                        must have permissions in I2MS for the action and validation rules must pass before allowing the action.

                        When submitting XML to I2MS from an external source, this attribute should generally be omitted unless other
                        instructions have been provided.
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
            <xs:attribute name="date" type="xs:dateTime">
                <xs:annotation>
                    <xs:documentation>
                        The value displayed to users as the date of the record (for example, Sampled Date for testing forms).
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
        </xs:complexType>
    </xs:element>

            <xs:complexType name="ColumnType">
            <xs:attribute name="name" type="xs:string" use="required">
                <xs:annotation>
                    <xs:documentation>
                        The name of the column for which a value is being provided.
```

Web Form Validation

For testing forms, the list of supported data columns can be found in the I2MS Test Form Fields report.

```
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
        <xs:attribute name="value" type="xs:string" use="optional">
            <xs:annotation>
                <xs:documentation>
                    The value of the column.
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
            </xs:complexType>

</xs:schema>
```

Form Submission Service

File: FormSubmissionService.wsdl
File Type: WSDL (Web Services Description Language). Describes a web service and its respective protocols in XML format.
File Description: Describes the web service used by I2MS for submitting data electronically for the purposes of Validation (i.e. Verification) and Submission. The I2MS system takes in data electronically via a web service (often via the SOAP protocol), for the purposes of verifying or submitting a test (submitted in XML format).

Form Submission Service

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" xmlns:tns="http://tempuri.org/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
targetNamespace="http://tempuri.org/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <s:schema elementFormDefault="qualified" targetNamespace="http://tempuri.org/">
      <s:element name="SubmitForm">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="xmlForm" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="SubmitFormResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="SubmitFormResult" type="s:int" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="ValidateForm">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="xmlForm" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="ValidateFormResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="ValidateFormResult" type="s:string"
/>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:schema>
  </wsdl:types>
  <wsdl:message name="SubmitFormSoapIn">
    <wsdl:part name="parameters" element="tns:SubmitForm" />
  </wsdl:message>
  <wsdl:message name="SubmitFormSoapOut">
    <wsdl:part name="parameters" element="tns:SubmitFormResponse" />
  </wsdl:message>
```

Form Submission Service

```
 <wsdl:message name="ValidateFormSoapIn">
   <wsdl:part name="parameters" element="tns:ValidateForm" />
  </wsdl:message>
  <wsdl:message name="ValidateFormSoapOut">
   <wsdl:part name="parameters" element="tns:ValidateFormResponse" />
  </wsdl:message>
  <wsdl:portType name="FormSubmissionServiceSoap">
   <wsdl:operation name="SubmitForm">
    <wsdl:input message="tns:SubmitFormSoapIn" />
    <wsdl:output message="tns:SubmitFormSoapOut" />
   </wsdl:operation>
   <wsdl:operation name="ValidateForm">
    <wsdl:input message="tns:ValidateFormSoapIn" />
    <wsdl:output message="tns:ValidateFormSoapOut" />
   </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding                                          name="FormSubmissionServiceSoap"
type="tns:FormSubmissionServiceSoap">
   <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
   <wsdl:operation name="SubmitForm">
    <soap:operation soapAction="http://tempuri.org/SubmitForm" style="document" />
    <wsdl:input>
     <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap:body use="literal" />
    </wsdl:output>
   </wsdl:operation>
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    <soap:operation soapAction="http://tempuri.org/ValidateForm" style="document" />
    <wsdl:input>
     <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap:body use="literal" />
    </wsdl:output>
   </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding                                        name="FormSubmissionServiceSoap12"
type="tns:FormSubmissionServiceSoap">
   <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
   <wsdl:operation name="SubmitForm">
    <soap12:operation soapAction="http://tempuri.org/SubmitForm" style="document" />
    <wsdl:input>
     <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap12:body use="literal" />
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Form Submission Service

```
  </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ValidateForm">
      <soap12:operation soapAction="http://tempuri.org/ValidateForm" style="document" />
      <wsdl:input>
        <soap12:body use="literal" />
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal" />
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="FormSubmissionService">
    <wsdl:port                                          name="FormSubmissionServiceSoap"
binding="tns:FormSubmissionServiceSoap">
      <soap:address                                                  location="https://i2ms-
sh130.txdot.gov/i2ms/i2ms/formsubmissionservice.asmx" />
    </wsdl:port>
    <wsdl:port                                       name="FormSubmissionServiceSoap12"
binding="tns:FormSubmissionServiceSoap12">
      <soap12:address                                                location="https://i2ms-
sh130.txdot.gov/i2ms/i2ms/formsubmissionservice.asmx" />
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 5-1
MUNICIPAL MAINTENANCE AGREEMENT
OPERATION AND MAINTENANCE OF TRAFFIC SIGNALS

Executed Version

Dated as of: December 5, 2013

Contract No. 15-0XXF6001

STATE OF TEXAS §

COUNTY OF TRAVIS §

AGREEMENT FOR THE INSTALLATION AND REIMBURSEMENT FOR THE OPERATION AND MAINTENANCE OF TRAFFIC SIGNALS WITHIN A MUNICIPALITY

THIS AGREEMENT is made by and through the State of Texas, acting by and through the Texas Department of Transportation, hereinafter called the "State," and the City of San Antonio, hereinafter call the "City," acting by and through its duly authorized officers, as evidenced by Resolution/Ordinance No. _____, executed on _____, hereinafter acknowledged by reference.

WITNESSETH

WHEREAS, by virtue of a Municipal Maintenance Agreement entered into by the City and the State on the 8th day of August, 1974, the State has been authorized to maintain certain highway routes within the City; and

WHEREAS, from time to time the City requests the State to install traffic signals on certain highways within the City; and

WHEREAS, in accordance with Texas Administrative Code: Title 43 Texas Administrative Code Section 25.5, on the 27th day of May, 1987, the State Highway and Public Transportation Commission, now the Texas Transportation Commission, passed Commission Minute Order No. 85777, authorizing the State to install, operate, and maintain traffic signals on:

(a) highway routes not designated as full control of access inside the corporate limits of cities, having a population less than 50,000 (latest Federal Census); and
(b) highways designated as full control of access in all cities; and

WHEREAS, the City has a population of (more/less) than 50,000 population according to the latest Federal Census; and

WHEREAS, the City requests the State to assume the installation, operation, and maintenance responsibilities of the signalized intersections as shown in EXHIBIT 1, attached hereto and made a part of this Agreement; and

WHEREAS, the City agrees to maintain and operate the signalized intersections with the State reimbursing the City for all maintenance and operations costs at a flat rate per location as shown on Exhibit 3.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto to be by them respectively kept and performed, as hereinafter set forth, it is agreed as follows:

AGREEMENT

Article 1. CONTRACT PERIOD

This Agreement becomes effective when fully executed by the City and the State and shall remain in force for a period on one year from the date of final execution by the State and shall

be automatically renewed annually for a one year period, unless modified by mutual agreement of both parties, or terminated as hereinafter provided.

Article 2. CONSTRUCTION RESPONSIBILITIES

A. The State shall prepare or cause to be prepared the plans and specifications, advertise for bids, let the construction contract, or otherwise provide for the construction of new traffic signals and/or reconstruction of existing traffic signals (including, at the State's option, any special auxiliary equipment, interconnect and/or communication material, and equipment), and will supervise construction, reconstruction, or betterment work as required by said plans and specifications. As a project is developed to construction stage, either as a unit or in increments, the State will submit plans and specifications of the proposed work to the City and will secure the City's consent to construct the traffic signal prior to awarding the contract; said City consent to be signified by the signatures of duly authorized City officers in the spaces provided on the title sheet of the plans containing the following notion:

"Attachment No. _____ to "Agreement for the Installation and Reimbursement for the Operation and Maintenance of Traffic Signals Within a Municipality," dated_____. The City-State construction, maintenance, and operation responsibilities shall be as heretofore agreed to, accepted, and specified in the Agreement to which these plans are made a part."

B. All costs of construction and/or reconstruction of new and existing traffic signals will be borne by the State, and the traffic signal system will remain the property of the State.

Article 3. MAINTENANCE, OPERATION, AND POWER RESPONSIBILITIES

A. The State shall be responsible for all electrical power costs for the operation of the traffic signals covered by this Agreement and shown on Exhibit 1. Power costs shall be billed as specified in Exhibit 2, "Traffic Signal Maintenance and Operations Provisions."

B. The City will provide a trained staff to maintain and operate the traffic signals shown on Exhibit 1, and the State will reimburse the City at the flat rate shown in Exhibit 3 for parts and labor. All repairs shall be prioritized based on public safety and made as soon as possible.

C. The City shall maintain and operate the traffic signals in accordance with the minimum requirements specified in Exhibit 2.

D. The City shall maintain at least one log of all emergency calls and all routine maintenance.

E. Routine maintenance will be performed by the City as specified in Exhibit 2.

Article 4. COMPENSATION

A. The maximum amount payable under this Agreement is $ 592,759.20 per year.

B. Calculations for the above lump sum amount shall be shown in Exhibit 3, attached hereto and made a part of this Agreement for maintaining and operating the traffic signal installations covered under this Agreement.

C. A copy of Exhibit 4 is attached hereto and made a part of this agreement. The State will provide notification as to the date upon which the City assumes the operations and maintenance of individual locations. Compensation to the City will be pro-rated based on the number of months an individual location is operated and maintained by the City.

D. The addition or deletion of traffic signals shall be made by supplemental agreement.

Article 5. PAYMENT

A. The State agrees to reimburse the City at the flat rate shown in Exhibit 3 for maintenance and operations costs for the traffic signals described in Exhibit 1. The City shall submit to the State Form 132, "Billing Statement," or an invoice statement acceptable to the State on a (monthly/quarterly/annual) basis. An original Form 132 or acceptable invoice and four copies shall be submitted to the following address:
Texas Department of Transportation
P.O.. Box 29928
San Antonio, TX 78229-0928

B. The City shall maintain a system of records necessary to support and establish the eligibility of all claims for payment under the terms of this Agreement. These records may be reviewed at any time to substantiate the payment by the State and/or determine the need for an adjustment in the amount paid by the State.

C. The State shall make payment to the City within 30 days from receipt of the City's request for payment, provided that the request is properly prepared.

D. Knockdowns or damage resulting from an accident or an act of God and which require emergency replacement of major equipment shall not be included in the (monthly/quarterly/
annual) payments. For eligibility of payment for emergency replacement of major equipment, actual cost shall be submitted to the State for review and determination of reimbursement eligibility.

E. Payment for the addition or deletion of a traffic signal installation shall be made by supplemental agreement.

Article 6. INDEMNIFICATION

The City acknowledges that it is not an agent, servant or employee of the State and, thus, is responsible for its own acts and deeds and for those of its agents or employees during the performance of the work defined in this agreement.

Article 7. TERMINATION

A. This Agreement may be terminated by any of the following conditions:
(1) By mutual agreement and consent of both parties.
(2) By the State upon thirty (30) days written notice to the City for failure of the City to provide adequate maintenance and operation services for those traffic signal installations which the City has agreed to maintain and operate.
(3) By the State upon sixty (60) days written notice to the City that the State will assume operation and maintenance at the end of the one (1) year period of this contract.
(4) By the City upon one hundred twenty (120) days written notice of the State.

B. In the event this Agreement is terminated by any of the above conditions, the maintenance and operation of the traffic signal systems shall become the responsibility of the State. Any State owned equipment being held by the City shall be promptly returned within 30 calendar days to the State upon termination of this Agreement.

Article 8. SUBLETTING
The City shall not sublet or transfer any portion of the work under this Agreement unless specifically approved in writing by the State. All subcontracts shall include the provisions required in this contract and shall be approved in writing by the State.

Article 9. AMENDMENTS
Changes in the character, costs, provisions, in the attached exhibits, responsibilities, or obligations authorized herein shall be enacted by written amendment. An amendment to this Agreement must be executed by both parties.

Article 10. SUCCESSORS AND ASSIGNS
The State and the City bind themselves, successors, assigns, and legal representatives to the other party to this Agreement and the successors, assigns, and legal representatives of such other party to all covenants and provisions provided herein. Furthermore, the City shall not assign, sublet, or transfer any interests in this Agreement without the written consent of the State.

Article 11. LEGAL CONSTRUCTION
In the case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Article 12. STATE AUDITOR
The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

Article 13. DOCUMENTS At the request of the State, the Local Government shall submit any information required by the State in the format directed by the State.

Article 14. PRIOR AGREEMENTS SUPERSEDED
This Agreement constitutes the sole and only agreement of the parties hereto and supersedes any prior understandings or written or oral agreements between the parties respecting the within subject matter.

IN WITNESS WHEREOF, the State and the City have signed duplicate counterparts of the agreement.

THE CITY OF SAN ANTONIO
Executed on behalf of the City by:

By_____ Date_____

Typed or Printed Name and Title _____

_____

THE STATE OF TEXAS
Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By_____ Date_____
District Engineer

Locations, Original Agreement

IH 10 FRONTAGE ROADS & WURZBACH RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & HUEBNER RD	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRDS (QUINCY) @ N. ST. MARY'S ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRDS (ELMIRA) @ N. ST. MARY'S ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 EXIT RAMP & AVENUE "A" / JOSEPHINE ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & DURANGO BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 EAST FRONTAGE ROAD & MARKET/ MONTANA ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & COMMERCE ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB EXIT & LOOP 353 (NOGALITOS ST.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 EB EXIT & ZARZAMORA ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 EB FRONTAGE ROAD & LOOP 353 (NOGALITOS ST.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & HOUSTON ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & COMMERCE ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & BUENA VISTA ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & NUEVA ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & DURANGO BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 SB FRONTAGE ROAD & GUADALUPE ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROAD & FM 1976 (WALZEM RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & DE ZAVALA RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & US 87 (RIGSBY AVENUE)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

Locations, Supplemental Agreement No. 1

IH 10 FRONTAGE ROADS & HOUSTON ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & SBC CENTER PARKWAY	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & BITTERS RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & FM 471 (CULEBRA RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

Locations, Supplemental Agreement No. 2

IH 10 EB FRONTAGE ROAD & N. LOOP 1604 W. FRONTAGE RDS.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 WB FRONTAGE ROAD & N. LOOP 1604 W. FRONTAGE RDS.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & KYLE SEALE PKWY	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & RED LAND RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & HUEBNER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 EB FRONTAGE ROADS & BOERNE STAGE RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 WB FRONTAGE ROADS & BOERNE STAGE RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & TOEPPERWEIN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROAD & PROBANDT ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & NEW BRAUNFELS AVENUE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

IH 10 EB FRONTAGE ROADS & GEVERS ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 EB FRONTAGE ROADS & MARTIN LUTHER KING BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & LA CANTERA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 EB FRONTAGE ROADS & PECAN VALLEY DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & PECAN VALLEY DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & SH 16 N. (BANDERA RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & BITTERS / ROGERS RANCH	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & WISEMAN BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & BULVERDE RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & AIRPORT	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & JONES MALTSBERGER RD. S.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & VANCE JACKSON RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & WEST AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & FRESNO	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & HILDEBRAND AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & FM 2252	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & SAN PEDRO	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & NACOGDOCHES RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & HARRY WURZBACH RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & STARCREST DRIVE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & PERRIN BEITEL RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & BROADWAY ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & JONES MALTSBERGER RD. N.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & TERMINAL DRIVE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & JONES MALTSBERGER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & INGRAM RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & EVERS RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & S. NEW BRAUNFELS AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & THEO / MALONE AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & DIVISION AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & SOUTHCROSS BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & LOOP 13 (MILITARY DR.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & ZARZAMORA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & FOSTER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & ACKERMAN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & SPUR 421 (CULEBRA RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & SPUR 422 (PALO ALTO RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & FM 1560 (HAUSMAN RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & CAMP BULLIS RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

IH 35 FRONTAGE ROADS & WALTERS	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & LOOP 13	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & FM 1346	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & SH 151	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & LOOP 345	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & LOOP 345	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & CALLAGHAN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & BABCOCK RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & VALLEY HI DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & FM 2536	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS SW & SPUR 422 / SH 16	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & FM 2696	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & CALLAGHAN Rrd.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & WALTERS	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & NEW BRAUNFELS AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & FM 78 (OLD SEGUIN RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & BINZ-ENGELMAN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & RITTIMAN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & McCULLOUGH AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS & FAIR AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & MILITARY DR. W. (INSIDE IH 410)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & STONE OAK PARKWAY	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 FRONTAGE ROADS & LOOP 13	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 / IH 37 FRONTAGE ROADS & MARTIN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
PECOS / MARTIN & SAN SABA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & OLD HWY 90	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & CALLAGHAN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & INGRAM RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & FM 1957	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

Locations To Be Considered For Future Conveyance

LOOP 1604 FRONTAGE ROADS & LOCKHILL-SELMA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & JONES MALTSBERGER RD. W.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & GOLD CANYON	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & CULEBRA RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & FRIO / POPLAR	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & CHERRY RIDGE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & VANCE JACKSON RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & JACKSON KELLER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & EISENHAUER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & FM 78	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & SOUTHCROSS BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & S. PRESA (SPUR 122)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & ROOSEVELT (US 281 @ SP 536)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & MEDINA BASE RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & MARBACH RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & MILITARY DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & SPUR 53	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & FRED. RD. / WOODLAWN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & COLORADO ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & MEDICAL DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 FRONTAGE ROADS & CINCINNATI	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & ALAMO ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & LAREDO @ CEVALLOS ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & JUDSON RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & O'CONNOR RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & WEIDNER RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & STARLIGHT TERRACE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & MAIN ENTRANCE TO BAMC	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 FRONTAGE ROADS & ACME RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 FRONTAGE ROADS & SW 36TH ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 90 FRONTAGE ROADS & CUPPLES RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SPUR 371 & CUPPLES RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & HUNT LANE	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & MILITARY DR W (OUTSIDE IH 410).	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & WESTOVER HILLS	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 E. FRONTAGE ROADS & ROLAND ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 10 E. FRONTAGE ROADS & W.W.WHITE RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

US 281 FRONTAGE ROADS & DONELLA DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & THOUSAND OAKS	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & BROOKHOLLOW	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & WINDING WAY DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & NAKOMA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & RHAPSODY DR.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & ISOM RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & HILDEBRAND	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & MULBERRY AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & N. ST. MARY'S ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & LOOP 1604	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & SH 151 N.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & SH 151 S.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 151 FRONTAGE ROADS & PINN RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & BABCOCK RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & JOHN PEACE @ LA CANTERA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FR's & CHASE HILL @WALTER BRENNAN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
LOOP 1604 FRONTAGE ROADS & FM 2696 (BLANCO RD.)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & CAMERON @ SANTA ROSA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & N. FLORES	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & SAN PEDRO	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & MAIN AVE.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & LEXINGTON	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & McCULLOUGH	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
QUINCY & BROOKLYN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & N. FLORES	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & SAN PEDRO	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & MAIN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & LEXINGTON	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & McCULLOUGH	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
ELMIRA & BROOKLYN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & McCULLOUGH (NB EXIT RAMP)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 35 FRONTAGE ROADS & BROOKLYN	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 37 FRONTAGE ROADS (ELM STREET) & HOUSTON ST.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & SONTERRA BLVD. (WEST)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & SONTERRA BLVD. (EAST)	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
US 281 FRONTAGE ROADS & SUNSET RD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
IH 410 FRONTAGE ROADS & MOURSUND BLVD.	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER
SH 16 @ ZARZAMORA	DIAMOND INTERCHANGE, TRAFFIC SIGNALS WITH ONE CONTROLLER

EXHIBIT 2

TRAFFIC SIGNAL MAINTENANCE AND OPERATION PROVISIONS

The maintaining and operating city agrees to:

1. Unless specifically noted elsewhere in this agreement, the signal timing and operational phasing shall be the responsibility of the city.

2. Inspect the highway traffic signal system a minimum of once every 12 months and replace burned out lamps or damaged sockets as may be required. Police, citizen, or other reports of burned out lamps or other damage, which could jeopardize safety, shall be repaired or replaced as soon as possible after the report, depending on the nature of the report. Otherwise, appropriate steps shall be taken to protect the public. The reflector and lens should be cleaned each time a lamp is replaced. All replacement lamps shall equal the wattage and type of the existing lamp.

3. Keep signal poles, controller pedestals, and foundations in alignment.

4. Keep signal poles and controller cabinets tight on their foundation(s) or pedestal(s).

5. Keep traffic and pedestrian signal heads aligned and properly adjusted Repair back plates where needed.

6. Check the controllers, conflict monitors, detector units, relays, pedestrian push buttons, and detectors a minimum of once every 12 months to ascertain that they are functioning properly and make all necessary repairs and replacements.

7. Keep interior of controller cabinets in a neat and clean condition at all times.

8. Clean reflectors, lenses, and lamps a minimum of once every twelve months.

9. Repaint all corrosive susceptible highway traffic signal components exposed to weather with a non-lead based paint as needed in order to maintain a well kept appearance in the opinion of the Texas Department of Transportation's representative. Plastic signal heads and galvanized and aluminum components are excluded.

10. Replace LED lamp units of all highway traffic signal heads at the expiration of the average rated lamp life (average 5 yr.) or replace the lamps on a burn out basis.

11. Repair or replace any and all equipment that malfunctions or is damaged.

12. Provide alternate traffic control during a period of failure or when the controller must be repaired. This may be accomplished through installation of a spare controller, placing the intersection on flash, manually operating the controller, or manually directing traffic through the use of proper authorities. In addition, barricades and warning signs shall be provided in accordance with the requirements of the latest edition of the *Texas Manual on Uniform Traffic Control Devices.*

13. Provide maintenance personnel trained in the maintenance of traffic signal equipment who will be available to respond to emergency calls from authorized parties 24 hours a day,

including Saturdays, Sundays, and holidays.

14. Provide the State and local law enforcement agencies the location and respective names and telephone numbers of individuals responsible for emergency maintenance.

15. Document routine observations during the year by trained City personnel of the traffic signal operation at each traffic signal during various times of the day to assure fair distribution of time and for all traffic movements (phases) during varying traffic conditions.

16. Check cabinet filter a minimum of once every six months and clean if necessary. Cabinet filter shall be replaced every two years.

17. Document all checks and corrective actions in a separate log book for each intersection.

18. In metropolitan cities where Intelligent Transportation Systems and/or incident management systems are being implemented the signal timing will be the responsibility of the City in cooperation with the Texas Department of Transportation.

19. In metropolitan cities where the Texas Department of Transportation has installed a fiber optic communications network, and a connection to the traffic signal controller is available, the Texas Department of Transportation will provide a communications connection from the traffic signal controller to the Traffic Operations Center.

Traffic accidents, inclement weather, special events, maintenance, and construction activities are a few of the causes of nonrecurrent congestion. Nonrecurrent congestion often changes the normal traffic demand patterns. Effective and efficient movement of traffic through the transportation network during periods on nonrecurrent congestion must be considered in the design and operation of all traffic management systems, including traffic signal systems. Priority should be given to freeway or expressway frontage roads when nonrecurrent congestion occurs on freeway or expressway mainlanes.

Power costs shall be billed directly to the State.

EXHIBIT 3

Actuated Signals at conventional intersections and at Tee intersections shall be reimbursed at _____ per intersection per year.

Calculations:

Fixed Time Signal shall be reimbursed at _____ per intersection per year.

Calculations:

Diamond Interchange Signals with one controller shall be reimbursed at $3106.97 per intersection per year.

Calculations: 178 x $3,106.97 = $553,040.66

Diamond Interchange Signals with two or more controllers shall be reimbursed at _____ per intersection per year.

Calculations:

Sign Mounted Flashers shall be reimbursed at _____ per unit per year.

Calculations:

Overhead Flashing Beacons shall be reimbursed at _____ per intersection per year.

Calculations:

EXHIBIT 4

Texas Department of Transportation

P. O. BOX 29928 • SAN ANTONIO, TEXAS 78229-0928 • (210) 615-1110

_____(Date)_____

Mr. Majed Al-Ghafry, P.E.
Director of Public Works
City of San Antonio
P. O. Box 839966
San Antonio, TX 78283-3966

RE: Agreement for the Installation and Reimbursement
for the Operation and Maintenance of Traffic Signals
Within a Municipality

Dear Mr. Al-Ghafry:

Please note that at the intersections listed below construction is complete. TxDOT is releasing the signals to the City of San Antonio for operation and maintenance.

Beginning on _____, payment in the amount of $258.915 per month will be reimbursed to you for the remainder of this fiscal year, and for each month following.

Thank you for your attention regarding this matter. If you have any questions, please feel free to contact me at (210) 615-6134.

Sincerely,

Ricardo Castañeda, P.E.
Director of Operations

Enclosures
cc: Ms. Lilly Banda, P.E., PTOE, Traffic Signal Engineer, City of San Antonio
Mr. Curtis Rabenaldt, Traffic Systems Admin., Texas Dept. of Transportation

MUNICIPAL MAINTENANCE AGREEMENT

STATE OF TEXAS ()

COUNTY OF TRAVIS ()

THIS AGREEMENT made this 8th day of August, 1974, by and between the State of Texas, hereinafter referred to as the "State", party of the first part, and the City of San Antonio, Bexar County, Texas (population 654,153, 1970 Federal Census) acting by and through its duly authorized officers, hereinafter called the "City", party of the second part.

W I T N E S S E T H

WHEREAS, the City has requested the State to assist in the maintenance of State Highway Routes within such city; and

WHEREAS, the State Highway Engineer, acting for and in behalf of the State Highway Commission, has made it known to the City that the State will assist the City in the maintenance, control, supervision, and regulation of State Highway Routes within such city, conditioned that the City will enter into agreements with the State for the purpose of determining the responsibilities of the parties thereto:

A G R E E M E N T

NOW, THEREFORE, in consideration of the premises and of the mutual convenants and agreements of the parties hereto to be by them respectively kept and performed, it is agreed as follows:

Coverage

1. This agreement is intended to cover and provide for State participation in the maintenance of the following classification of State Highway routes within the City:

   a. Non-Controlled Access routes or portions thereof which are described and/or graphically shown as "State Maintained" routes in Exhibit "A", which is attached hereto and made a part hereof.

   b. All State Highway routes or portions thereof which have been designated by the Texas Highway Commission as Controlled Access Highways and which are described and/or graphically shown in Exhibit "B", which is attached hereto and made a part hereof.

2. The City shall retain full responsibility for the maintenance of those State Highway routes and portions thereof which are listed and/or graphically shown in Exhibit "A" and Exhibit "B" as "City Maintained" routes, except that the State is hereby authorized by the City to erect and maintain normal route markers and directional and destination signs thereon for direction of highway traffic.

3. In the event that the present system of State Highway routes within the City is changed by cancellation, modified routing, new routes, or change in the City's corporate limits, the State shall terminate maintenance and this agreement shall become null and void on that portion of the routes which are no longer routes of a State Highway; and the full effect and all conditions of this agreement shall apply to the changed routes or new routes of the State Highways within the City and shall be classified as "State Maintained" under paragraph 1 above, unless the execution of a new agreement on the changed portion of the routes is requested by either the City or the State. Either party initiating any action that will change the present system of State Highway Routes shall notify the other party in writing of the proposed changes at least 30 days prior to taking any official action concerning the change.

GENERAL CONDITIONS

1. The City hereby agrees and does hereby authorize the State to maintain the State Highway routes covered by this agreement in the manner set out herein.

2. This agreement shall supplement any existing agreements between the State and the City for the maintenance or construction and maintenance of the highways covered herein. This agreement shall supersede such existing agreements only in respect to points of conflict except for the City's maintenance responsibilities listed in Item 8. A. in the Municipal Construction and Maintenance Agreement between the City and State for Spur 371 dated May 28, 1964.

3. Traffic regulations including speed limits on State Maintained Controlled and Non-Controlled Access Highways will be established and fixed by agreement with the State after traffic and engineering surveys have been conducted.

4. It is mutually agreed that, subject to review by the State, any street lighting system may be installed by the City provided the City shall pay all cost of installation, maintenance and operation except in those installations specifically covered by separate agreements between the City and State.

5. It is understood and agreed that this agreement is for the purpose of defining the authority and responsibility of both parties for maintenance of highway routes through the City and shall in no way be considered to cover any present or past obligation either real or anticipated concerning such State Highway routes through the City.

6. The City shall prohibit the movement of loads over State maintained streets which exceed the legal limits for either weight, length, height or width, as prescribed in Vernon's Texas Civil Statute 6701d-11 for public highways outside corporate limits of cities, except those having proper premits from the State for such movements. The City shall also, by ordinance and enforcement, prescribe and enforce lower weight limits when mutually agreed by the City and the State that such restrictions are needed to avoid damage to the street and/or for traffic safety.

7. The City shall control encroachments within the right of way of highway routes as enumerated below. These encroachments shall include the planting of trees or shrubbery or the creation or construction of any other obstruction within the right of way.

   a. No encroachment of any type shall be permitted within the right of way of controlled access highways.

   b. No encroachment of any type shall be permitted within the right of way of highways built on new location which involve the expenditure of Federal Funds.

c. No encroachment of any type shall be permitted within the right of way of non-controlled access highways designated as within undeveloped areas as shown on Exhibit "A".

d. The City shall control encroachments within the right of way of non-controlled access highways designated as within developed areas as shown on Exhibit "A" by permits issued by the City under the provisions of Sections 34-30, 34-38, and 34-39 of the City Code of San Antonio, Texas.

8. The City agrees that traffic control devices, such as signs, traffic signals and pavement markings, in respect to type of device, points of installation, and necessity will be fixed by agreement with the State after traffic and engineering surveys have been made. The City agrees that it will not install or maintain or permit the installation or maintenance of any type of traffic control device which will affect or influence the utility of the State Highway routes without having obtained in writing the prior approval of the State. Traffic control devices installed prior to the date of this agreement are hereby made subject to the terms of this agreement and the City agrees to the removal of such devices which affect or influence the utility of the State Highway routes unless their continued use is approved in writing by the State. It is understood that future traffic signals installed as a joint project by the City and State will be the subject of a separate agreement outlining the responsibilities for installation and maintenance.

9. The City agrees to continue its responsibility for proper construction, maintenance and location of driveway facilities on non-controlled access highways in accordance with standards and specifications for the design, construction and maintenance details mutually agreed upon by the City and the State. The City also agrees that the Texas Highway Department will have jurisdiction over driveway and access permits involving frontage roads of controlled access highways.

10. It is understood that the use of unused right of way and areas beneath structures will be as determined by a separate agreement.

11. The City agrees that no additional openings or reduction in length of existing concrete medians will be permitted unless it is by mutual consent of the City and the State. In the event conditions develop that warrant mutual consent and approval of additional openings, any such openings shall be developed in accordance with the conditions, recommendations, and typical design as set forth in the report compiled by the joint committee of representatives of

the Texas Municipal League and the Texas Highway Department on "Median Practices on Highway Routes on City Streets", dated April, 1960.

NON-CONTROLLED ACCESS HIGHWAYS

State's Responsibilities

1. Maintain the pavement, base and its support and maintain the shoulders on those sections where there is no curb and gutter.

2. Install and maintain normal highway markings necessary for directing highway traffic in a safe and efficient manner, which shall include normal route markers, directional and destination signs, speed limit signs, stop or yield signs that control the flow of traffic on State Highway routes, city limit signs, warning signs, centerline, lane line and no-passing barrierline stripes, painted or button medians or islands, edge lines, and such other pavement markings considered necessary for direction of traffic. Any other traffic striping desired by the City may be placed and maintained by the City subject to the approval of the State.

3. Assist the City in sweeping and otherwise cleaning the pavement, in mowing and cleaning of litter, and in maintenance of roadway ditches, on those sections of State Highway routes where and to the extent that such duties are delineated on Exhibit "A".

4. Assist in snow and ice control as availability of labor and equipment will allow.

City's Responsibilities

1. Prohibit angle parking, except upon written approval by the State after traffic and engineering surveys have been conducted to determine that the roadway is of sufficient width to permit angle parking without interfering with the free movement of traffic.

2. Install and maintain all parking restriction signs, school signs and markings, pedestrian crosswalks, parking stripes and special guide signs when agreed to by the State. Signing and marking of intersecting city streets to State Highway Routes will be the full responsibility of the City.

3. Require installations, repairs, removals or adjustments of publicly or privately owned utilities or services to be performed in accordance with State Highway Department specifications and subject to approval of the State.

4. Retain all functions and responsibilities for maintenance, control, supervision, and regulation which are not specifically described as the responsibility of the State. The assistance by the State in maintenance of roadway ditches does not relieve the City of its responsibility for drainage of the highway facility within its corporate limits except where participation by the State other than above is specifically covered in a separate agreement between the City and the State.

CONTROLLED ACCESS HIGHWAYS

The following specific conditions and responsibilities shall be applicable to controlled access highways in addition to the "General Conditions" contained herein above. Routes of controlled access highways or portions thereof covered by this section are those listed and/or graphically shown in Exhibit "B".

State's Duties

1. Maintain the traveled surface of the through lanes, ramps and frontage roads and those things beneath such traveled surface necessary for the proper support of same under vehicular loads encountered.

2. Mow and clean-up litter within the outermost curbs of the frontage roads or the entire right of way width where no frontage roads exist, and assist in performing these operations between the right of way line and the outermost curb or crown line of the frontage roads.

3. Sweep and otherwise clean the through lanes, ramps, separation structures or roadways, and frontage roads.

4. Remove snow and control ice on the through lanes and ramps and assist in these operations as the availability of equipment and labor will allow on the frontage roads and separation structures or roadways.

5. Erect and maintain all signs and markings necessary to warn, guide or regulate traffic within the entire right of way except as shown below as City's Duties. This does not include city streets which cross State Highway Routes that do not interchange with the facility.

6. Maintain all drainage facilities within the limits of the right of way.

City's Duties

1. Restrict parking on frontage roads to parallel parking on one side

only, except where necessary to prohibit all parking on frontage roads, and prohibit all parking on mainlanes and ramps and at such other places where such restriction is necessary for satisfactory operation of traffic, by passing and enforcing ordinances and taking other appropriate action in addition to full compliance with current laws on parking. Exceptions or additional parking restrictions will only be made at the request of, or written permission from the State.

2. Erect and maintain all street name signs back of frontage road curb or edge of pavement, school signs and school crosswalks on frontage roads.

3. Pass and enforce and ordinance providing for one way traffic on the frontage roads except as may be otherwise agreed to by separate agreement with the State.

4. Secure or cause to be secured the approval of the State before any utility installation, repair, removal or adjustment is undertaken, crossing over or under the highway facility or entering the right of way. In the event of an emergency, it being evident that immediate action is necessary for protection of the public and to minimize property damage and loss of investment, the City, without the necessity of approval by the State, may at its own responsibility and risk make necessary emergency utility repairs, notifying the State of this action as soon as practicable.

5. Pass necessary ordinances and retain its responsibility for enforcing the control of access to the Freeway facility.

Termination

1. It is understood and agreed between the parties hereto that all obligation of the State created herein to maintain the State Highway routes covered by this agreement shall terminate if and when they are no longer routes of State Highways; and further, that should either party fail to properly fulfill its obligations as herein outlined, the other party may terminate this agreement upon thirty days written notice.

Said State assumption of maintenance shall be effective the date of execution of this agreement by the Highway Department.

IN WITNESS WHEREOF, the parties have hereunto affixed their signatures, the City of San Antonio on the 8th day of August 19 74, and the Highway Department on the 13th day of August 19 74.

ATTEST:

J H Stallmann

City Clerk

CITY OF San Antonio

BY

City Manager

(Title of Signing Official)

APPROVAL RECOMMENDED:

District Engineer, District 15

Engineer of Maintenance

STATE OF TEXAS

Certified as being executed for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the State Highway Commission.

By:

Chief Engineer of Maintenance Operations

AUTHORITY FOR EXECUTION IS ACCOMPLISHED UNDER MINUTE ORDER NO. 67022

Note: To be executed in triplicate and supported by Municipal Maintenance Ordinance and Certificate of City Secretary.

EXHIBIT "A"

NON-CONTROLLED ACCESS HIGHWAYS

I. STATE MAINTAINED

A. Developed Areas inside City of San Antonio

1. U.S. 87: From Jct I.H. 10 to Jct I.H. 410 East (Base & Surface) — Rigsby Ave.

2. Spur 122: From Jct Loop 13 to Jct I.H. 410 Southeast (Base & Surface) — South Presa Rd.

3. U.S. 281: From Jct I.H. 35 (at Alamo Street) to Jct I.H. 410 South (Base & Surface) → now named Spur 536 - Roosevelt Dr.

4. Loop 353: From Jct I.H. 35 South to South City Limit, San Antonio (Base & Surface) — New Laredo Hwy.

5. F.M. 2536: From Jct Loop 13 to Jct I.H. 410 Southwest (Base & Surface) — Old Pearsall Rd.

6. Loop 13: From North City Limit, San Antonio (at Five Palms Drive) to West Limit, Kelly AFB (at Leon Creek) (Base & Surface) — Military Hwy.

7. Loop 13: From East Limit, Kelly AFB (at SP Railroad) to Jct I.H. 10 East (Base & Surface) — Military Hwy.

8. Spur 421: From South City Limit, Leon Valley, to Jct I.H. 10 North (Base & Surface) — Bandera Hwy.

9. Loop 345: From South City Limit, Balcones Heights, to Jct I.H. 10 North (Base & Surface) — Fredericksburg Rd.

10. Loop 368: From Jct I.H. 35 to South City Limit, Alamo Heights (Base & Surface) — Austin Hwy.

11. Loop 368: From North City Limit, Terrell Hills, to Walzem Road (Base & Surface) — Austin Hwy.

12. PR 39: From Jct U.S. 281 to 0.10 mile East (Base & Surface) — San Jose Mission

13. South Laredo Street: From I.H. 35 at Cevallos Street to South Alamo Street (Base & Surface) — frontage road for IH 35 NB

14. Pecos Street: From Guadalupe Street to near Perez Street (Base & Surface) — frontage road for IH 35 SB

15. Elmira Street: From North Flores Street to St. Mary's Street
(Base & Surface)
frontage road for IH 35 SB

16. Quincy Street: From I.H. 10 to St. ~~Mary's Street~~ Newell St.
(Base & Surface)
frontage road for IH 35 NB

17. Brady Boulevard: From Cupples Road to U.S. 90 Westbound Exit Ramp
(Base & Surface)
frontage road for US 90 WB

18. Harriman Place: From Charlotte Street to Nogálitos Street
(Base & Surface)
frontage road for US 90 WB

19. Kirk Place: From DeSoto Street to Nogalitos Street
(Base & Surface)
frontage road for US 90 EB

B. Undeveloped Areas — inside City of San Antonio

1. U.S. 87: From Jct I.H. 410 East to East City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

2. U.S. 181: From Jct Spur 122 Southeast to South City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

3. U.S. 281: From Jct I.H. 410 South to South City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Old Pearsall Rd.
4. F.M. 2536: From Jct I.H. 410 West to West City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Potranco Rd.
5. ~~Spur~~ FM 1957: From Jct I.H. 410 Northwest to Jct F.M. 1957
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Potranco Rd.
6. F.M. 1957: From Jct Spur 1957 to Jct F.M. 471
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Dispoman Culebra Rd.
7. F.M. 471: From Jct ~~F.M. 1957~~ SH 16 to West City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Eckert Rd.
8. F.M. 1517: From Jct S.H. 16 to Jct Huebner Road
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Loop 1604
9. F.M. 1604: From West City Limit, San Antonio, West of S.H. 16 to East City Limit, San Antonio, East of S.P. Railroad
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Bandera Hwy.
10. S.H. 16: From South City Limit, San Antonio, South of F.M. 1604 to North City Limit, San Antonio, North of F.M. 1604
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Fredericksburg Rd.
11. Loop 345: From Jct I.H. 410 North to Jct I.H. 10 North
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

NW Military
12. F.M. 1535: From North City Limit, Castle Hills to North City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Blanco Rd.
13. F.M. 2696: From Jct IH 410 to North City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Spur 537 (San Pedro Avenue)

14. U.S. ~~281~~ US 281: From Jct I.H. 410 to ~~North City Limit~~, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

15. F.M. 1604: From West City Limit, San Antonio (West of Trailcrest Drive) to East City Limit, San Antonio (At Redland Road)
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Macdoches Rd.
16. F.M. 2252: From Jct I.H. 410 North to North City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

5. Hausman Rd.
17. F.M. 1560: From Jct F.M. 1604 to North City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Gibbs-Sprawl Rd.
18. F.M. 1976: From Jct I.H. 35 East to East City Limit, San Antonio
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

Seguin Rd.
19. F.M. 78: From Jct I.H. 410 East to West City Limit, Kirby
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

S. Presa Rd.
20. Spur 122: From Jct I.H. 410 Southeast to Jct U.S. 181
(Base, Surface, Sweeping, Mowing, Cleaning Litter and Maintenance of Roadway Ditches)

II. CITY MAINTAINED

1. U.S. 281 (San Pedro Avenue): From Jct I.H. 35 to Jct I.H. 410

no longer on our system.

EXHIBIT "B"

CONTROLLED ACCESS HIGHWAYS

1. STATE MAINTAINED

A. I.H. 35: From So. City Limit, San Antonio to No. City Limit, San Antonio

B. U.S. 90: From West City Limit, San Antonio to Jct I.H. 35

C. I.H. 10: From No. City Limit, San Antonio to No. City Limit, Balcones Heights

D. I.H. 10: From So. City Limit, Balcones Heights to Jct I.H. 35

E. I.H. 10: From Jct I.H. 35 to East City Limit, San Antonio

F. I.H. 37: From Jct I.H. 35 to South City Limit, San Antonio

G. I.H. 410: From SE City Limit, San Antonio (At F.M. 2536) to West City Limit, Leon Valley

H. I.H. 410: From East City Limit, Leon Valley to West City Limit, Castle Hills

I. I.H. 410: From East City Limit, Castle Hills to Jct I.H. 35 North

J. I.H. 410: From Southwest City Limit, San Antonio (West of Leon Creek) to Jct I.H. 35 North

Austin Hwy. K. Loop 368: From Walzem Road to Jct I.H. 35

General Hudnell L. Spur 371: From Jct U.S. 90 to Kelly Air Force Base

Palo Alto Rd. M. Spur 422: From Jct I.H. 35 South to South City Limit, San Antonio

US 281 from IH 37 to north City limit

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 5-2
MUNICIPAL MAINTENANCE AGREEMENT
HIGHWAY LIGHTING

Executed Version

Dated as of: December 5, 2013

Texas Department of Transportation
P.O. BOX 29928 • SAN ANTONIO, TEXAS 78229-0928 • (210) 615-1110

December 21, 2011

New Agreement for Highway Lighting
Within the City of San Antonio

Mr. Majed Al-Ghafry, P.E.
Director of Public Works
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283-3966

Dear Mr. Al-Ghafry:

As per our meeting on December 12, 2011, this letter is sent to explain the need for execution of a new agreement for highway lighting between the City of San Antonio (CSA) and TxDOT. Attached are three (3) originals of the "Agreement for Construction, Maintenance, and Operation of Highway Lighting Within a Municipality" for your review. This agreement is intended to replace or supercede the attached agreement, dated May 27, 1976.

As we discussed, CPS Energy provides all maintenance and electrical service of the highway lighting for the City of San Antonio within its city limits. CPS also continues to bill the City for maintenance and electrical service for these lights. The new agreement is necessary to update and clarify the highways where the City has maintenance and electrical service responsibility. All other locations are under responsibility of other cities or TxDOT. This new agreement will define construction, maintenance, and operation of lighting systems on any controlled access or partially controlled access highway within the City of San Antonio. Controlled access highways include, but are not limited to, all Interstate Highways, US 90, SH 151, controlled access portions of US 281 and Loop 1604, and Wurzbach Parkway (PA 1502). Thus, the new agreement will clarify the lighting systems currently maintained by the City.

If you concur with this new agreement, please make arrangements for the City Council to pass an ordinance to allow execution of this agreement. After a City ordinance is passed, please provide the appropriate City signatures on each of the three (3) originals, and return the ordinance and all originals to this office for final approval. If you or your staff have any questions, or wish to discuss this matter in more detail, please contact John Bohuslav, P.E. (210-615-6476) or Rick Castaneda, P.E. (210-615-6134).

Sincerely,

Ricardo Castaneda, P.E.
Director of Operations

Attachment
cc: Mr. John Bohuslav, P.E.
Mr. Clay Smith, P.E.
Mr. Gregg Granato, P.E.
Mr. Roy McCue
D:\lightagrenew.doc

AGREEMENT FOR CONSTRUCTION, MAINTENANCE AND OPERATION OF HIGHWAY LIGHTING SYSTEMS WITHIN A MUNICIPALITY

STATE OF TEXAS §

COUNTY OF TRAVIS §

THIS AGREEMENT, dated this _____ day of _____ 20____, by and between the State of Texas, hereinafter referred to as the "State," party of the first part, acting by and through the Texas Department of Transportation, and the City of San Antonio, Bexar County, Texas, acting by and through its duly authorized officers under an ordinance or resolution passed the _____ day of _____ 20____, hereinafter called the "City," party of the second part, is made to become effective when fully executed by both parties.

WITNESSETH

WHEREAS, the City has requested the State to contribute financial aid in the construction, maintenance and operation of a highway lighting system on controlled access or partially controlled access highways as defined in Section 25.11, Texas Administrative Code. Within the City, said lighting system hereinafter referred to as the "lighting system" is to consist of lighting to be built in sections as financed and designated by the Texas Transportation Commission; and

WHEREAS, the Executive Director, acting for and in behalf of the Texas Transportation Commission, has made it known to the City that the State will construct said highway lighting system, conditioned that the City, as provided in Section 25.11, Texas Administrative Code and V.T.C.A., Transportation Code §221.002, will maintain and operate said lighting system.

AGREEMENT

NOW THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

1. **CONSTRUCTION RESPONSIBILITIES**

A. The State will prepare or provide for the plans and specifications, advertise for bids, let the construction contract, or otherwise provide for the construction, and will supervise construction, reconstruction, or betterment work as required by said plans and specifications. As a project is developed to construction stage, either as a unit or in increments, the State will submit plans and specifications of the proposed work to the City and will secure the City's consent to construct the lighting system prior to awarding the contract; said City consent to be signified by the signatures of duly authorized City officers in the spaces provided on the title sheet of plans containing the following notation:

> "Attachment No. _____ to special AGREEMENT FOR CONSTRUCTION, MAINTENANCE, AND OPERATION OF HIGHWAY LIGHTING SYSTEMS WITHIN A MUNICIPALITY, dated _____. The City-State construction, maintenance and operation responsibilities shall be as heretofore agreed to, accepted, and specified in the Agreement to which these plans are made a part."

B. All costs of constructing the lighting system will be borne by the State, and the lighting system as constructed will remain the property of the State.

2. **MAINTENANCE AND OPERATION RESPONSIBILITIES**

A. The City hereby agrees to furnish, at its expense, the electrical energy required for proper

operation of the lighting system, such electrical energy to be provided at points on the lighting system as designated by the State. The City further agrees to maintain and operate the lighting system in an efficient and sightly condition, including the furnishing of all equipment and labor and making any replacements which may become necessary, without cost to the State.

B. The City shall assume maintenance and operation responsibilities on a date to correspond with the date construction of the lighting system is completed and accepted by the State. The State will provide written notification to the City of such acceptance. The City hereby agrees to furnish at its expense the electrical energy consumed by the system during the period of trial operation prior to acceptance by the State. If the lighting system is constructed by sections, this provision shall apply to each such separately constructed section.

C. The City shall obtain approval of the San Antonio District Engineer before making any major changes in the design and/or operation of the lighting system as designed and constructed by the State or before the removal of any part of the installation except for the purpose of replacement where identical or accepted equivalent equipment to that originally installed is used.

3. GENERAL

A. This Agreement shall remain in force for a period of two years from the date that maintenance and operation responsibilities are first assumed by the City and shall be automatically renewed for two-year periods unless modified by mutual agreement of both parties.

B. The State will not incur any financial obligation to the City as a result of this Agreement.

C. This Agreement may be terminated sixty (60) days after the filing of a written notice by either party of a desire for cancellation. The State reserves the right to remove the lighting system or turn off power for the lighting system upon cancellation of the Agreement.

D. If, at any time, the State notifies the City in writing that the City has not maintained and/or operated the lighting system in a satisfactory manner and the City has failed to properly correct its performance as required, the State reserves the right to either arrange for maintenance, or remove the lighting system, or turn off power for the lighting system. Thereafter, the State may, at its sole discretion, request reimbursement or contribution from the City for any reasonable costs incurred by the State to arrange for maintenance, or removal of the system, or to turn off power for the lighting system.

E. This Agreement shall not be considered as specifying the exclusive remedy for any dispute, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

F. The City shall comply with all applicable federal, state, and local laws, ordinances, rules and regulations affecting its performance in this Agreement.

G. Changes in time frame, character, cost, or obligations authorized herein shall be enacted by written amendment. Any amendment to this Agreement must be executed by both parties within the agreement period.

H. This Agreement shall bind, and shall be for the sole and exclusive benefit of the respective parties and their legal successors. The City shall not assign or transfer its interest in this Agreement without written consent of the State.

I. In case any one or more of the provisions contained in this Agreement shall, for any reason, be held invalid, illegal, or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

J. This Agreement constitutes the sole and only agreement for highway lighting system construction, maintenance, and operation at the location described herein of the parties hereto and supersedes any prior understandings or written or oral agreement between the parties respecting the within subject matter.

4. INDEMNIFICATION

A. The City acknowledges that it is not an agent, servant, or employee of the State and, thus, is responsible for its own acts and deeds and for those of its agents or employees during the performance of the work defined in this Agreement. The parties agree that the Texas Tort Claims Act pertaining to governmental liability for tortious conduct and/or property damage shall apply to this Agreement.

B. The City and State further acknowledge that nothing contained in this Agreement will be construed to (a) give either party the power to direct and control the day-to-day activities of the other, or (b) constitute the parties as partners, joint venturers, co-owners or otherwise as participants in a joint or common undertaking, or (c) allow either party to create or assume any obligation on behalf of the other party for any purpose whatsoever.

5. USE OF CONSULTANTS, CONTRACTORS, AND/OR PERSONS

A. In the event the City or its agent engages consultants, contractors and/or persons, other than its employees, for any of its responsibilities set forth in this Agreement, the City shall ensure that said entity shall indemnify the State for any and all damages and claims for damages by third parties, including any claims resulting from bodily injury or death to third parties, or for loss of or damage to property to third parties, arising out of, incident to, or in any manner connected to this Agreement, and for any or all liability arising from the negligent acts or omissions of the

consultant, contractor, or person. However, the City will continue to remain responsible to the State to ensure performance of all its duties and responsibilities specified in this Agreement.

B. Prior to commencement of any work or service, the City shall require the consultant, contractor, or person to submit proof of insurance using the State's "Certificate of Insurance, Form 1560," as currently revised and attached as **Exhibit A.** The limits of the insurance policy shall remain in effect for the duration of the work or service performed. The State shall be named as an Additional Insured with a Waiver of Subrogation in favor of the State.

6. NOTICES

All notices to either party by the other required under this Agreement shall be personally delivered or mailed to such party at the following respective address:

STATE:

Texas Department of Transportation
San Antonio District
Attention: Director of Maintenance
4615 N.W. Loop 410
P.O. Box 29928
San Antonio, Texas 78229-0928

CITY:

City of San Antonio
Director of Public Works
P.O. Box 839966
San Antonio, Texas 78283-3966

IN WITNESS WHEREOF, the parties have thereunto affixed their signatures, the City of San Antonio on the _____ day of _____, 20____, and the Texas Department of Transportation, on the _____ day of _____, 20_____.

ATTEST:

CITY OF SAN ANTONIO

By:_____

_____
(Title of Signing Official)

_____
(Date)

THE STATE OF TEXAS

Executed for the Executive Director and approved for the Texas Transportation Commission under the Authority of Minute Order 100002 and Stand Alone Manual Notice 96-6, for the purpose and effect of activating and/or carrying out the orders, established policies or work programs by the Texas Transportation Commission.

APPROVED:

By:_____
District Engineer

_____ District

Date:_____

List of Exhibits:

A. Certificate of Insurance for City's Consultant, Contractor, or Person

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Revised June 12, 2001

AGREEMENT FOR MAINTENANCE AND OPERATION OF EXPRESSWAY ILLUMINATION SYSTEM WITHIN MUNICIPALITY

STATE OF TEXAS §

COUNTY OF TRAVIS §

This agreement made this 27th day of May, 1976, by and between the State of Texas, hereinafter referred to as the "State", party of the First part, and the City of San Antonio, Bexar County, Texas, acting by and through its duly authorized officers under an ordinance passed the 27th day of May, 1976, hereinafter called the "City", party of the Second part.

WITNESSETH

WHEREAS, in Bexar County, in the City of San Antonio, expressway illumination systems on Interstate Highway 10, 35, 37, 410, and US Highway 90 have been installed in accordance with agreements whereby the City and State share responsibility for installation, operation, and maintenance; and

WHEREAS, the operation and maintenance has become a burden to both the City and the State; and mutually acceptable relief can be attained if the City will assume the State's operation and maintenance responsibility.

WHEREAS, the Engineer-Director, acting for and in behalf of the State Highway and Public Transportation Commission, has made it known to the City that the State will pay the City $563,118.08 for the City's cost for installation of the Expressway lighting system, less depreciation, conditioned that the City, as provided for in Highway Commission Order No. 71034 will maintain and operate said illumination system.

AGREEMENT

NOW THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto to be by them respectively kept and performed as

hereinafter set forth, it is agreed as follows:

Maintenance and Operation Responsibilities

The City hereby agrees at its expense to furnish the electric energy required for proper operation of the street illumination system. The City further agrees to maintain and operate the existing expressway illumination system in an efficient and sightly condition, including the furnishing of all materials, equipment, and labor which may become necessary to maintain the system without cost to the State.

The City will obtain written approval of the Engineer-Director before making any changes in the design and operation of the illumination system as designed and constructed by the State or before removal of any part of the installation except for the replacements where identical or accepted equivalent equipment to that originally installed is used.

The City will assume maintenance and operations on June 1, 1976.

This agreement supersedes and cancels any and all prior Construction, Maintenance and Operation Agreements for expressway illumination on the above shown highways.

IN WITNESS WHEREOF, the parties have hereunto affixed their signatures the City of San Antonio on the 27th day of May, 1976 and the State Department of Highways and Public Transportation on the 27th day of May, 1976.

ATTEST:

City Clerk

CITY OF SAN ANTONIO

BY

City Manager

(Title of Signing Official)

THE STATE OF TEXAS

Certified as being executed for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the State Highway and Public Transportation Commission.

BY:

Assistant Engineer-Director

Authorization for execution is accomplished under Minute Order No. 70104

District Engineer

Chief Engineer of Highway Design

Chief Engineer of Maintenance Operations

AN ORDINANCE 46702

AUTHORIZING THE CITY MANAGER TO EXECUTE A MAINTENANCE AND OPERATION AGREEMENT WITH THE STATE OF TEXAS WHEREBY THE CITY OF SAN ANTONIO WILL MAINTAIN AND OPERATE THE EXPRESSWAY LIGHTING SYSTEM ON INTERSTATE HIGHWAYS 10, 35, 37, 410 AND U.S. HIGHWAY 90.

* * * * *

WHEREAS, by Ordinance No. 46478, dated April 1, 1976 the City of San Antonio accepted the terms of Minute Order No. 71034, dated March 5, 1976, thereby agreeing to operate and maintain the expressway lighting system in a manner suitable to the Texas Highway Department; and

WHEREAS, in consideration thereof the Texas Highway Department agreed to pay the City an amount equal to the City's cost for installation of the expressway lighting system, less depriciation, that is $563,118.08; and

WHEREAS, by the terms of Ordinance No. 46478, dated April 1, 1976 the $563,118.08, tendered to the City by said Minute Order No. 71034, was accepted and deposited in Fund 11, Object Code 020321; NOW THEREFORE:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

The City Manager is hereby authorized to execute the Maintenance and Operation Agreement attached hereto and incorporated herein with the State of Texas whereby the City of San Antonio shall maintain and operate the expressway lighting system on Interstate Highways 10, 35, 37, 410 and U.S. Highway 90.

PASSED AND APPROVED this _____ day of _____, 1976.

M A Y O R

ATTEST:

City Clerk

APPROVED AS TO FORM: _____
City Attorney

STATE OF TEXAS
COUNTY OF BEXAR
CITY OF SAN ANTONIO } ss.

I, the undersigned, the City Clerk

CERTIFIED COPY

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 6-1
UTILITY FORMS

Executed Version

Dated as of: December 5, 2013

Utility Forms

- **PUAA – DB Contractor Managed**
- **PUAA – Owner Managed**
- **UAAA – DB Contractor Managed**
- **UAAA – Owner Managed**
- **ROW U48 – Statement Covering Contract Work**
- **U1 – Affidavit**
- **UDC – Sign off**
- **UJUA – Utility Joint Use Agreement**
- **UM – Sign off**
- **CDA Utility Check List**

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

PROJECT UTILITY ADJUSTMENT AGREEMENT
(DB Contractor Managed)
Agreement No.: -U-

THIS AGREEMENT, by and between , hereinafter identified as the "**DB Contractor**", and ___, hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE OF TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", is authorized to design, construct, operate, maintain, and improve projects as part of the state highway system throughout the State of Texas, all in conformance with the provisions of Chapters 201, 203, 222, 223, and 224 Texas Transportation Code, as amended; and

WHEREAS, the TxDOT proposes to construct a project identified as (the "Project"); and

WHEREAS, pursuant to that certain Design-Build Agreement (the "DBA") by and between TxDOT and the DB Contractor with respect to the Project, the DB Contractor has undertaken the obligation to design, construct, finance, operate and maintain the Project and adhere to all requirements in the DBA; and

WHEREAS, the DB Contractor's duties pursuant to the DBA include causing the relocation, removal or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"), subject to the provisions herein; and

WHEREAS, the Project may receive Federal funding, financing and/or credit assistance; and

WHEREAS, the DB Contractor has notified the Owner that certain of its facilities and appurtenances (the "Owner Utilities") are in locational conflict with the Project (and/or with the "Ultimate Configuration" of the Project), and the Owner has requested that the DB Contractor undertake the Adjustment of the Owner Utilities as necessary to accommodate the Project (and the Ultimate Configuration) and Owner agrees that the "Project" will be constructed in accordance with §203.092, Texas Transportation Code, as amended, and 23 CFR 645 Subpart A (Utility Relocations, Adjustments and Reimbursement); and

WHEREAS, the Owner Utilities and the proposed Adjustment of the Owner Utilities are described as follows *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00")]:*
___*;* and

WHEREAS, the Owner recognizes that time is of the essence in completing the work contemplated herein; and

WHEREAS, the DB Contractor and the Owner desire to implement the Adjustment of the Owner Utilities by entering into this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of these premises and of the mutual covenants and agreements of the parties hereto and other good and valuable consideration, the receipt and sufficiency of which being hereby acknowledged, the DB Contractor and the Owner agree as follows:

1. **Preparation of Plans.** [Check one box that applies:]

☐ The DB Contractor has hired engineering firm(s) acceptable to the Owner to perform all engineering services needed for the preparation of plans, required specifications, and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The DB Contractor represents and warrants that the Plans conform to the most recent Utility Accommodation Rules issued by the Texas Department of Transportation ("TxDOT"), set forth in 43 Tex. Admin. Code Part 1, Chapter 21, Subchapter C *et seq.*, (the "UAR"). By its execution of this Agreement or by the signing of the Plans, the Owner hereby approves the Plans and confirms that the Plans are in compliance with the "standards" described in Paragraph 3(a)(4).

☐ The Owner has provided plans, required specifications and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Owner represents and warrants that the Plans conform to the UAR. By its execution of this Agreement, the DB Contractor and the Owner hereby approve the Plans. The Owner also has provided to the DB Contractor a utility plan view map illustrating the location of existing and proposed utility facilities on the DB Contractor's right of way map of the Project. With regard to its preparation of the Plans, the Owner represents as follows *[check one box that applies]*:

☐ The Owner's employees were utilized to prepare the Plans, and the charges therefore do not exceed the Owner's typical costs for such work.

☐ The Owner utilized consulting engineers to prepare the Plans, and the fees for such work are not based upon a percentage of construction costs. Further, such fees encompass only the work necessary to prepare the Plans for Adjustment of the Owner Utilities described herein, and do not include fees for work done on any other project. The fees of the consulting engineers are reasonable and are comparable to the fees typically charged by consulting engineers in the locale of the Project for comparable work for the Owner.

2. **Review by TxDOT.** The parties hereto acknowledge and agree as follows:

(a) Upon execution of this Agreement by the DB Contractor and the Owner, the DB Contractor will submit this Agreement, together with the attached Plans, to TxDOT for its review and approval as part of a package referred to as a "Utility Assembly". The parties agree to cooperate in good faith to modify this Agreement and/or the Plans, as necessary and mutually acceptable to all parties, to respond to any comments made by TxDOT thereon. Without limiting the generality of the foregoing, (i) the Owner agrees to respond (with comment and/or acceptance) to any modified Plans and/or Agreement prepared by the DB Contractor in response to TxDOT comments within **fourteen (14) business days** after receipt of such modifications; and (ii) if the Owner originally

prepared the Plans, the Owner agrees to modify the Plans in response to TxDOT comments and to submit such modified Plans to the DB Contractor for its comment and/or approval (and re-submittal to TxDOT for its comment and/or approval) within **fourteen (14) business days** after receipt of TxDOT's comments. The Owner's failure to timely respond to any modified Plans submitted by the DB Contractor pursuant to this paragraph shall be deemed the Owner's approval of same. If the Owner fails to timely prepare modified Plans which are its responsibility hereunder, then the DB Contractor shall have the right to modify the Plans for the Owner's approval as if the DB Contractor had originally prepared the Plans. The process set forth in this paragraph will be repeated until the Owner, DB Contractor and TxDOT have all approved this Agreement and accepted the Plans.

(b) The parties hereto acknowledge and agree that TxDOT's review, comments, and/or approval of a Utility Assembly or any component thereof shall constitute TxDOT's approval of the location and manner in which a Utility Assembly will be installed, adjusted, or relocated within the state highway right of way(the "ROW"), subject to the DB Contractor's and Owner's satisfactory performance of the Adjustment work in accordance with the approved Plans. TxDOT has no duty to review Owner Facilities or components for their quality or adequacy to provide the intended utility service.

3. **Design and Construction Standards**.

(a) All design and construction performed for the Adjustment work which is the subject of this Agreement shall comply with and conform to the following:

(1) All applicable local and state laws, regulations, decrees, ordinances and policies, including the UAR, the Utility Manual issued by TxDOT (to the extent its requirements are mandatory for the Adjustment necessitated by the Project, as communicated to the Owner by the DB Contractor, or TxDOT), the requirements of the DBA, and the policies of TxDOT;

(2) All Federal laws, regulations, decrees, ordinances and policies applicable to projects receiving Federal funding, financing and/or credit assistance, including without limitation 23 CFR 645 Subparts A and B; and the Buy America provisions of 23 U.S.C § 313 and 23 CFR 635.410. Utility shall supply, upon request by the Developer or TxDOT, proof of compliance with the aforementioned laws, rules and regulations prior to the commencement of construction.

(3) The terms of all governmental permits or other approvals, as well as any private approvals of third parties necessary for such work; and

(4) The standard specifications, standards of practice, and construction methods (collectively, "standards") which the Owner customarily applies to utility facilities comparable to the Owner Utilities that are constructed by the Owner or for the Owner by its contractors at the Owner's expense, which standards are current at the time this Agreement is signed by the Owner, and which the Owner has submitted to the DB Contractor in writing.

(5) Owner agrees that all service meters must be placed outside of the State ROW.

(b) Such design and construction also shall be consistent and compatible with (i) the DB Contractor's current design and construction of the Project, (ii) the "Ultimate Configuration" for the Project, and (iii) any other utilities being installed in the same vicinity. The Owner acknowledges receipt from the DB Contractor of Project plans and Ultimate Configuration documents as necessary to comply with the foregoing. In case of any inconsistency among any of the standards referenced in this Agreement, the most stringent standard shall apply.

(c) The plans, specifications, and cost estimates contained in Exhibit A shall identify and detail all utility facilities that the Owner intends to abandon in place rather than remove, including material type, quantity, size, age, and condition. No facilities containing hazardous or contaminated materials may be abandoned, but shall be specifically identified and removed in accordance with the requirements of subparagraph (a). It is understood and agreed that the DB Contractor shall not pay for the assessment and remediation or other corrective action relating to soil and ground water contamination caused by the utility facility prior to the removal.

4. **Responsibility for Costs of Adjustment Work**. With the exception of any Betterment (hereinafter defined), the parties shall allocate the cost of any Adjustment between themselves as identified in Exhibit A and in accordance with § 203.092, Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A.

5. **Construction by the DB Contractor**.

(a) The Owner hereby requests that the DB Contractor perform the construction necessary to adjust the Owner Utilities and the DB Contractor hereby agrees to perform such construction. All construction work hereunder shall be performed in a good and workmanlike manner, and in accordance with the Plans (except as modified pursuant to Paragraph 16).

(b) The DB Contractor shall retain such contractor or contractors as are necessary to adjust the Owner Utilities.

(c) The DB Contractor shall obtain all permits necessary for the construction to be performed by the DB Contractor hereunder, and the Owner shall cooperate in that process as needed.

6. **Reimbursement of Owner's Indirect Costs**.

(a) DB Contractor agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b) The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐ (1) Actual related indirect costs accumulated in accordance with (i) a work order accounting procedure prescribed by the applicable Federal or State

regulatory body, or (ii) established accounting procedure developed by the Owner and which the Owner uses in its regular operations (either (i) or (ii) referred to as "Actual Cost") or,

☐ (2) The agreed sum of $___ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

(c) All indirect costs charged to the DB Contractor by the Owner shall be reasonable and shall be computed using rates and schedules not exceeding those applicable to similar work performed by or for the Owner at the Owner's expense. DB Contractor's performance of the Adjustment work hereunder and payment of the DB Contractor's share of the Owner's costs pursuant to this Agreement, if applicable, shall be full compensation to the Owner for all costs incurred by the Owner in Adjusting the Owner Utilities (including without limitation costs of relinquishing and/or acquiring right of way).

7. **Advancement of Funds by Owner for Construction Costs**.

(a) Advancement of Owner's share, if any, of estimated costs

Exhibit A shall identify all estimated engineering and construction-related costs, including labor, material, equipment and other miscellaneous construction items. Exhibit A shall also identify the Owner's and DB Contractor's respective shares of the estimated costs.

The Owner shall advance to the DB Contractor its allocated share, if any, of the estimated costs for construction and engineering work to be performed by the DB Contractor, in accordance with the following terms:

☐ The adjustment of the Owner's Utilities does not require advancement of funds.

☐ The adjustment of the Owner's Utilities does require advancement of funds and the terms agreed to between the DB Contractor and Owner are listed below.

[Insert terms of advance funding to be agreed between DB Contractor and Owner.]

(b) Adjustment Based on Actual Costs or Agreed Sum

[Check the one appropriate provision, if advancement of funds is required]:

☐ The Owner is responsible for its share of the DB Contractor's actual cost for the Adjustment, including the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the DB Contractors the amount, if any, by which the actual cost of the Betterment (as determined in Paragraph 9(b)) plus the actual cost of Owner's share of the Adjustment (based on the allocation set forth in Exhibit A) exceeds the estimated cost advanced by the Owner, or (ii) the DB Contractor shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable.

☐ The Agreed Sum is the agreed and final amount due for the Adjustment, including any Betterment, under this Amendment. Accordingly, no adjustment (either up or down) of such amount shall be made based on actual costs.

8. **Invoices.** On invoices prepared by either the Owner or the DB Contractor, all costs developed using the "Actual Cost" method described in Section 6(b)(1) shall be itemized in a format

allowing for comparisons to the approved estimates, including listing each of the services performed, the amount of time spent and the date on which the service was performed. The original and three (3) copies of each invoice, together with (1) such supporting information to substantiate all invoices as reasonably requested, and (2) such waivers and releases of liens as the other party may reasonably require, shall be submitted to the other party at the address for notices stated in Paragraph 22, unless otherwise directed pursuant to Paragraph 22. The Owner and the DB Contractor shall make commercially reasonable efforts to submit final invoices not later than one hundred twenty (120) days after completion of work. The Owner and the DB Contractor hereby acknowledge and agree that any costs not submitted to the other party within eighteen months following completion of all Adjustment work to be performed by the parties pursuant to this Agreement shall be deemed to have been abandoned and waived.

9. **Betterment and Salvage**

(a) For purposes of this Agreement, the term "Betterment" means any upgrading of an Owner Utility being adjusted that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Owner, including but not limited to an increase in the capacity, capability, efficiency or function of the adjusted Utility over that provided by the existing Utility facility or an expansion of the existing Utility facility; provided, however, that the following are not considered Betterments:

(i) any upgrading which is required for accommodation of the Project;

(ii) replacement devices or materials that are of equivalent standards although not identical;

(iii) replacement of devices or materials no longer regularly manufactured with the next highest grade or size;

(iv) any upgrading required by applicable laws, regulations or ordinances;

(v) replacement devices or materials which are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); or

(vi) any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(d).

[Include the following for fiber optic Owner Utilities only:] Extension of an Adjustment to the nearest splice boxes shall not be considered a Betterment if required by the Owner in order to maintain its written telephony standards.

Any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4) shall be deemed to be of direct benefit to the Project.

(b) It is understood and agreed that the DB Contractor shall not pay for any Betterments and that the Owner shall be solely responsible therefor. No Betterment may be performed hereunder which is incompatible with the Project or the Ultimate Configuration or which cannot be performed within the other constraints of applicable law, any applicable governmental approvals, including without limitation the scheduling requirements thereunder. Accordingly, the parties agree as follows *[check one box that applies, and complete if appropriate]*:

☐ The Adjustment of the Owner Utilities pursuant to the Plans does not include any Betterment.

☐ The Adjustment of the Owner Utilities pursuant to the Plans includes Betterment to the Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*:___. The DB Contractor has provided to the Owner comparative estimates for (i) all work to be performed by the DB Contractor pursuant to this Agreement, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Owner. The estimated cost of the DB Contractor's work hereunder which is attributable to Betterment is $___, calculated by subtracting (ii) from (i). The percentage of the total cost of the DB Contractor's work hereunder which is attributable to Betterment is ___%, calculated by subtracting (ii) from (i), which remainder is divided by (i).

(c) If Paragraph 9(b) identifies Betterment, the Owner shall advance to the DB Contractor, at least **fourteen (14) business days** prior to the date scheduled for commencement of construction for Adjustment of the Owner Utilities, the estimated cost attributable to Betterment as set forth in Paragraph 9(b). Should the Owner fail to advance payment to the DB Contractor fourteen (14) business days prior to commencement of the Adjustment construction, the DB Contractor shall have the option of commencing and completing (without delay) the Adjustment work without installation of the applicable Betterment. *[If Paragraph 9(b) identifies Betterment, check the one appropriate provision]*:

☐ The estimated cost stated in Paragraph 9(b) is the agreed and final amount due for Betterment hereunder, and accordingly no adjustment (either up or down) of such amount shall be made based on actual costs.

☐ The Owner is responsible for the DB Contractor's actual cost for the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Agreement, (i) the Owner shall pay to the DB Contractor the amount, if any, by which the actual cost of the Betterment (determined as provided below in this paragraph) exceeds the estimated cost advanced by the Owner, or (ii) the DB Contractor shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable. Any additional payment by the Owner shall be due within **sixty (60) calendar days** after the Owner's receipt of the DB Contractor's invoice therefor, together with supporting documentation; any refund shall be due within **sixty (60) calendar days** after completion of the Adjustment work hereunder. The actual cost of Betterment incurred by the DB Contractor shall be calculated by multiplying (i) the Betterment percentage stated in Paragraph 9(b), by (ii) the actual cost of all work performed by the DB Contractor pursuant to this Agreement (including work attributable to the Betterment), as invoiced by the DB Contractor to the Owner.

(d) If Paragraph 9(b) identifies Betterment, the amount allocable to Betterment in Owner's indirect costs shall be determined by applying the percentage of the Betterment calculated in Paragraph 9(b) to the Owner's indirect costs. The Owner's invoice to the DB Contractor for the DB Contractor's share of the Owner's indirect costs shall credit the DB Contractor with any Betterment amount determined pursuant to this Paragraph 9(d).

(e) For any Adjustment from which the Owner recovers any materials and/or parts and retains or sells the same, after application of any applicable Betterment credit, the Owner's invoice to the DB Contractor for its costs shall credit the DB Contractor with the salvage value for such materials and/or parts..

(f) The determinations and calculations of Betterment described in this Paragraph 9 shall exclude right of way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 15.

10. **Management of the Adjustment Work.** The DB Contractor will provide project management during the Adjustment of the Owner Utilities.

11. **Utility Investigations.** At the DB Contractor's request, the Owner shall assist the DB Contractor in locating any Utilities (including appurtenances) which are owned and/or operated by Owner and may be impacted by the Project. Without limiting the generality of the foregoing, in order to help assure that neither the adjusted Owner Utilities nor existing, unadjusted utilities owned or operated by the Owner are damaged during construction of the Project, the Owner shall mark in the field the location of all such utilities horizontally on the ground in advance of Project construction in the immediate area of such utilities.

12. **Inspection and Acceptance by the Owner**.

(a) Throughout the Adjustment construction hereunder, the Owner shall provide adequate inspectors for such construction. The work shall be inspected by the Owner's inspector(s) at least once each working day, and more often if such inspections are deemed necessary by Owner. Further, upon request by the DB Contractor or its contractors, the Owner shall furnish an inspector at any reasonable time in which construction is underway pursuant to this Agreement, including occasions when construction is underway in excess of the usual forty (40) hour work week and at such other times as reasonably required. The Owner agrees to promptly notify the DB Contractor of any concerns resulting from any such inspection.

(b) The Owner shall perform a final inspection of the adjusted Owner Utilities, including conducting any tests as are necessary or appropriate, within **five (5) business days** after completion of construction hereunder. The Owner shall accept such construction if it is consistent with the performance standards described in Paragraph 3, by giving written notice of such acceptance to the DB Contractor within said **five (5) day** period. If the Owner does not accept the construction, then the Owner shall, not later than the expiration of said **five (5) day** period, notify the DB Contractor in writing of its grounds for non-acceptance and suggestions for correcting the problem, and if the suggested corrections are justified, the DB Contractor will comply. The Owner shall re-inspect any revised construction (and re-test if appropriate) and give notice of acceptance, not later than **five (5) business days** after completion of corrective work. The Owner's failure to inspect and/or to give any required notice of acceptance or non-acceptance within the specified time period shall be deemed acceptance.

(c) From and after the Owner's acceptance (or deemed acceptance) of an adjusted Owner Utility, the Owner agrees to accept ownership of, and full operation and maintenance responsibility for, such Owner Utility.

13. **Design Changes.** The DB Contractor will be responsible for additional Adjustment design and construction costs necessitated by design changes to the Project, upon the terms specified herein.

14. **Field Modifications.** The DB Contractor shall provide the Owner with documentation of any field modifications, including Utility Adjustment Field Modifications as well as minor changes described in Paragraph 16(b), occurring in the Adjustment of the Owner Utilities.

15. **Real Property Interests.**

(a) The Owner has provided, or upon execution of this Agreement shall promptly provide to the DB Contractor, documentation acceptable to TxDOT indicating any right, title or interest in real property claimed by the Owner with respect to the Owner Utilities in their existing location(s). Such claims are subject to TxDOT's approval as part of its review of the DB Contractor Utility Assembly as described in Paragraph 2. Claims approved by TxDOT as to rights or interests are referred to herein as "Existing Interests".

(b) If acquisition of any new easement or other interest in real property ("New Interest") is necessary for the Adjustment of any Owner Utilities, then the Owner shall be responsible for undertaking such acquisition. The Owner shall implement each acquisition hereunder expeditiously so that related Adjustment construction can proceed in accordance with the DB Contractor's Project schedules. The DB Contractor shall be responsible for its share (as specified in Paragraph 4) of the actual and reasonable acquisition costs of any such New Interest (including without limitation the Owner's reasonable overhead charges and reasonable legal costs as well as compensation paid to the landowner), excluding any costs attributable to Betterment as described in Paragraph 15(c), and subject to the provisions of Paragraph 15(e); provided, however, that all acquisition costs shall be subject to the DB Contractor's prior written approval. Eligible acquisition costs shall be segregated from other costs on the Owner's estimates and invoices. Any such New Interest shall have a written valuation and shall be acquired in accordance with applicable law.

(c) The DB Contractor shall pay its share only for a replacement in kind of an Existing Interest (e.g., in width and type), unless a New Interest exceeding such standard (i) is required in order to accommodate the Project or by compliance with applicable law, or (ii) is called for by the DB Contractor in the interest of overall Project economy. Any New Interest which is not the DB Contractor's responsibility pursuant to the preceding sentence shall be considered a Betterment to the extent that it upgrades the Existing Interest which it replaces, or in its entirety if the related Owner Utility was not installed pursuant to an Existing Interest. Betterment costs shall be solely the Owner's responsibility.

(d) For each Existing Interest located within the final Project right of way, upon completion of the related Adjustment work and its acceptance by the Owner, the Owner agrees to execute a quitclaim deed or other appropriate documentation relinquishing such Existing Interest to TxDOT, unless the affected Owner Utility is remaining in its original location or is being reinstalled in a new location within the area subject to such Existing Interest. All quitclaim deeds or other relinquishment documents shall be subject to TxDOT's approval as part of its review of the Utility Assembly as described in Paragraph 2. For each such Existing Interest relinquished by the Owner, the DB Contractor shall do one of the following to compensate the Owner for such Existing Interest, as appropriate:

(e) (i) If the Owner acquires a New Interest for the affected Owner Utility, the DB Contractor shall reimburse the Owner for the DB Contractor's share of the Owner's actual and reasonable acquisition costs in accordance with Paragraph 15(b), subject to Paragraph 15(c); or

(ii) If the Owner does not acquire a New Interest for the affected Owner Utility, the DB Contractor shall compensate the Owner for the DB Contractor's share of the fair market value of such relinquished Existing Interest, as mutually agreed between the Owner and the DB Contractor and supported by a written valuation.

The compensation provided to the Owner pursuant to either subparagraph (i) or subparagraph (ii) above shall constitute complete compensation to the Owner for the relinquished Existing Interest and any New Interest, and no further compensation shall be due to the Owner from the DB Contractor or TxDOT on account of such Existing Interest or New Interest(s).

(f) The Owner shall execute a Utility Joint Use Acknowledgment (TxDOT-U-80A) for each Adjustment where required pursuant to TxDOT policies. All Utility Joint Use Acknowledgments shall be subject to TxDOT approval as part of its review of the Utility Assembly as described in Paragraph 2.

16. **Amendments and Modifications.** This Agreement may be amended or modified only by a written instrument executed by the parties hereto, in accordance with Paragraph 16(a) or Paragraph 16(b) below.

(a) Except as otherwise provided in Paragraph 16(b), any amendment or modification to this Agreement or the Plans attached hereto shall be implemented by a Utility Adjustment Agreement Amendment ("UAAA") in the form of Exhibit B hereto (TxDOT-DBA-U-35A-DM). The UAAA form can be used for a new scope of work with concurrence of the DB Contractor and TxDOT as long as the design and construction responsibilities have not changed. Each UAAA is subject to the review and approval of TxDOT, prior to its becoming effective for any purpose and prior to any work being initiated thereunder. The Owner agrees to keep and track costs for each UAAA separately from other work being performed.

(b) For purposes of this Paragraph 16(b), "Utility Adjustment Field Modification" shall mean any horizontal or vertical design change from the Plans included in a Utility Assembly previously approved by TxDOT, due either to design of the Project or to conditions not accurately reflected in the approved Utility Assembly (e.g., shifting the alignment of an 8 in. water line to miss a modified or new roadway drainage structure). A Utility Adjustment Field Modification agreed upon by the DB Contractor and Owner does not require a UAAA, provided that the modified Plans have been submitted to TxDOT for its review and comment. A minor change (e.g., an additional water valve, an added utility marker at a ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification and will not require a UAAA, but shall be shown in the documentation required pursuant to Paragraph 14.

(c) This Agreement does not alter and shall not be construed in any way to alter the obligations, responsibilities, benefits, rights, remedies, and claims between the DB Contractor and TxDOT to design and construct the Project, including the Adjustment.

17. **Entire Agreement.** This Agreement embodies the entire agreement between the parties and there are no oral or written agreements between the parties or any representations made which are not expressly set forth herein.

18. **Assignment; Binding Effect; TxDOT as Third Party Beneficiary.** Neither the Owner or the DB Contractor may assign any of its rights or delegate any of its duties under this Agreement

without the prior written consent of the other party and of TxDOT, which consent may not be unreasonably withheld or delayed; provided, however, that the DB Contractor may assign any of its rights and/or delegate any of its duties to TxDOT or to any other entity engaged by TxDOT to fulfill the DB Contractor's obligations, at any time without the prior consent of the Owner.

This Agreement shall bind the Owner, the DB Contractor and their successors and permitted assigns, and nothing in this Agreement nor in any approval subsequently provided by any party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other person, firm, corporation or other entity, including, without limitation, any contractor or other party retained for the Adjustment work or the public in general; provided, however, that the Owner and the DB Contractor agree that although TxDOT is not a party to this Agreement, TxDOT is intended to be a third-party beneficiary to this Agreement.

19. **Breach by the Parties.**

(a) If the Owner claims that the DB Contractor has breached any of its obligations under this Agreement, the Owner will notify the DB Contractor and TxDOT in writing of such breach, and the DB Contractor shall have 30 days following receipt of such notice in which to cure such breach, before the Owner may invoke any remedies which may be available to it as a result of such breach; provided, however, that both during and after such period TxDOT shall have the right, but not the obligation, to cure any breach by the DB Contractor. Without limiting the generality of the foregoing, (a) TxDOT shall have no liability to the Owner for any act or omission committed by the DB Contractor in connection with this Agreement, including without limitation any claimed defect in any design or construction work supplied by the DB Contractor or by its contractors, and (b) in no event shall TxDOT be responsible for any repairs or maintenance to the Owner Utilities Adjusted pursuant to this Agreement.

(b) If the DB Contractor claims that the Owner has breached any of its obligations under this Agreement, the DB Contractor will notify the Owner and TxDOT in writing of such breach, and the Owner shall have 30 days following receipt of such notice in which to cure such breach, before the DB Contractor may invoke any remedies which may be available to it as a result of such breach.

20. **Traffic Control.** The DB Contractor shall provide traffic control or shall reimburse the Owner for the DB Contractor's share (if any, as specified in Paragraph 4) of the costs for traffic control made necessary by the Adjustment work performed by either the DB Contractor or the Owner pursuant to this Agreement, in compliance with the requirements of the Texas Manual on Uniform Traffic Control Devices. Betterment percentages calculated in Paragraph 9 shall also apply to traffic control costs.

21. **Notices.** Except as otherwise expressly provided in this Agreement, all notices or communications pursuant to this Agreement shall be sent or delivered to the following:

The Owner:

Phone:
Fax:

The DB Contractor:

Phone:
Fax:

A party sending a notice of default of this Agreement to another party shall also send a copy of such notice to TxDOT and the DBA Utility Manager at the following addresses:

TxDOT: TxDOT Department of Transportation
Attention: Donald C. Toner, Jr., SR/WA
125 E. 11th Street
Austin, Texas 78701-2483
Phone: (512) 936-0980

DBA Utility Manager:

Any notice or demand required herein shall be given (a) personally, (b) by certified or registered mail, postage prepaid, return receipt requested, or (c) by reliable messenger or overnight courier to the appropriate address set forth above. Any notice served personally shall be deemed delivered upon receipt, and any notice served by certified or registered mail or by reliable messenger or overnight courier shall be deemed delivered on the date of receipt as shown on the addressee's registry or certification of receipt or on the date receipt is refused as shown on the records or manifest of the U.S. Postal Service or such courier. Any party may from time to time designate any other address for this purpose by written notice to all other parties; TxDOT may designate another address by written notice to all parties.

22. **Approvals.** Any acceptance, approval, or any other like action (collectively "Approval") required or permitted to be given by either the DB Contractor, , the Owner or TxDOT pursuant to this Agreement:

(a) Must be in writing to be effective (except if deemed granted pursuant hereto),

(b) Shall not be unreasonably withheld or delayed; and if Approval is withheld, such withholding shall be in writing and shall state with specificity the reason for withholding such Approval, and every effort shall be made to identify with as much detail as possible what changes are required for Approval, and

(c) Except for approvals by TxDOT, and except as may be specifically provided otherwise in this Agreement, shall be deemed granted if no response is provided to the party requesting an Approval within the time period prescribed by this Agreement (or if no time period is prescribed, then fourteen (14) calendar days), commencing upon actual receipt by the party from which an Approval is requested or required, of a request for Approval from the requesting party. All requests for Approval shall be sent out by the requesting party to the other party in accordance with Paragraph 21.

23. **Time**.

(a) Time is of the essence in the performance of this Agreement.

(b) All references to "days" herein shall be construed to refer to calendar days, unless otherwise stated.

(c) No party shall be liable to another party for any delay in performance under this Agreement from any cause beyond its control and without its fault or negligence ("Force Majeure"), such as acts of God, acts of civil or military authority, fire, earthquake, strike, unusually severe weather, floods or power blackouts.

24. **Continuing Performance.** In the event of a dispute, the Owner and the DB Contractor agree to continue their respective performance hereunder to the extent feasible in light of the dispute, including paying billings, and such continuation of efforts and payment of billings shall not be construed as a waiver of any legal right.

25. **Equitable Relief.** The DB Contractor and the Owner acknowledge and agree that delays in Adjustment of the Owner Utilities will impact the public convenience, safety and welfare, and that (without limiting the parties' remedies hereunder) monetary damages would be inadequate to compensate for delays in the construction of the Project. Consequently, the parties hereto (and TxDOT as well, as a third party beneficiary) shall be entitled to specific performance or other equitable relief in the event of any breach of this Agreement which threatens to delay construction of the Project; provided, however, that the fact that specific performance or other equitable relief may be granted shall not prejudice any claims for payment or otherwise related to performance of the Adjustment work hereunder.

26. **Authority.** The Owner and the DB Contractor each represent and warrant to the other party that the warranting party possesses the legal authority to enter into this Agreement and that it has taken all actions necessary to exercise that authority and to lawfully authorize its undersigned signatory to execute this Agreement and to bind such party to its terms. Each person executing this Agreement on behalf of a party warrants that he or she is duly authorized to enter into this Agreement on behalf of such party and to bind it to the terms hereof.

27. **Cooperation.** The parties acknowledge that the timely completion of the Project will be influenced by the ability of the Owner (and its contractors) and the DB Contractor to coordinate their activities, communicate with each other, and respond promptly to reasonable requests. Subject to the terms and conditions of this Agreement, the Owner and the DB Contractor agree to take all steps reasonably required to coordinate their respective duties hereunder in a manner consistent with the DB Contractor's current and future construction schedules for the Project.

28. **Termination.** If the Project is canceled or modified so as to eliminate the necessity of the Adjustment work described herein, then the DB Contractor shall notify the Owner in writing and the DB Contractor reserves the right to thereupon terminate this Agreement. Upon such termination, the parties shall negotiate in good faith an amendment that shall provide mutually acceptable terms and conditions for handling the respective rights and liabilities of the parties relating to such termination.

29. **Nondiscrimination**. Each party hereto agrees, with respect to the work performed by such party pursuant to this Agreement, that such party shall not discriminate on the grounds of race, color, sex, national origin or disability in the selection and/or retention of contractors and consultants, including procurement of materials and leases of equipment.

30. **Applicable Law, Jurisdiction and Venue**. This Agreement shall be governed by the laws of the State of Texas, without regard to the conflict of laws principles thereof. Venue for any action brought to enforce this Agreement or relating to the relationship between any of the parties shall

be the District Court of Travis County, Texas or the United States District Court for the Western District of Texas (Austin).

31. **Waiver of Consequential Damages.** No party hereto shall be liable to any other party to this Agreement, whether in contract, tort, equity, or otherwise (including negligence, warranty, indemnity, strict liability, or otherwise,) for any punitive, exemplary, special, indirect, incidental, or consequential damages, including, without limitation, loss of profits or revenues, loss of use, claims of customers, or loss of business opportunity.

32. **Captions**. The captions and headings of the various paragraphs of this Agreement are for convenience and identification only, and shall not be deemed to limit or define the content of their respective paragraphs.

33. **Counterparts.** This Agreement may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

34. **Effective Date.** This Agreement shall become effective upon the later of (a) the date of signing by the last party (either the Owner or DB Contractor) signing this Agreement, and (b) the date of TxDOT's approval as indicated by the signature of TxDOT's representative, below.

APPROVED BY:
TEXAS DEPARTMENT OF TRANSPORTATION

By: _____
Authorized Signature

Printed
Name: Donald C. Toner, Jr., SR/WA

Strategic Projects Division

Date: _____

OWNER

[Print Owner Name]

By: _____
Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

DB CONTRACTOR

By: _____
Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT A

PLANS, SPECIFICATIONS, COST ESTIMATES AND ALLOCATION

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT B

UTILITY ADJUSTMENT AGREEMENT AMENDMENT
(TxDOT-DBA-U-35A-DM)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

PROJECT UTILITY ADJUSTMENT AGREEMENT
(Owner Managed)
Agreement No.: -U-

THIS AGREEMENT, by and between _____, hereinafter identified as the "**DB Contractor**",, and , hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE OF TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", is authorized to design, construct, operate, maintain, and improve projects as part of the state highway system throughout the State of Texas, all in conformance with the provisions of Chapters 201, 203, 222, 223, and 224 Texas Transportation Code, as amended; and

WHEREAS, TxDOT proposes to construct a project identified as the _____ Project (the "Project"); and

WHEREAS, pursuant to that certain Design-Build Agreement (the "DBA") by and between TxDOT and the DB Contractor with respect to the Project, the DB Contractor has undertaken the obligation to design, construct, finance, operate and maintain the Project and adhere to all requirements in the DBA; and

WHEREAS, the DB Contractor's duties pursuant to the DBA include causing the relocation, removal, or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"), subject to the provisions herein; and

WHEREAS, the Project may receive Federal funding, financing and/or credit assistance; and

WHEREAS, the DB Contractor has notified the Owner that certain of its facilities and appurtenances (the "Owner Utilities") are in locational conflict with the Project (and/or the "Ultimate Configuration" of the Project), and the Owner has decided to undertake the Adjustment of the Owner Utilities and agrees that the "Project" will be constructed in accordance with §203.092, Texas Transportation Code, as amended, and 23 CFR 645A (Utility Relocations, Adjustments and Reimbursement); and

WHEREAS, the Owner Utilities and the proposed Adjustment of the Owner Utilities are described as follows *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00")]:*
___; and

WHEREAS, the Owner recognizes that time is of the essence in completing the work contemplated herein; and

WHEREAS, the DB Contractor and the Owner desire to implement the Adjustment of the Owner Utilities by entering into this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of these premises and of the mutual covenants and agreements of the parties hereto and other good and valuable consideration, the receipt and sufficiency of which being hereby acknowledged, the DB Contractor and the Owner agree as follows:

1. **Preparation of Plans.** *[Check one box that applies:]*

☐ The DB Contractor has hired engineering firm(s) acceptable to the Owner to perform all engineering services needed for the preparation of plans, required specifications, and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The DB Contractor represents and warrants that the Plans conform to the most recent Utility Accommodation Rules issued by the Texas Department of Transportation ("TxDOT"), set forth in 43 Tex. Admin. Code, Part 1, Chapter 21, Subchapter C, *et seq*. (the "UAR"). By its execution of this Agreement or by the signing of the Plans, Owner hereby approves and confirms that the Plans are in compliance with the "standards" described in Paragraph 3(d).

☐ The Owner has provided plans, required specifications and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Owner represents and warrants that the Plans conform to the UAR. By its execution of this Agreement theDB Contractor hereby approves the Plans. The Owner also has provided to the DB Contractor a utility plan view map illustrating the location of existing and proposed utility facilities on the DB Contractor's right of way map of the Project. With regard to its preparation of the Plans, Owner represents as follows *[check one box that applies]*:

☐ The Owner's employees were utilized to prepare the Plans, and the charges therefore do not exceed the Owner's typical costs for such work.

☐ The Owner utilized consulting engineers to prepare the Plans, and the fees for such work are not based upon a percentage of construction costs. Further, such fees encompass only the work necessary to prepare the Plans for Adjustment of the Owner Utilities described herein, and do not include fees for work done on any other project. The fees of the consulting engineers are reasonable and are comparable to the fees typically charged by consulting engineers in the locale of the Project for comparable work for the Owner.

2. **Review by TxDOT.** The parties hereto acknowledge and agree as follows:

(a) Upon execution of this Agreement by the DB Contractor and the Owner, the DB Contractor will submit this Agreement, together with the attached Plans, to TxDOT for its review and approval as part of a package referred to as a "Utility Assembly". The parties agree to cooperate in good faith to modify this Agreement and/or the Plans, as necessary and mutually acceptable to all parties, to respond to any comments made by TxDOT thereon. Without limiting the generality of the foregoing, (i) the Owner agrees to respond (with comment and/or acceptance) to any modified Plans and/or Agreement prepared by the DB Contractor in response to TxDOT comments within **fourteen (14) business days** after receipt of such modifications; and (ii) if the Owner originally

prepared the Plans, the Owner agrees to modify the Plans in response to TxDOT comments and to submit such modified Plans to the DB Contractor for its comment and/or approval (and re-submittal to TxDOT for its comment and/or approval) within **fourteen (14) business days** after receipt of TxDOT's comments. The Owner's failure to timely respond to any modified Plans submitted by the DB Contractor pursuant to this paragraph shall be deemed the Owner's approval of same. If the Owner fails to timely prepare modified Plans which are its responsibility hereunder, then the DB Contractor shall have the right to modify the Plans for the Owner's approval as if the DB Contractor had originally prepared the Plans. The DB Contractor shall be responsible for providing Plans to and obtaining comments on and approval of the Plans from the DB Contractor. The process set forth in this paragraph will be repeated until the Owner, the DB Contractor and TxDOT have all approved this Agreement and the Plans.

(b) The parties hereto acknowledge and agree that TxDOT's review, comments, and/or approval of a Utility Assembly or any component thereof shall constitute TxDOT's approval of the location and manner in which a Utility Assembly will be installed, adjusted, or relocated within the state highway right of way, subject to the DB Contractor's and Owner's satisfactory performance of the Adjustment work in accordance with the approved Plans. TxDOT has no duty to review Owner facilities or components for their quality or adequacy to provide the intended utility service.

3. **Design and Construction Standards.**

(a) All design and construction performed for the Adjustment work which is the subject of this Agreement shall comply with and conform to the following:

(1) All applicable local and state laws, regulations, decrees, ordinances and policies, including the UAR, the Utility Manual issued by TxDOT (to the extent its requirements are mandatory for Utility Adjustments necessitated by the Project, communicated to the Owner by the DB Contractor or TxDOT), the requirements of the DBA, and the policies of TxDOT;

(2) All Federal laws, regulations, decrees, ordinances and policies applicable to projects receiving Federal funding, financing and/or credit assistance, including without limitation 23 CFR 645 Subparts A and B; and the Buy America provisions of 23 U.S.C § 313 and 23 CFR 635.410. Utility shall supply, upon request by the Developer or TxDOT, proof of compliance with the aforementioned laws, rules and regulations prior to the commencement of construction.

(3) The terms of all governmental permits or other approvals, as well as any private approvals of third parties necessary for such work; and

(4) The standard specifications, standards of practice, and construction methods (collectively, "standards") which the Owner customarily applies to facilities comparable to the Owner Utilities that are constructed by the Owner or for the Owner by its contractors at the Owner's expense, which standards are current at the time this Agreement is signed by the Owner, and which the Owner has submitted to the DB Contractor in writing.

(5) Owner agrees that all service meters must be placed outside of the State ROW.

(b) Such design and construction also shall be consistent and compatible with (i) the DB Contractor's current design and construction of the Project, (ii) the "Ultimate Configuration" for the Project, and (iii) any other utilities being installed in the same vicinity. The Owner acknowledges receipt from the DB Contractor of Project plans and Ultimate Configuration documents as necessary to comply with the foregoing. In case of any inconsistency among any of the standards referenced in this Agreement, the most stringent standard shall apply.

(c) The plans, specifications, and cost estimates contained in Exhibit A shall identify and detail all utility facilities that the Owner intends to abandon in place rather than remove, including material type, quantity, size, age, and condition. No facilities containing hazardous or contaminated materials may be abandoned, but shall be specifically identified and removed in accordance with the requirements of subparagraph (a). It is understood and agreed that the DB Contractor shall not pay for the assessment and remediation or other corrective action relating to soil and ground water contamination caused by the utility facility prior to the removal.

4. **Construction by the Owner; Scheduling.**

(a) The Owner hereby agrees to perform the construction necessary to adjust the Owner Utilities. All construction work hereunder shall be performed in a good and workmanlike manner, and in accordance with the Plans (except as modified pursuant to Paragraph 17). The Owner agrees that during the Adjustment of the Owner Utilities, the Owner and its contractors will coordinate their work with the DB Contractor so as not to interfere with the performance of work on the Project by the DB Contractor or by any other party. "Interfere" means any action or inaction that interrupts, interferes, delays or damages Project work.

(b) The Owner may utilize its own employees or may retain such contractor or contractors as are necessary to adjust the Owner Utilities, through the procedures set forth in Form TxDOT-U-48 "Statement Covering Contract Work" attached hereto as Exhibit C. If the Owner utilizes its own employees for the Construction work portion of the Adjustment of Owner Utilities, a Form TxDOT-U-48 is not required. If the Adjustment of the Owner Utilities is undertaken by the Owner's contractor under a competitive bidding process, all bidding and contracting shall be conducted in accordance with all federal and state laws and regulations applicable to the Owner and the Project.

(c) The Owner shall obtain all permits necessary for the construction to be performed by the Owner hereunder, and the DB Contractor shall cooperate in that process as needed. The Owner shall submit a traffic control plan to the DB Contractor as required for Adjustment work to be performed on existing road rights of way.

(d) The Owner shall commence its construction for Adjustment of each Owner Utility hereunder promptly after (i) receiving written notice to proceed therewith from the DB Contractor, and (ii) any Project right of way necessary for such Adjustment has been acquired either by DB Contractor (for adjusted facilities to be located within the Project right of way) or by the Owner (for adjusted facilities to be located outside of the Project right of way), or a right-of-entry permitting Owner's construction has been obtained from the landowner by the DB Contractor or by the Owner with the DB Contractor's prior approval. The Owner shall notify the DB Contractor at least 72 hours prior to commencing construction for the Adjustment of each Owner Utility hereunder.

(e) The Owner shall expeditiously stake the survey of the proposed locations of the Owner Utilities being adjusted, on the basis of the final approved Plans. The DB Contractor shall verify that the Owner's Utilities, whether moving to a new location or remaining in place, clear the planned construction of the Project as staked in the field as well as the Ultimate Configuration.

(f) The Owner shall complete all of the Utility reconstruction and relocation work, including final testing and acceptance thereof *[check one box that applies]*:

☐ on or before _____, 20___.

☐ a duration not to exceed _____ calendar days upon notice to proceed by the DB Contractor.

(g) The amount of reimbursement due to the Owner pursuant to this Agreement for the affected Adjustment(s) shall be reduced by ten percent (10%) for each 30-day period (and by a pro rata amount of said ten percent (10%) for any portion of a 30-day period) by which the final completion and acceptance date for the affected Adjustment(s) exceeds the applicable deadline. The provisions of this Paragraph 4(g) shall not limit any other remedy available to the DB Contractor at law or in equity as a result of the Owner's failure to meet any deadline hereunder.

The above reduction applies except to the extent due to (i) Force Majeure as described in Paragraph 24(c), (ii) any act or omission of the DB Contractor, if the Owner fails to meet any deadline established pursuant to Paragraph 4(f), or (iii) if the DB Contractor and/or TxDOT determine, in their sole discretion, that a delay in the relocation work is the result of circumstances beyond the control of the Owner or Owner's contractor and the DB Contractor will not reduce the reimbursement.

5. **Costs of the Work.**

(a) The Owner's costs for Adjustment of each Owner Utility shall be derived from (i) the accumulated total of costs incurred by the Owner for design and construction of such Adjustment, plus (ii) the Owner's other related costs to the extent permitted pursuant to Paragraph 5(c) (including without limitation the eligible engineering costs incurred by the Owner for design prior to execution of this Agreement), plus (iii) the Owner's right of way acquisition costs, if any, which are reimbursable pursuant to Paragraph 16.

(b) The Owner's costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐ (1) Actual costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body ("Actual Cost"); or

☐ (2) Actual costs accumulated in accordance with an established accounting procedure developed by the Owner and which the Owner uses in its regular operations ("Actual Cost"); or

☐ (3) The agreed sum of $ ___ ("Agreed Sum"), as supported by the analysis of estimated costs attached hereto as part of Exhibit A.

6. **Responsibility for Costs of Adjustment Work.**

The Agreed Sum or Actual Cost, as applicable, of all work to be performed pursuant to this Agreement shall be allocated between the DB Contractor and the Owner as identified in Exhibit A and in accordance with §203.092, Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A; provided, however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 10. All costs charged to the DB Contractor by the Owner shall be reasonable and shall be computed using rates and schedules not exceeding those applicable to similar work performed by or for the Owner at the Owner's expense. Payment of the costs allocated to the DB Contractor pursuant to this Agreement (if any) shall be full compensation to the Owner for all costs incurred by the Owner in Adjusting the Owner Utilities (including without limitation costs of relinquishing and/or acquiring right of way).

7. **Billing, Payment, Records and Audits: Actual Cost Method.** The following provisions apply if the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b):

(a) After (i) completion of all Adjustment work to be performed pursuant to this Agreement, (ii) the DB Contractor's final inspection of the Adjustment work by Owner hereunder (and resolution of any deficiencies found), and (iii) receipt of an invoice complying with the applicable requirements of Paragraph 9, the DB Contractor shall pay to the Owner an amount equal to ninety percent (90%) of the DB Contractor's share of the Owner's costs as shown in such final invoice (less amounts previously paid, and applicable credits). After completion of the DB Contractor's audit referenced in Paragraph 7(c) and the parties' mutual determination of any necessary adjustment to the final invoice resulting therefrom, the DB Contractor shall make any final payment due so that total payments will equal the total amount of the DB Contractor's share reflected on such final invoice (as adjusted, if applicable).

(b) When requested by the Owner and properly invoiced in accordance with Paragraph 9, the DB Contractor shall make intermediate payments to the Owner based upon the progress of the work completed at not more than monthly intervals, and such payments shall not exceed eighty percent (80%) of the DB Contractor's share of the Owner's eligible costs as shown in each such invoice (less applicable credits). Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(c) The Owner shall maintain complete and accurate cost records for all work performed pursuant to this Agreement,. The Owner shall maintain such records for four (4) years after receipt of final payment hereunder. The DB Contractor and their respective representatives shall be allowed to audit such records during the Owner's regular business hours. Unsupported charges will not be considered eligible for reimbursement. The parties shall mutually agree upon (and shall promptly implement by payment or refund, as applicable) any financial adjustment found necessary by the DB Contractor's audit. TxDOT, the Federal Highway Administration, and their respective representatives also shall be allowed to audit such records upon reasonable notice to the Owner, during the Owner's regular business hours.

8. **Billing and Payment: Agreed Sum Method.** If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the DB Contractor shall pay its share of the Agreed Sum to the Owner after (a) completion of all Adjustment work to be performed pursuant to this Agreement, (b) the DB Contractor's final inspection of the Adjustment work by Owner

hereunder (and resolution of any deficiencies found), and (c) receipt of an invoice complying with the applicable requirements of Paragraph 9.

9. **Invoices.** If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), then Owner shall list each of the services performed, the amount of time spent and the date on which the service was performed. The original and three (3) copies of each invoice shall be submitted to the DB Contractor at the address for notices stated in Paragraph 22, unless otherwise directed by the DB Contractor pursuant to Paragraph 22, together with (1) such supporting information to substantiate all invoices as reasonably requested by the DB Contractor, and (2) such waivers or releases of liens as the DB Contractor may reasonably require. The Owner shall make commercially reasonable efforts to submit final invoices not later than one hundred twenty (120) days after completion of work. Final invoices shall include any necessary quitclaim deeds pursuant to Paragraph 16, and all applicable record drawings accurately representing the Adjustment as installed. The Owner hereby acknowledges and agrees that any right it may have for reimbursement of any of its costs not submitted to the DB Contractor within eighteen months following completion of all Adjustment work to be performed by both parties pursuant to this Agreement shall be deemed to have been abandoned and waived. Invoices shall clearly delineate total costs, and those costs that are reimbursable pursuant to the terms of this Agreement.

10. **Betterment.**

(a) For purposes of this Agreement, the term "Betterment" means any upgrading of an Owner Utility being adjusted that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Owner, including but not limited to an increase in the capacity, capability, efficiency or function of the adjusted Utility over that provided by the existing Utility facility or an expansion of the existing Utility facility; provided, however, that the following are not considered Betterments:

(i) any upgrading which is required for accommodation of the Project;

(ii) replacement devices or materials that are of equivalent standards although not identical;

(iii) replacement of devices or materials no longer regularly manufactured with the next highest grade or size;

(iv) any upgrading required by applicable laws, regulations or ordinances;

(v) replacement devices or materials which are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); or

(vi) any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4).

[Include the following for fiber optic Owner Utilities only:] Extension of an Adjustment to the nearest splice boxes shall not be considered a Betterment if required by the Owner in order to maintain its written telephony standards.

Any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4) shall be deemed to be of direct benefit to the Project.

(b) It is understood and agreed that the DB Contractor will not pay for any Betterments and that the Owner shall not be entitled to payment therefor. No Betterment may be

performed in connection with the Adjustment of the Owner Utilities which is incompatible with the Project or the Ultimate Configuration or which cannot be performed within the other constraints of applicable law, any applicable governmental approvals, including without limitation the scheduling requirements thereunder. Accordingly, the parties agree as follows *[check the one box that applies, and complete if appropriate]*:

☐ (i) The Adjustment of the Owner Utilities pursuant to the Plans does not include any Betterment.

☐ The Adjustment of the Owner Utilities pursuant to the Plans includes Betterment to the Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: ___. The Owner has provided to the DB Contractor comparative estimates for (i) all costs for work to be performed by the Owner pursuant to this Agreement, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the DB Contractor. The estimated amount of the Owner's costs for work hereunder which is attributable to Betterment is $___, calculated by subtracting (ii) from (i). The percentage of the total cost of the Owner's work hereunder which is attributable to Betterment is ___%, calculated by subtracting (ii) from (i), which remainder shall be divided by (i).

(c) If Paragraph 10(b) identifies Betterment, then the following shall apply:

(i) If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the Agreed Sum stated in that Paragraph includes any credits due to the DB Contractor on account of the identified Betterment, and no further adjustment shall be made on account of same.

(ii) If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), the parties agree as follows *[If Paragraph 10(b) identifies Betterment and the Owner's costs are developed under procedure (1) or (2), check the one appropriate provision]*:

☐ The estimated cost stated in Paragraph 10(b) is the agreed and final amount due for Betterment hereunder. Accordingly, each intermediate invoice submitted pursuant to Paragraph 7(b) shall include a credit for an appropriate percentage of the agreed Betterment amount, proportionate to the percentage of completion reflected in such invoice. The final invoice submitted pursuant to Paragraph 7(a) shall reflect the full amount of the agreed Betterment credit. For each invoice described in this paragraph, the credit for Betterment shall be applied before calculating the DB Contractor's share (pursuant to Paragraph 6) of the cost of the Adjustment work. No other adjustment (either up or down) shall be made based on actual Betterment costs.

☐ The Owner is responsible for the actual cost of the identified Betterment, determined by multiplying (a) the Betterment percentage stated in Paragraph 10(b), by (b) the actual cost of all work performed by the Owner pursuant to this Agreement (including work attributable to the Betterment), as invoiced by the Owner to the DB Contractor. Accordingly, each invoice submitted pursuant to either Paragraph 7(a) or Paragraph 7(b) shall credit the DB Contractor with an amount calculated by multiplying (x) the Betterment

percentage stated in Paragraph 10(b), by (y) the amount billed on such invoice.

(d) The determinations and calculations of Betterment described in this Paragraph 10 shall exclude right of way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 16.

11. **Salvage.** For any Adjustment from which the Owner recovers any materials and/or parts and retains or sells the same, after application of any applicable Betterment credit, the DB Contractor is entitled to a credit for the salvage value of such materials and/or parts. If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), then the final invoice submitted pursuant to Paragraph 7(a) shall credit the DB Contractor with the full salvage value. If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the Agreed Sum includes any credit due to the DB Contractor on account of salvage.

12. **Utility Investigations.** At the DB Contractor's request, the Owner shall assist the DB Contractor in locating any Utilities (including appurtenances) which are owned and/or operated by Owner and may be impacted by the Project. Without limiting the generality of the foregoing, in order to help assure that neither the adjusted Owner Utilities nor existing, unadjusted utilities owned or operated by the Owner are damaged during construction of the Project, the Owner shall mark in the field the location of all such utilities horizontally on the ground in advance of Project construction in the immediate area of such utilities.

13. **Inspection and Ownership of Owner Utilities.**

(a) The DB Contractor shall have the right, at its own expense, to inspect the Adjustment work performed by the Owner or its contractors, during and upon completion of construction. All inspections of work shall be completed and any comment provided within **five (5) business days** after request for inspection is received.

(b) The Owner shall accept full responsibility for all future repairs and maintenance of said Owner Utilities. In no event shall the DB Contractor or TxDOT become responsible for making any repairs or maintenance, or for discharging the cost of same. The provisions of this Paragraph 13(b) shall not limit any rights which the Owner may have against the DB Contractor if either party respectively damages any Owner Utility as a result of its respective Project activities.

14. **Design Changes.** The DB Contractor will be responsible for additional Adjustment design and responsible for additional construction costs necessitated by design changes to the Project made after approval of the Plans, upon the terms specified herein.

15. **Field Modifications.** The Owner shall provide the DB Contractor with documentation of any field modifications, including Utility Adjustment Field Modifications as well as minor changes as described in Paragraph 17(b), occurring in the Adjustment of the Owner Utilities.

16. **Real Property Interests.**

(a) The Owner has provided, or upon execution of this Agreement shall promptly provide to the DB Contractor, documentation acceptable to TxDOT indicating any right, title or interest in real property claimed by the Owner with respect to the Owner Utilities in their existing location(s). Such claims are subject to TxDOT's approval as part of its review of the DB Contractor's Utility Assembly as described in Paragraph 2. Claims approved by TxDOT as to rights or interests are referred to herein as "Existing Interests".

(b) If acquisition of any new easement or other interest in real property ("New Interest") is necessary for the Adjustment of any Owner Utilities, then the Owner shall be responsible for undertaking such acquisition. The Owner shall implement each acquisition hereunder expeditiously so that related Adjustment construction can proceed in accordance with the DB Contractor's Project schedules. The DB Contractor shall be responsible for its share (if any, as specified in Paragraph 6) of the actual and reasonable acquisition costs of any such New Interest (including without limitation the Owner's reasonable overhead charges and reasonable legal costs as well as compensation paid to the landowner), excluding any costs attributable to Betterment as described in Paragraph 16(c), and subject to the provisions of Paragraph 16(e); provided, however, that all acquisition costs shall be subject to the DB Contractor's prior written approval. Eligible acquisition costs shall be segregated from other costs on the Owner's estimates and invoices. Any such New Interest shall have a written valuation and shall be acquired in accordance with applicable law.

(c) The DB Contractor shall pay its share only for a replacement in kind of an Existing Interest (e.g., in width and type), unless a New Interest exceeding such standard (i) is required in order to accommodate the Project or by compliance with applicable law, or (ii) is called for by the DB Contractor in the interest of overall Project economy. Any New Interest which is not the DB Contractor's cost responsibility pursuant to the preceding sentence shall be considered a Betterment to the extent that it upgrades the Existing Interest which it replaces, or in its entirety if the related Owner Utility was not installed pursuant to an Existing Interest. Betterment costs shall be solely the Owner's responsibility.

(d) For each Existing Interest located within the final Project right of way, upon completion of the related Adjustment work and its acceptance by the Owner, the Owner agrees to execute a quitclaim deed or other appropriate documentation relinquishing such Existing Interest to TxDOT, unless the affected Owner Utility is remaining in its original location or is being reinstalled in a new location within the area subject to such Existing Interest. All quitclaim deeds or other relinquishment documents shall be subject to TxDOT's approval as part of its review of the Utility Assembly as described in Paragraph 2. For each such Existing Interest relinquished by the Owner, the DB Contractor shall do one of the following to compensate the Owner for such Existing Interest, as appropriate:

(i) If the Owner acquires a New Interest for the affected Owner Utility, the DB Contractor shall reimburse the Owner for the DB Contractor's share of the Owner's actual and reasonable acquisition costs in accordance with Paragraph 16(b) and subject to Paragraph 16(c); or

(ii) If the Owner does not acquire a New Interest for the affected Owner Utility, the DB Contractor shall compensate the Owner for the DB Contractor's share of the fair market value of such relinquished Existing Interest, as mutually agreed between the Owner and the DB Contractor and supported by a written valuation.

The compensation, if any, provided to the Owner pursuant to either subparagraph (i) or subparagraph (ii) above shall constitute complete compensation to the Owner for the relinquished Existing Interest and any New Interest, and no further compensation shall be due to the Owner from the DB Contractor or TxDOT on account of such Existing Interest or New Interest(s).

(e) The Owner shall execute a Utility Joint Use Acknowledgment (TxDOT-U-80A) for each Adjustment where required pursuant to TxDOT policies. All Utility Joint Use

Acknowledgments shall be subject to TxDOT approval as part of its review of the Utility Assembly as described in Paragraph 2.

17. **Amendments and Modifications.** This Agreement may be amended or modified only by a written instrument executed by the parties hereto, in accordance with Paragraph 17(a) or Paragraph 17(b) below.

(a) Except as otherwise provided in Paragraph 17(b), any amendment or modification to this Agreement or the Plans attached hereto shall be implemented by a Utility Adjustment Agreement Amendment ("UAAA") in the form of Exhibit B hereto (TxDOT-DBA-U-35A-OM). The UAAA form can be used for a new scope of work with concurrence of the DB Contractor and TxDOT as long as the Design and Construction responsibilities have not changed. Each UAAA is subject to the review and approval of TxDOT, prior to its becoming effective for any purpose and prior to any work being initiated thereunder. The Owner agrees to keep and track costs for each UAAA separately from other work being performed.

(b) For purposes of this Paragraph 17(b), "Utility Adjustment Field Modification" shall mean any horizontal or vertical design change from the Plans included in a Utility Assembly previously approved by TxDOT, due either to design of the Project or to conditions not accurately reflected in the approved Utility Assembly (e.g., shifting the alignment of an 8 in. water line to miss a modified or new roadway drainage structure). A Utility Adjustment Field Modification agreed upon by the DB Contractor and the Owner does not require a UAAA, provided that the modified Plans have been submitted to TxDOT for its review and comment. A minor change (e.g., an additional water valve, an added Utility marker at a ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification and will not require a UAAA, but shall be shown in the documentation required pursuant to Paragraph 15.

18. **Entire Agreement.** This Agreement embodies the entire agreement between the parties and there are no oral or written agreements between the parties or any representations made which are not expressly set forth herein.

19. **Assignment; Binding Effect; TxDOT as Third Party Beneficiary.** The Owner and the DB Contractor may not assign any of its rights or delegate any of its duties under this Agreement without the prior written consent of the other parties and of TxDOT, which consent may not be unreasonably withheld or delayed; provided, however, that the DB Contractor may assign any of its rights and/or delegate any of its duties to TxDOT or to any other entity with which TxDOT contracts to fulfill the DB Contractor's obligations at any time without the prior consent of the Owner.

This Agreement shall bind the Owner, the DB Contractor and their successors and permitted assigns, and nothing in this Agreement nor in any approval subsequently provided by any party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other person, firm, corporation or other entity, including, without limitation, any contractor or other party retained for the Adjustment work or the public in general; provided, however, that the Owner and the DB Contractor agree that although TxDOT is not a party to this Agreement, TxDOT is intended to be a third-party beneficiary to this Agreement.

20. **Breach by the Parties.**

(a) If the Owner claims that the DB Contractor has breached any of its obligations under this Agreement, the Owner will notify the DB Contractor and TxDOT in writing of such breach, and the DB Contractor shall have 30 days following receipt of such notice in

which to cure such breach, before the Owner may invoke any remedies which may be available to it as a result of such breach; provided, however, that both during and after such period TxDOT shall have the right, but not the obligation, to cure any breach by the DB Contractor. Without limiting the generality of the foregoing, (a) TxDOT shall have no liability to the Owner for any act or omission committed by the DB Contractor in connection with this Agreement, and (b) in no event shall TxDOT be responsible for any repairs or maintenance to the Owner Utilities adjusted pursuant to this Agreement.

(b) If the DB Contractor claims that the Owner has breached any of its obligations under this Agreement, the DB Contractor will notify the Owner and TxDOT in writing of such breach, and the Owner shall have 30 days following receipt of such notice in which to cure such breach, before the DB Contractor or the DB Contractor may invoke any remedies which may be available to it as a result of such breach.

21. **Traffic Control.** The DB Contractor shall provide traffic control or shall reimburse the Owner for the DB Contractor's share (if any, as specified in Paragraph 6) of the costs for traffic control made necessary by the Adjustment work performed by either the DB Contractor or the Owner pursuant to this Agreement, in compliance with the requirements of the Texas Manual on Uniform Traffic Control Devices. Betterment percentages calculated in Paragraph 10 shall also apply to the traffic control costs.

22. **Notices.** Except as otherwise expressly provided in this Agreement, all notices or communications pursuant to this Agreement shall be sent or delivered to the following:

The Owner:

Phone:
Fax:

The DB Contractor:

Phone:
Fax:

A party sending a notice of default of this Agreement to another party shall also send a copy of such notice to TxDOT and to the DBA Utility Manager at the following addresses:

TxDOT: TxDOT Department of Transportation
Attention: Donald C. Toner, Jr., SR/WA
125 E. 11th Street
Austin, Texas 78701-2483
Phone: (512) 936-0980

DBA Utility Manager

Any notice or demand required herein shall be given (a) personally, (b) by certified or registered mail, postage prepaid, return receipt requested, or (c) by reliable messenger or overnight courier to the appropriate address set forth above. Any notice served personally shall be deemed

delivered upon receipt and served by certified or registered mail or by reliable messenger or overnight courier shall be deemed delivered on the date of receipt as shown on the addressee's registry or certification of receipt or on the date receipt is refused as shown on the records or manifest of the U.S. Postal Service or such courier. Any party may from time to time designate any other address for this purpose by written notice to all other parties; TxDOT may designate another address by written notice to all parties.

23. **Approvals.** Any acceptance, approval, or any other like action (collectively "Approval") required or permitted to be given by either the DB Contractor or the Owner pursuant to this Agreement:

(a) Must be in writing to be effective (except if deemed granted pursuant hereto),

(b) Shall not be unreasonably withheld or delayed; and if Approval is withheld, such withholding shall be in writing and shall state with specificity the reason for withholding such Approval, and every effort shall be made to identify with as much detail as possible what changes are required for Approval, and

(c) Except for approvals by TxDOT, and except as may be specifically provided otherwise in this Agreement, shall be deemed granted if no response is provided to the party requesting an Approval within the time period prescribed by this Agreement (or if no time period is prescribed, then fourteen (14) calendar days), commencing upon actual receipt by the party from which an Approval is requested or required, of a request for Approval from the requesting party. All requests for Approval shall be sent out by the requesting party to the other party in accordance with Paragraph 22.

24. **Time; Force Majeure.**

(a) Time is of the essence in the performance of this Agreement.

(b) All references to “days” herein shall be construed to refer to calendar days, unless otherwise stated.

(c) No party shall be liable to another party for any delay in performance under this Agreement from any cause beyond its control and without its fault or negligence (“Force Majeure”), such as acts of God, acts of civil or military authority, fire, earthquake, strike, unusually severe weather, floods or power blackouts. If any such event of Force Majeure occurs, the Owner agrees, if requested by the DB Contractor, to accelerate its efforts hereunder if reasonably feasible in order to regain lost time, so long as the DB Contractor agrees to reimburse the Owner for the reasonable and actual costs of such efforts.

25. **Continuing Performance.** In the event of a dispute, the Owner and the DB Contractor agree to continue their respective performance hereunder to the extent feasible in light of the dispute, including paying billings, and such continuation of efforts and payment of billings shall not be construed as a waiver of any legal right.

26. **Equitable Relief**. The DB Contractor and the Owner acknowledge and agree that delays in Adjustment of the Owner Utilities will impact the public convenience, safety and welfare, and that (without limiting the parties’ remedies hereunder) monetary damages would be inadequate to compensate for delays in the construction of the Project. Consequently, the parties hereto (and TxDOT as well, as a third party beneficiary) shall be entitled to specific performance or other equitable relief in the event of any breach of this Agreement which threatens to delay construction of the Project; provided, however, that the fact that specific performance or other

equitable relief may be granted shall not prejudice any claims for payment or otherwise related to performance of the Adjustment work hereunder.

27. **Authority.** The Owner and the DB Contractor each represent and warrant to the other party that the warranting party possesses the legal authority to enter into this Agreement and that it has taken all actions necessary to exercise that authority and to lawfully authorize its undersigned signatory to execute this Agreement and to bind such party to its terms. Each person executing this Agreement on behalf of a party warrants that he or she is duly authorized to enter into this Agreement on behalf of such party and to bind it to the terms hereof.

28. **Cooperation.** The parties acknowledge that the timely completion of the Project will be influenced by the ability of the Owner (and its contractors) and the DB Contractor to coordinate their activities, communicate with each other, and respond promptly to reasonable requests. Subject to the terms and conditions of this Agreement, the Owner and the DB Contractor agree to take all steps reasonably required to coordinate their respective duties hereunder in a manner consistent with the DB Contractor's current and future construction schedules for the Project. The Owner further agrees to require its contractors to coordinate their respective work hereunder with the DB Contractor.

29. **Termination.** If the Project is canceled or modified so as to eliminate the necessity of the Adjustment work described herein, then the DB Contractor shall notify the Owner in writing and the DB Contractor reserves the right to thereupon terminate this Agreement. Upon such termination, the parties shall negotiate in good faith an amendment that shall provide mutually acceptable terms and conditions for handling the respective rights and liabilities of the parties relating to such termination.

30. **Nondiscrimination**. Each party hereto agrees, with respect to the work performed by such party pursuant to this Agreement, that such party shall not discriminate on the grounds of race, color, sex, national origin or disability in the selection and/or retention of contractors and consultants, including procurement of materials and leases of equipment.

31. **Applicable Law, Jurisdiction and Venue**. This Agreement shall be governed by the laws of the State of Texas, without regard to the conflict of laws principles thereof. Venue for any action brought to enforce this Agreement or relating to the relationship between any of the parties shall be the District Court of Travis County, Texas or the United States District Court for the Western District of Texas (Austin).

32. **Waiver of Consequential Damages**. No party hereto shall be liable to any other party to this Agreement, whether in contract, tort, equity, or otherwise (including negligence, warranty, indemnity, strict liability, or otherwise), for any punitive, exemplary, special, indirect, incidental, or consequential damages, including, without limitation, loss of profits or revenues, loss of use, claims of customers, or loss of business opportunity.

33. **Captions**. The captions and headings of the various paragraphs of this Agreement are for convenience and identification only, and shall not be deemed to limit or define the content of their respective paragraphs.

34. **Counterparts.** This Agreement may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

35. **Effective Date.** This Agreement shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the DB Contractor) signing this Agreement, and (b) the date of TxDOT's approval as indicated by the signature of TxDOT's representative, below.

APPROVED BY:
TEXAS DEPARTMENT OF TRANSPORTATION

By: _____
Authorized Signature

Printed
Name: Donald C. Toner, Jr., SR/WA

Date: _____

OWNER

[Print Owner Name]

By: _____
Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

DB CONTRACTOR

By: _____
Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT A

PLANS, SPECIFICATIONS, COST ESTIMATES AND ALLOCATION

ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT B

UTILITY ADJUSTMENT AGREEMENT AMENDMENT
(TxDOT-DBA-U-35A-OM)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT C

STATEMENT COVERING CONTRACT WORK
(TxDOT-U-48)

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:
Const. CSJ No.:

UTILITY ADJUSTMENT AGREEMENT AMENDMENT (DB Contractor Managed)

(Amendment No. to Agreement No.: -U-___)

THIS AMENDMENT TO PROJECT UTILITY ADJUSTMENT AGREEMENT (this "Amendment"), by and between , hereinafter identified as the "**DB Contractor**", and ___, hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE of TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", proposes to construct the project identified above (the "Project", as more particularly described in the "Original Agreement", defined below); and

WHEREAS, pursuant to that certain Design-Build Agreement (the "DBA") by and between TxDOT and the DB Contractor with respect to the Project, the DB Contractor has undertaken the obligation to design, construct, and potentially maintain the Project, including causing the removal, relocation, or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"); and

WHEREAS, the Owner and DB Contractor are parties to that certain executed Project Utility Adjustment Agreement designated by the "Agreement No." indicated above, as amended by previous amendments, if any (the "Original Agreement"), which provides for the adjustment of certain utilities owned and/or operated by the Owner (the "Utilities"); and

WHEREAS, the parties are required to utilize this Amendment form in order to modify the Original Agreement to add the adjustment of Owner facilities not covered by the Original Agreement; and

WHEREAS, the parties desire to amend the Original Agreement to add additional Owner utility facility(ies), on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the agreements contained herein, the parties hereto agree as follows:

1. **Amendment.** The Original Agreement is hereby amended as follows:

1.1 **Plans.**

(a) The description of the Owner Utilities and the proposed Adjustment of the Owner Utilities in the Original Agreement is hereby amended to add the following utility facility(ies) ("Additional Owner Utilities") and proposed Adjustment(s) to the Owner Utilities described in the Original Agreement *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00)];* and

(b) The Plans, as defined in Paragraph 1 of the Original Agreement, are hereby amended to add thereto the plans, specifications and cost estimates attached hereto as Exhibit A.

(c) The Plans attached hereto as Exhibit A, along with this Amendment, shall be submitted upon execution to TxDOT in accordance with Paragraph 2 of the Original Agreement, and Paragraph 2 shall apply to this Amendment and the Plans attached hereto in the same manner as if this Amendment were the Original Agreement. If the Owner claims an Existing Interest for any of the Additional Owner Utilities, documentation with respect to such claim shall be submitted to TxDOT as part of this Amendment and the attached Plans, in accordance with Paragraph 15(a) of the Original Agreement.

1.2 **Reimbursement of Owner's Indirect Costs.** For purposes of Paragraph 6 of the Original Agreement, the following terms apply to the Additional Owner Utilities and proposed Adjustment:

(a) DB Contractor agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b) The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐ (1) Actual related indirect costs accumulated in accordance with (i) a work order accounting procedure prescribed by the applicable Federal or State regulatory body, or (ii) established accounting procedure developed by the Owner and which the Owner uses in its regular operations (either (i) or (ii) referred to as "Actual Cost") or,

☐ (2) The agreed sum of $___ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

1.3 **Advancement of Funds by Owner for Construction Costs.**

(a) Advancement of Owner's Share, if any, of estimated costs

Exhibit A shall identify all estimated engineering and construction-related costs, including labor, material, equipment and other miscellaneous construction items. Exhibit A shall also identify the Owner's and DB Contractor's respective shares of the estimated costs.

The Owner shall advance to the DB Contractor its allocated share, if any, of the estimated costs for construction and engineering work to be performed by DB Contractor, in accordance with the following terms:

☐ The adjustment of the Owner's Utilities does not require advancement of funds.

☐ The adjustment of the Owner's Utilities does require advancement of funds and the terms agreed to between the DB Contractor and Owner are listed below.

[Insert terms of advance funding to be agreed between DB Contractor and Owner.]

(b) Adjustment Based on Actual Costs or Agreed Sum

[Check the <u>one</u> appropriate provision, if advancement of funds is required]:

☐ The Owner is responsible for its share of the DB Contractor actual cost for the Adjustment, including the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the DB Contractor the amount, if any, by which the actual cost of the Betterment (as determined in Paragraph 9(b)) plus the actual cost of Owner's share of the Adjustment (based on the allocation set forth in Exhibit A) exceeds the estimated cost advanced by the Owner, or (ii) the DB Contractor shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable.

☐ The Agreed Sum is the agreed and final amount due for the Adjustment, including any Betterment, under this Amendment. Accordingly, no adjustment (either up or down) of such amount shall be made based on actual costs.

1.4 **<u>Reimbursement of Owner's Indirect Costs</u>.** For purposes of Paragraph 6 of the Original Agreement, the following terms apply to the Additional Owner Utilities and proposed Adjustment:

(a) DB Contractor agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b) The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐ (1) Actual related indirect costs accumulated in accordance with (i) a work order accounting procedure prescribed by the applicable Federal or State regulatory body, or (ii) established accounting procedure developed by the Owner and which the Owner uses in its regular operations (either (i) or (ii) referred to as "Actual Cost") or,

☐ (2) The agreed sum of $___ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

1.5 **Responsibility for Costs of Adjustment Work.** For purposes of Paragraph 4 of the Original Agreement, responsibility for the Agreed Sum or Actual Cost, as applicable, of all Adjustment work to be performed pursuant to this Amendment shall be allocated between the DB Contractor and the Owner as identified in Exhibit A hereto and in accordance with §203.092, Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A, provided however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 9 of the Original Agreement.

1.6 **Betterment.**

(a) Paragraph 9(b) (Betterment and Salvage) of the Original Agreement is hereby amended to add the following *[Check the one box that applies, and complete if appropriate]*:

☐ The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, does not include any Betterment.

☐ The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, includes Betterment to the Additional Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: ___. The DB Contractor has provided to the Owner comparative estimates for (i) all work to be performed by the DB Contractor pursuant to this Amendment, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Owner. The estimated cost of the DB Contractor work under this Amendment which is attributable to Betterment is $___, calculated by subtracting (ii) from (i). The percentage of the total cost of the DB Contractor work under this Amendment which is attributable to Betterment is ___ %, calculated by subtracting (ii) from (i), which remainder is divided by (i).

(b) If the above Paragraph 1.6(a) identifies Betterment, the Owner shall advance to the DB Contractor, at least **fourteen (14) days** prior to the date scheduled for commencement of construction for Adjustment of the Additional Owner Utilities, the estimated cost attributable to Betterment as set forth in Paragraph 1.6(a) of this Amendment. If the Owner fails to advance payment to the DB Contractor on or before the foregoing deadline, the DB Contractor shall have the option of commencing and completing (without delay) the Adjustment work without installation of the applicable Betterment. *[Check the <u>one</u> appropriate provision]*:

☐ The estimated cost stated in Paragraph 1.6(a) of this Amendment is the agreed and final amount due for Betterment under this Amendment, and accordingly no adjustment (either up or down) of such amount shall be made based on actual costs.

☐ The Owner is responsible for the DB Contractor Actual Cost for the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the DB Contractor the amount, if any, by which the actual cost of the Betterment (determined as provided below in this paragraph) exceeds the estimated cost

advanced by the Owner, or (ii) the DB Contractor shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable. Any additional payment by the Owner shall be due within **sixty (60) days** after the Owner's receipt of the DB Contractors invoice therefor, together with supporting documentation; any refund shall be due within **sixty (60) days** after completion of the Adjustment work under this Amendment. The Actual Cost of Betterment incurred by the DB Contractor shall be calculated by multiplying (i) the Betterment percentage stated in Paragraph 1.6(a) of this Amendment, by (ii) the Actual Cost of all work performed by the DB Contractor pursuant to this Amendment (including work attributable to the Betterment), as invoiced by the DB Contractor to the Owner.

(c) The determinations and calculations of Betterment described in this Amendment shall exclude right-of-way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 15 of the Original Agreement.

1.7 **Miscellaneous.**

(a) Owner and DB Contractor agree to refer to this Amendment, designated by the "Amendment No." and "Agreement Number" indicated on page 1 above, on all future correspondence regarding the Adjustment work that is the subject of this Amendment and to track separately all costs relating to this Amendment and the Adjustment work described herein.

(b) [*Include any other proposed amendments allowed by applicable law.*]

2. **General.**

(a) All capitalized terms used in this Amendment shall have the meanings assigned to them in the Original Agreement, except as otherwise stated herein.

(b) This Amendment may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

(c) Except as amended hereby, the Original Agreement shall remain in full force and effect. In no event shall the responsibility, as between the Owner and the DB Contractor, for the preparation of the Plans and the Adjustment of the Owner Utilities be deemed to be amended hereby.

(d) This Amendment shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the DB Contractor) signing this Amendment, and (b) the completion of TxDOT's review and approval as indicated by the signature of TxDOT's representative, below.

APPROVED BY:

TEXAS DEPARTMENT OF TRANSPORTATION

By: _____
Authorized Signature

Printed Name: _____

Title: _____

Date: _____

OWNER

_____
[Print Owner Name]

By: _____
Duly Authorized Representative

Printed Name: _____

Title: _____

Date: _____

DB CONTRACTOR

By: _____
Duly Authorized Representative

Printed Name: _____

Title: _____

Date: _____

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:
Const. CSJ No.:

UTILITY ADJUSTMENT AGREEMENT AMENDMENT (Owner Managed)

(Amendment No. to Agreement No.: -U-)

THIS AMENDMENT TO PROJECT UTILITY ADJUSTMENT AGREEMENT (this "Amendment"), by and between, hereinafter identified as the "**DB Contractor**", and ___, hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE of TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", proposes to construct the project identified above (the "Project", as more particularly described in the "Original Agreement", defined below); and

WHEREAS, pursuant to that certain Design-Build Agreement (the "DBA") by and between TxDOT and the DB Contractor with respect to the Project, the DB Contractor has undertaken the obligation to design, construct, and potentially maintain the Project, including causing the removal, relocation, or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"); and

WHEREAS, the Owner and DB Contractor are parties to that certain executed Project Utility Adjustment Agreement designated by the "Agreement No." indicated above, as amended by previous amendments, if any (the "Original Agreement"), which provides for the adjustment of certain utilities owned and/or operated by the Owner (the "Utilities"); and

WHEREAS, the parties are required to utilize this Amendment form in order to modify the Original Agreement to add the adjustment of Owner utilities facilities not covered by the Original Agreement; and

WHEREAS, the parties desire to amend the Original Agreement to add additional Owner utility facility(ies), on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the agreements contained herein, the parties hereto agree as follows:

1. **Amendment.** The Original Agreement is hereby amended as follows:

   (a) The description of the Owner Utilities and the proposed Adjustment of the Owner Utilities in the Original Agreement is hereby amended to add the following facility(ies) ("Additional Owner Utilities") and proposed Adjustment(s) *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00")]*:

(b) The Plans, as defined in Paragraph 1 of the Original Agreement, are hereby amended to add thereto the plans, specifications and cost estimates attached hereto as Exhibit A.

(c) The Plans attached hereto as Exhibit A, along with this Amendment, shall be submitted upon execution to TxDOT in accordance with Paragraph 2 of the Original Agreement, and Paragraph 2 shall apply to this Amendment and the Plans attached hereto in the same manner as if this Amendment were the Original Agreement. If the Owner claims an Existing Interest for any of the Additional Owner Utilities, documentation with respect to such claim shall be submitted to TxDOT as part of this Amendment and the attached Plans, in accordance with Paragraph 16(a) of the Original Agreement.

(d) Paragraph 4(f) of the Original Agreement is hereby amended to add the following deadline for the Adjustment of the Additional Owner Utilities *[check one box that applies]*:

☐ Owner shall complete all of the utility reconstruction and relocation work, including final testing and acceptance thereof, on or before ___, 20___.

☐ Owner shall complete all of the utility reconstruction and relocation work, including final testing and acceptance thereof, within ___ calendar days after delivery to Owner of a notice to proceed by DB Contractor.

(e) For purposes of Paragraph 5(b) of the Original Agreement, the Owner's costs associated with Adjustment of the Additional Owner Utilities shall be developed pursuant to the method checked and described below, *[check only one box]*:

☐ (1) Actual costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body ("Actual Cost"); or

☐ (2) Actual costs accumulated in accordance with an established accounting procedure developed by the Owner and which the Owner uses in its regular operations ("Actual Cost"); or

☐ (3) The agreed sum of $___("Agreed Sum"), as supported by the analysis of estimated costs attached hereto as part of Exhibit A

(f) For purposes of Paragraph 6 of the Original Agreement, responsibility for the Agreed Sum or Actual Cost, as applicable, of all Adjustment work to be performed pursuant to this Amendment shall be allocated between the DB Contractor and the Owner as identified in Exhibit A and in accordance with §203.092 of the Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A; provided, however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 10 of the Original Agreement.

(g) Paragraph 10(b) of the Original Agreement is hereby amended to add the following *[Check the one box that applies]*:

☐ The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, does not include any Betterment.

☐ The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, includes Betterment to the Additional Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: ___. The Owner has provided to the DB Contractor comparative estimates for (i) all costs for work to be performed by the Owner pursuant to this Amendment, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the DB Contractor. The estimated amount of the Owner's costs for work under this Agreement which is attributable to Betterment is $___, calculated by subtracting (ii) from (i). The percentage of the total cost of the Owner's work hereunder which is attributable to Betterment is ___%, calculated by subtracting (ii) from (i) which remainder shall be divided by (i).

(h) The following shall apply to any Betterment described in Paragraph 1(g) of this Amendment:

(i) If the Owner's costs are developed under procedure (3) described in Paragraph 1(e) of this Amendment, then the agreed sum stated in that Paragraph includes any credits due to the DB Contractor on account of the identified Betterment, and no further adjustment shall be made on account of same.

(ii) If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 1(e) of this Amendment, the parties agree as follows *[check the <u>one</u> appropriate provision]*:

☐ The estimated cost stated in Paragraph 1(g) of this Amendment is the agreed and final amount due for Betterment under this Amendment. Accordingly, each intermediate invoice submitted for Adjustment(s) of the Additional Owner Utilities pursuant to Paragraph 7(b) of the Original Agreement shall credit the DB Contractor with an appropriate amount of the agreed Betterment amount, proportionate to the percentage of completion reflected in such invoice. The final invoice submitted for Adjustment(s) of the Additional Owner Utilities pursuant to Paragraph 7(a) of the Original Agreement shall reflect the full amount of the agreed Betterment credit. For each invoice described in this paragraph, the credit for Betterment shall be applied before calculating the DB Contractor's share (pursuant to Paragraph 1(e) of this Amendment) of the cost of the Adjustment work. No other adjustment (either up or down) shall be made based on actual Betterment costs.

☐ The Owner is responsible for the actual cost of the identified Betterment, determined by multiplying (a) the Betterment percentage stated in Paragraph 1(g) of this Amendment, by (b) the actual cost of all work performed by the Owner pursuant to this Amendment (including work attributable to the Betterment), as invoiced by the Owner to the DB Contractor. Accordingly, each invoice submitted for Adjustment of the Additional Owner Utilities pursuant to either Paragraph 7(a) or Paragraph 7(b) of the Original Agreement shall credit the DB Contractor with an amount calculated by multiplying (x) the Betterment percentage stated in Paragraph 1(g) of this Amendment, by (y) the amount billed on such invoice.

(i) The determinations and calculations of Betterment described in this Amendment shall exclude right-of-way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 16 of the Original Agreement.

(j) Owner and the DB Contractor agree to refer to this Amendment, designated by the "Amendment No." and "Agreement number" indicated on page 1 above, on all future correspondence regarding the Adjustment work that is the subject of this Amendment and to track separately all costs relating to this Amendment and the Adjustment work described herein.

(k) [*Include any other proposed amendments in compliance with the applicable law*.]

2. **General.**

(a) All capitalized terms used in this Amendment shall have the meanings assigned to them in the Original Agreement, except as otherwise stated herein.

(b) This Amendment may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

(c) Except as amended hereby, the Original Agreement shall remain in full force and effect. In no event shall the responsibility, as between the Owner and the DB Contractor, for the preparation of the Plans and the Adjustment of the Owner Utilities be deemed to be amended hereby.

(d) This Amendment shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the DB Contractor) signing this Amendment, and (b) the completion of TxDOT's review and approval as indicated by the signature of TxDOT's representative, below.

APPROVED BY:

TEXAS DEPARTMENT OF TRANSPORTATION

By: _____
Authorized Signature

Printed Name: _____

Date: _____

OWNER

_____
[Print Owner Name]

By: _____
Duly Authorized Representative

Printed Name: _____

Title: _____

Date: _____

DB CONTRACTOR

By: _____
Duly Authorized Representative

Printed Name: _____

Title: _____

Date: _____

Form ROW-U-48
Rev. 12/2004
Replaces Form D-15-48
GSD-EPC

STATEMENT COVERING UTILITY CONSTRUCTION CONTRACT WORK

(AS APPEARING IN ESTIMATE)

U-No.

District:
County: ROW CSJ No.:
Federal Project No.: Highway No.:

I, , a duly authorized and qualified representative of , hereinafter referred to as **Owner**, am fully cognizant of the facts and make the following statements in respect to work which will or may be done on a contract basis as appears in the estimate to which this statement is attached.

It is more economical and/or expedient for **Owner** to contract this adjustment, or **Owner** is not adequately staffed or equipped to perform the necessary work on this project with its own forces to the extent as indicate on the estimate.

Procedure to be Used in Contracting Work

☐ A. Solicitation for bids is to be accomplished through open advertising and contract is to be awarded to the lowest qualified bidder who submits a proposal in conformity with the requirements and specifications for the work to be performed.

☐ B. Solicitation for bids is to be accomplished by circulating to a list of pre-qualified contractors or known qualified contractors and such contract is to be awarded to the lowest qualified bidder who submits a proposal in conformity with the requirements and specifications for the work to be performed. Such presently known contractors are listed below:

1.

2.

3.

4.

5.

☐ C. The work is to be performed under an existing continuing contract under which certain work is regularly performed for **Owner** and under which the lowest available costs are developed. (If only part of the contract work is to be done under an existing contract, give detailed information by attachment hereto.)

☐ D. The utility proposes to contract outside the foregoing requirements and therefore evidence in support of its proposal is attached to the estimate in order to obtain the concurrence of the State, and the Federal Highway Administration Division Engineer where applicable, prior to taking action thereon (approval of the agreement shall be considered as approval of such proposal).

☐ E. The utility plans and specifications, with the consent of the State, will be included in the construction contract awarded by the State.

Signature Date

Title

County: _____
CSJ No.: _____
Highway: _____
Limits: _____
_____
_____
Fed. Proj. No.: _____
ROW Acct. No.: _____

AFFIDAVIT

Agreement No. TxDOT-U- _____

THE STATE OF TEXAS)
)
COUNTY OF _____)

WHEREAS, the State of Texas, acting by and through the Texas Turnpike Authority Division of the Texas Department of Transportation, herein called the **TxDOT**, has deemed it necessary to make certain highway improvements on Highway _____ in _____ County, Texas, from _____ to _____; and,

WHEREAS, it is anticipated that the hereinabove mentioned improvements will affect the facilities of _____ hereinafter called the **Owner**, at the following described locations:

and;

WHEREAS, **TxDOT** has requested that the **Owner** furnish to **TxDOT** information relative to interests that **Owner** hold in lands at each of the hereinabove referenced locations;

NOW THEREFORE, before me, the undersigned authority, this day personally appeared _____, who, after being by me duly sworn, did depose and say:

That he/she is _____ of _____ and, as such, has knowledge of the facts contained herein, and

That, to the best of his/her knowledge, said **Owner** is the owner of the following described interests in the hereinabove-indicated lands, copies of the instruments under which said **Owner** claims said interests being attached hereto and made a part hereof.

_____
Signature

_____
Title

_____
Company

Sworn to and subscribed before me this _____ day of _____, A.D. 20___.

_____
Notary Public, State of Texas

My Commission expires:
_____

DB Contractor's Utility Design Coordinator
Utility No Conflict Sign-Off Form

Utility Design Coordinator: _____
Date plans received: _____
Utility Company: _____
Assembly "U" number: _____
Type of Utilities: _____
Date on Utility's plans: _____No. of sheets in Utility's plans: _____

I, the Utility Design Coordinator (UDC) on behalf of the DB Contractor ( ) certify that a review of the above referenced Utility plans concerning the proposed highway improvements on Loop 1604 has been completed and have not identified any conflicts between the Utility's proposed relocation and any design features.

Design features include but are not limited to pavement structures, drainage facilities, bridges, retaining walls, traffic signals, illumination, signs, foundations, duct/conduit, ground boxes, erosion control facilities, water quality facilities and other DB Contractor-Managed Utilities.

Any design changes to the Loop 1604 roadway after the signing of this form will be coordinated through the DB Contractor's Utility Manager and the affected Utility Owner.

☐ Check box if there are any areas of concern and insert comments below:

Print Name:
(UDC) _____Date: _____
Utility Design Coordinator (UDC)

Sign Name:
(UDC) _____Date: _____

Utility Coordination
Firm Name: _____

This form must be completed/signed and included in each Utility Assembly submitted to the Texas Department of Transportation.

UTILITY JOINT USE ACKNOWLEDGEMENT

U-Number:

District:
Highway:
County:

WHEREAS, the State of Texas, ("**State**"), acting by and through the Texas Department of Transportation ("**TxDOT**"), proposes to make certain highway improvements on that section of the above-indicated highway; and

WHEREAS, the , ("**Utility**"), proposes to adjust or relocate certain of its facilities, if applicable, and retain title to any property rights it may have on, along or across, and within or over such limits of the highway right of way as indicated by the location map attached hereto.

NOW, THEREFORE, in consideration of the covenants and acknowledgements herein contained, the parties mutually agree as follows:

It is agreed that joint usage for both highway and utility purposes will be made of the area within the highway right of way limits as such area is defined and to the extent indicated on the aforementioned plans or sketches. Nothing in this Acknowledgement shall serve to modify or extinguish any compensable property interest vested in the **Utility** within the above described area. If the facilities shown in the aforementioned plans need to be altered or modified or new facilities constructed to either accommodate the proposed highway improvements or as part of **Utility's** future proposed changes to its own facilities, **Utility** agrees to notify **TxDOT** at least 30 days prior thereto, and to furnish necessary plans showing location and type of construction, unless an emergency situation occurs and immediate action is required. If an emergency situation occurs and immediate action is required, **Utility** agrees to notify **TxDOT** promptly. If such alteration, modification or new construction is in conflict with the current highway or planned future highway improvements, or could endanger the traveling public using said highway, **TxDOT** shall have the right, after receipt of such notice, to prescribe such regulations as necessary for the protection of the highway facility and the traveling public using said highway. Such regulations shall not extend, however, to requiring the placement of intended overhead lines underground or the routing of any lines outside of the area of joint usage above described.

If **Utility's** facilities are located along a controlled access highway, **Utility** agrees that ingress and egress for servicing its facilities will be limited to frontage roads where provided, nearby or adjacent public roads and streets, or trails along or near the highway right of way lines which only connect to an intersecting road. Entry may be made to the outer portion of the highway right of way from any one or all access points. Where supports, manholes or other appurtenances of the **Utility's** facilities are located in medians or interchange areas, access from the through-traffic roadways or ramps will be allowed by permit issued by the **State** to the **Utility** setting forth the conditions for policing and other controls to protect highway users. In an emergency situation, if the means of access or service operations as herein provided will not permit emergency repairs as required for the safety and welfare of the public, the **Utility** shall have a temporary right of access to and from the through-traffic roadways and ramps as necessary to accomplish the required repairs, provided **TxDOT** is notified immediately when such repairs are initiated and adequate provision is made by **Utility** for the convenience and safety of highway traffic. Except as expressly provided herein, the **Utility's** rights of access to the through-traffic roadways and/or ramps shall be subject to the same rules and regulations as apply to the general public.

Initial _____ Date _____

If **Utility's** facilities are located along a non-controlled access highway, the **Utility's** rights of ingress and egress to the through-traffic roadways and/or ramps are subject to the same rules and regulations as apply to the general public.

Participation in actual costs incurred by the **Utility** for any future adjustment, removal or relocation of utility facilities required by highway construction shall be in accordance with applicable laws of the State of Texas.

It is expressly understood that **Utility** conducts the new installation, adjustment, removal, and/or relocation at its own risk, and that **TxDOT** makes no warranties or representations regarding the existence or location of utilities currently within its right of way.

The **Utility** and the **State**, by execution of this Acknowledgement , do not waive or relinquish any right that they may have under the law.

The signatories to this Acknowledgement warrant that each has the authority to enter into this Acknowledgement on behalf of the party represented.

IN WITNESS WHEREOF, the parties hereto have affixed their signatures.

Owner: _____
Utility Name

By: _____
Authorized Signature

Printed Name: _____

Title: _____

Date: _____

_____

The State of Texas

Executed and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By: _____

Donald C. Toner, Jr. SR/WA
Director – Strategic Projects Right of Way
Strategic Projects Division
Texas Department of Transportation

Title: _____

Date: _____

DB Contractor's Utility Manager
Utility No Conflict Sign-Off Form

Utility Manager: _____
Date plans received: _____
Utility Company: _____
Assembly "U" number: _____
Type of Utilities: _____
Date on Utility's plans: _____No. of sheets in Utility's plans:_____

I, the Utility Manager (UM) working on behalf of the DB Contractor ( ) certify that a review of the above referenced Utility plans concerning the proposed highway improvements on Loop 1604 has been completed and have not identified any conflicts between the Utility's proposed relocation and any existing and/or proposed Utilities.

The proposed Utility plans conform to Title 43, Texas Administrative Code, Section 21.31 – 21.56 of the Utility Accommodation Rules.

☐ Check box if there are any areas of concern and insert comments below:

Print Name: (Utility Manager-UM) _____Date:_____

Sign Name: (UM) _____Date:_____

Print Name: (Utility Design Coordinator – UDC) _____Date:_____

Sign Name: (UDC) _____Date:_____

Utility Coordination Firm Name: _____

This form must be completed/signed and included in each Utility Assembly submitted to the Texas Department of Transportation.

DBA UTILITY ADJUSTMENT CHECKLIST

(To be included with Utility Assembly submittal)

District: U-No.: Date Review Started: Date Review Completed:

Utility Owner:

County: (Check one:) Agreement Actual Cost ☐ Agreement Lump Sum ☐

CSJ No.:

Federal-Aid ROW Project No.:

Alternate Procedure Approval Date:

Project Limits:

Description of Work (Approximate from/to stationing and line type):

Estimated Total Adjustment Costs: $

Estimated Betterment (in dollars and calculated %): $ %

Estimated Salvage: $

Eligibility Ratio (calculated and supported %): $ %

Estimated Salvage: $

Eligibility Ratio (calculated and supported %): $ %

Estimated Completion or Duration of Adjustment Work:
(If Owner Managed Agreement)

Noteworthy Issues/Items:

1. Approved and current ROW Maps on file with project office?
   Yes ☐ No ☐ N/A ☐
2. Is this utility adjustment within ROW project limits or directly related to work required within project limits?
   Yes ☐ No ☐ N/A ☐
3. Have the existing and proposed utility facilities been plotted on the ROW map and attached to this assembly?
   Yes ☐ No ☐ N/A ☐
4. Are any of the proposed utility facilities installed longitudinally within a control of access?
   Yes ☐ No ☐ N/A ☐
5. If the adjustment has unique characteristics, does the transmittal include explanations and clarifications?
   Yes ☐ No ☐ N/A ☐
6. Have (4) utility adjustment assemblies been submitted, of which (1) is color coded, been submitted?
   Yes ☐ No ☐ N/A ☐
7. Have the following forms been submitted?

MUAA/UAAA	Yes ☐	No ☐	N/A ☐
UJUA	Yes ☐	No ☐	N/A ☐
U-48 Statement	Yes ☐	No ☐	N/A ☐
U-1 Affidavit	Yes ☐	No ☐	N/A ☐
Quitclaim Deed	Yes ☐	No ☐	N/A ☐
Checklist	Yes ☐	No ☐	N/A ☐
UM/UDC sign-off	Yes ☐	No ☐	N/A ☐

8. Have modifications to the utility agreement been approved by TxDOT?
   Yes ☐ No ☐ N/A ☐
9. Has Barlow's Formula information been submitted for un-encased high pressure pipelines? The Barlow's calculation must be provided by the utility owner.
   Yes ☐ No ☐ N/A ☐
10. If the pipeline is un-encased, is there adequate coating, wrapping and cathodic protection?
    Yes ☐ No ☐ N/A ☐
11. Plans folded so as to fit into 8.5" x 11" file?
    Yes ☐ No ☐ N/A ☐
12. Project or vicinity plan provided ?
    Yes ☐ No ☐ N/A ☐
13. Has the utility owner signed the cover sheet of the plans verifying review and approval, if DB Contractor Managed?
    Yes ☐ No ☐ N/A ☐
14. Information on plans sufficient and adequate to:

    determine necessity and justification of proposed work?

    Yes ☐ No ☐ N/A ☐

    If the adjustment involves a plastic water or sanitary sewer line, has a metal detection wire been included in the estimate or with detailed in the plans?

    Yes ☐ No ☐ N/A ☐

    demonstrate Utility Accommodation Rules compliance?

    Yes ☐ No ☐ N/A ☐

    indicate highway stationing, existing and proposed ROW, offsets from proposed ROW, existing and proposed grades, and edge of pavement lines?

    Yes ☐ No ☐ N/A ☐

    provide any other necessary or essential information such as pressure, flow, offset, type, condition, wall thickness, specifications etc.?

    Yes ☐ No ☐ N/A ☐

Is a note provided in the plans that the adjustment will conform with the TMUTCD?

Yes ☐ No ☐ N/A ☐

If excavation is required, do the plans included a note on OSHA trench excavation protection?

Yes ☐ No ☐ N/A ☐

15. Backfill requirements met (item 400 referenced)?
    Yes ☐ No ☐ N/A ☐
16. Can the major items of material listed on the estimate be located on the plans by scaling or stationing?
    Yes ☐ No ☐ N/A ☐
17. Is the estimate properly and adequately itemized and detailed?
    Yes ☐ No ☐ N/A ☐
18. Replacement utility ROW charges justified and supported?
    Yes ☐ No ☐ N/A ☐
19. Betterment credit applicable?
    Yes ☐ No ☐ N/A ☐

    If yes, is credit calculated and applied properly?

    Yes ☐ No ☐ N/A ☐
20. Salvage credit applicable?
    Yes ☐ No ☐ N/A ☐

    If yes, is credit applied properly?

    Yes ☐ No ☐ N/A ☐
21. Eligibility ratio calculated and recommended?
    Yes ☐ No ☐ N/A ☐

    If yes, is credit calculated and applied properly?

    Yes ☐ No ☐ N/A ☐
22. Estimate extensions checked?
    Yes ☐ No ☐ N/A ☐
23. Proof of compensable property interest established by utility where applicable?
    Yes ☐ No ☐ N/A ☐

    If yes, According to the “Real Property Interest” paragraph of the MUAA:

    Does the estimate detail reimbursement for new property interest?

    Yes ☐ No ☐ N/A ☐

    Does the estimate detail compensation for relinquishing existing property interest?

    Yes ☐ No ☐ N/A ☐

    Did the utility owner provide a letter stating that they will quitclaim their property interest at no costs or an agreed sum if new utility property interests are not being acquired?

    Yes ☐ No ☐ N/A ☐
24. Has the DB Contractor identified parcel ID numbers to be Quitclaimed?
    Yes ☐ No ☐ N/A ☐
25. Correct & recorded Quitclaim submitted?
    Yes ☐ No ☐ N/A ☐
26. Does the TxDOT approval letter reference all conditional approval items and reference the pre-construction meeting requirement?
    Yes ☐ No ☐ N/A ☐

Comments:

Prepared by: _____
Utility Design Coordinator

Approved by: _____
Utility Manager

Recommended for Approval by: _____
Quality Control

Date: _____

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

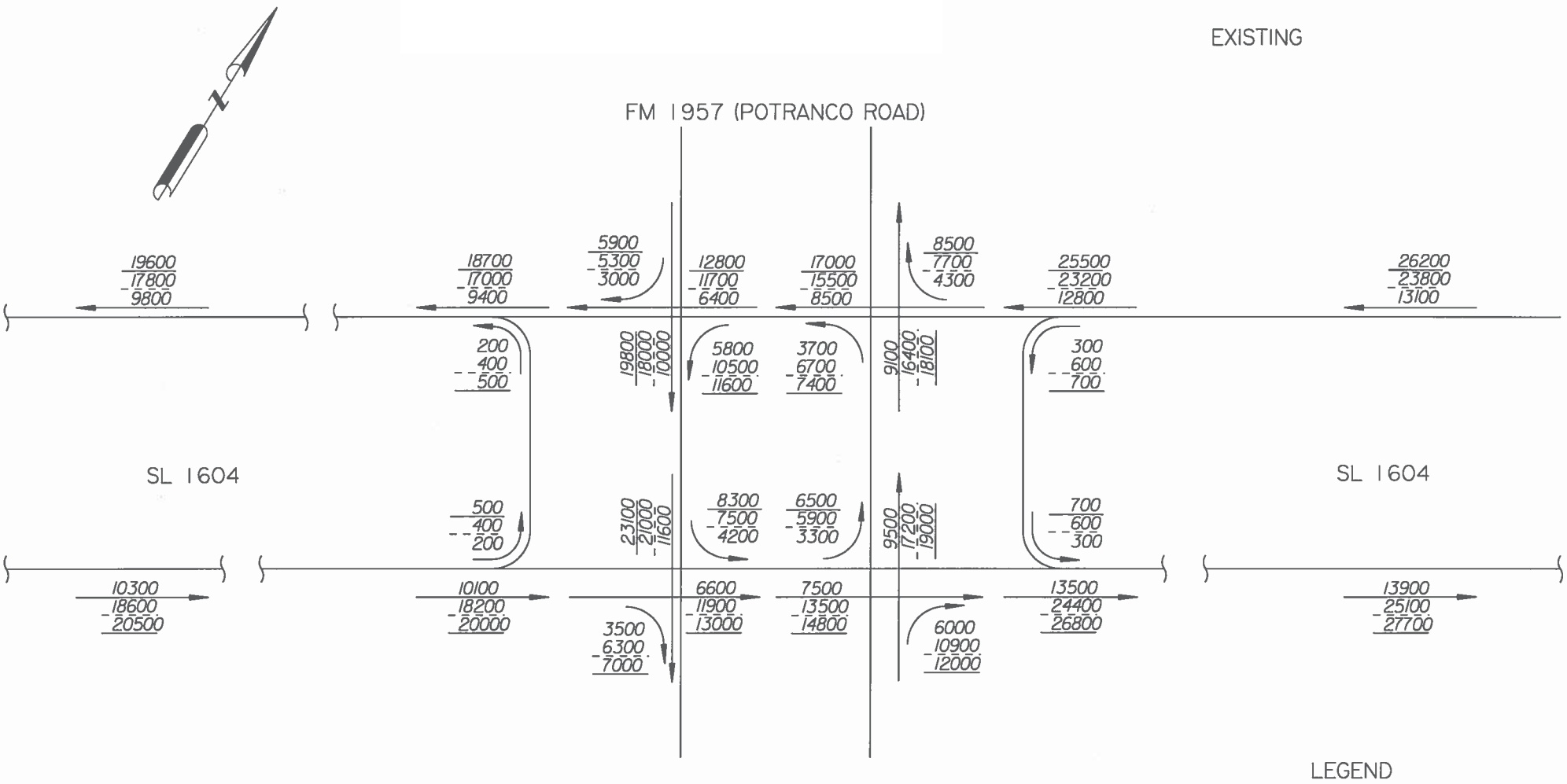
LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 8-1
TRAFFIC DATA

Executed Version

Dated as of: December 5, 2013

EXISTING



LEGEND

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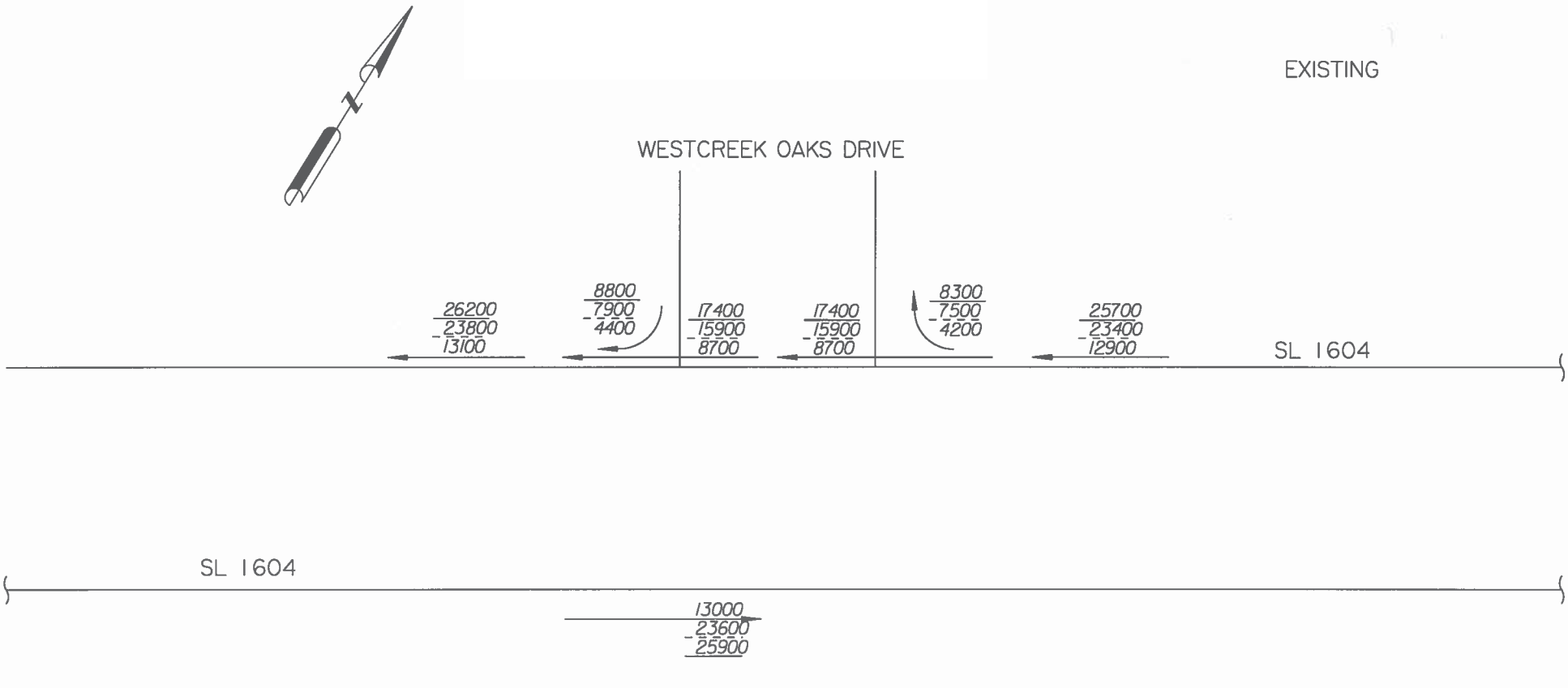
1000 - 2043 ADT

2013, 2033 AND 2043 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SL 1604 FROM WISEMAN BLVD. TO SH 16

BEXAR COUNTY

TRANSPORTATION PLANNING AND PROGRAMMING DIVISION
FEBRUARY 1, 2013



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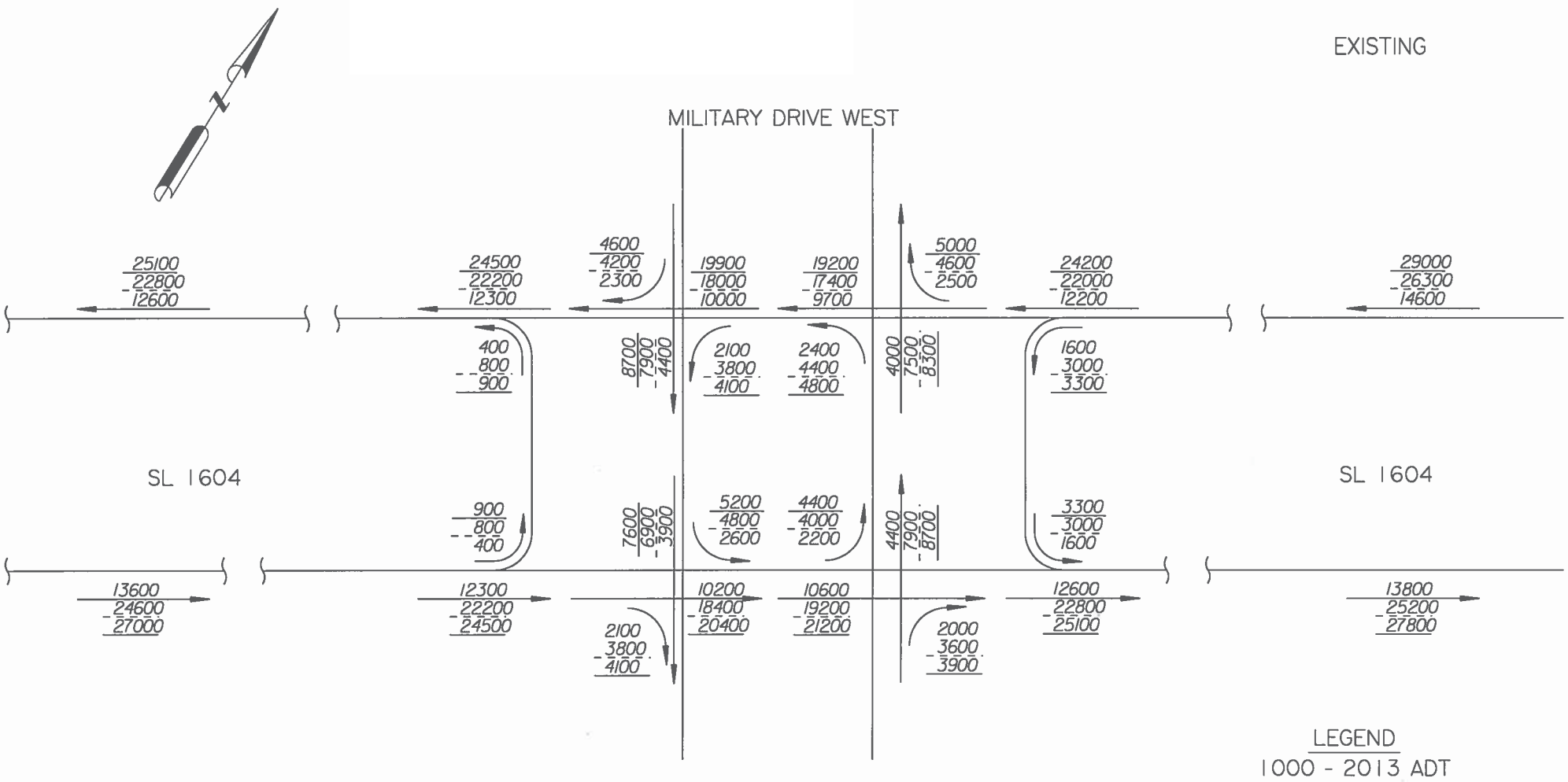

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BEXAR COUNTY

TRANSPORTATION PLANNING AND PROGRAMMING DIVISION
FEBRUARY 1, 2013

EXISTING

29000
26300
14600

SL 1604

SL 1604

13300
24200
26700

13300
24200
26700

500
1000
1100

900
1600
1700

KILMARNOCH LANE

LEGEND
1000 - 2013 ADT
1000 - 2033 ADT
1000 - 2043 ADT

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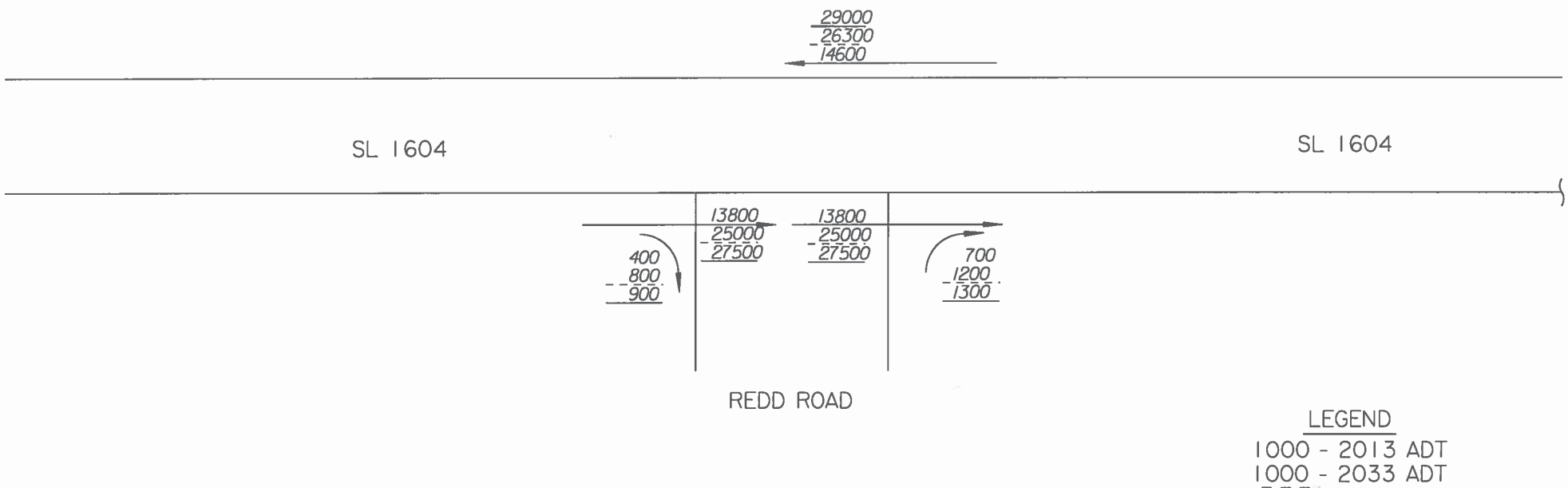

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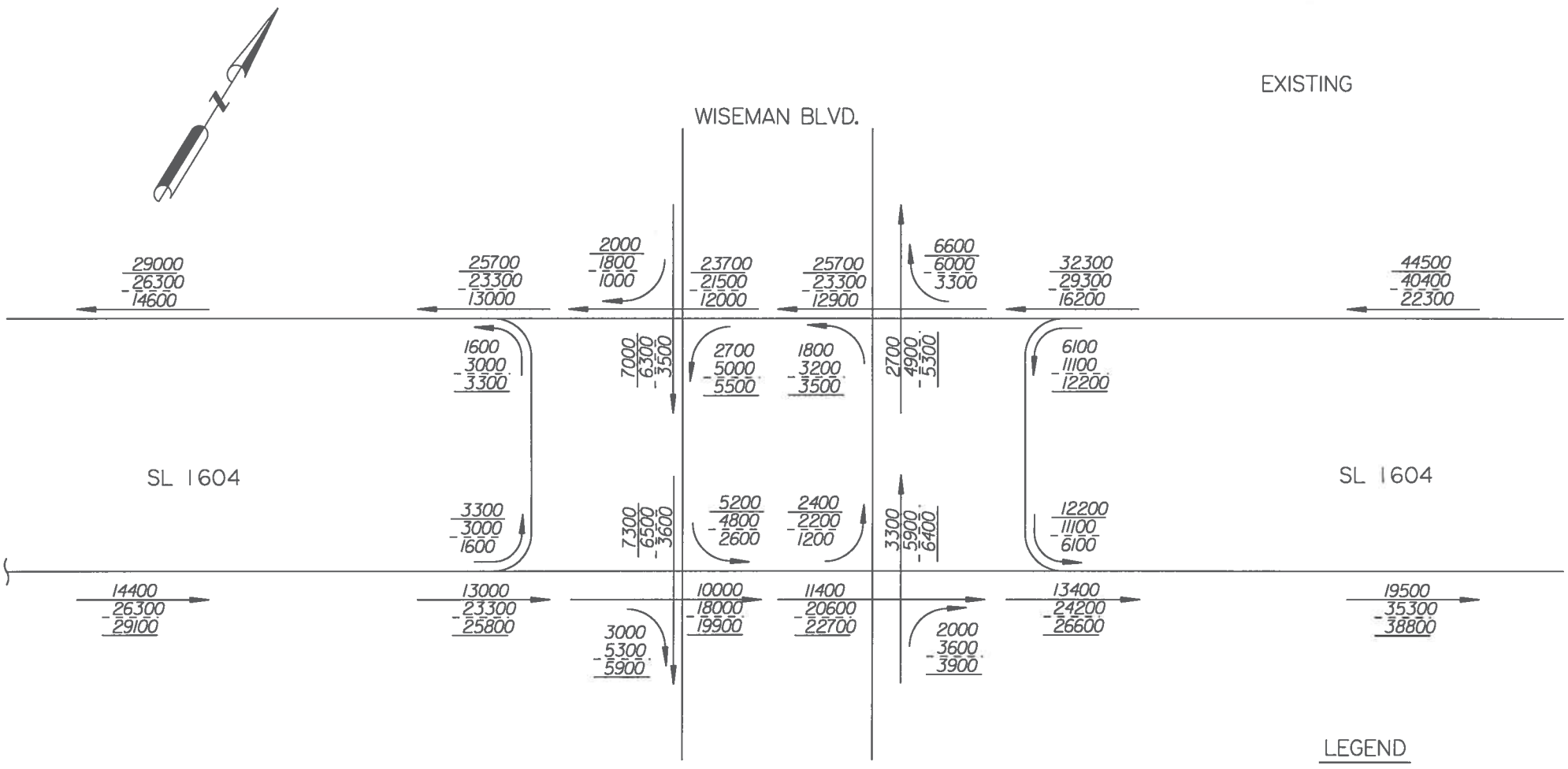

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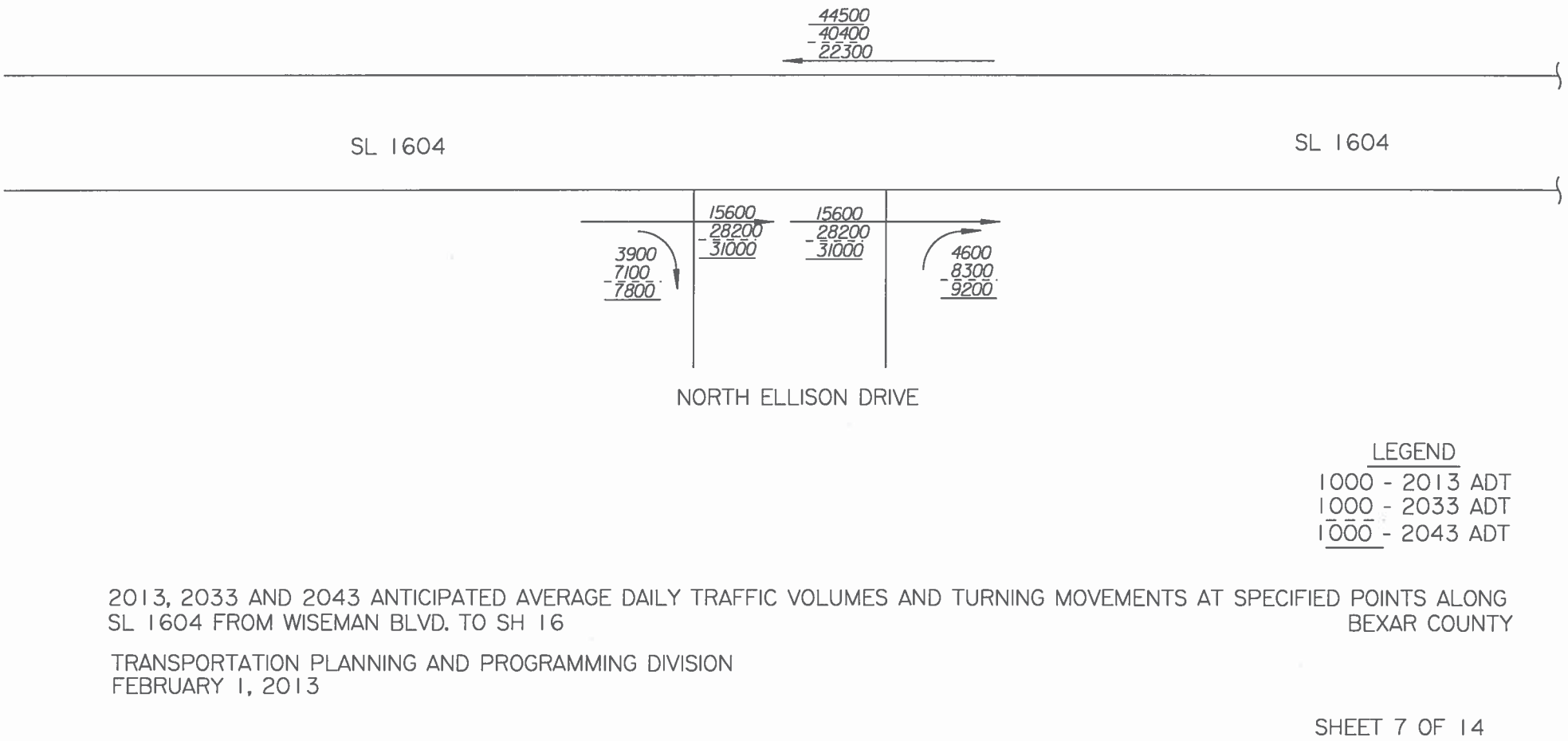

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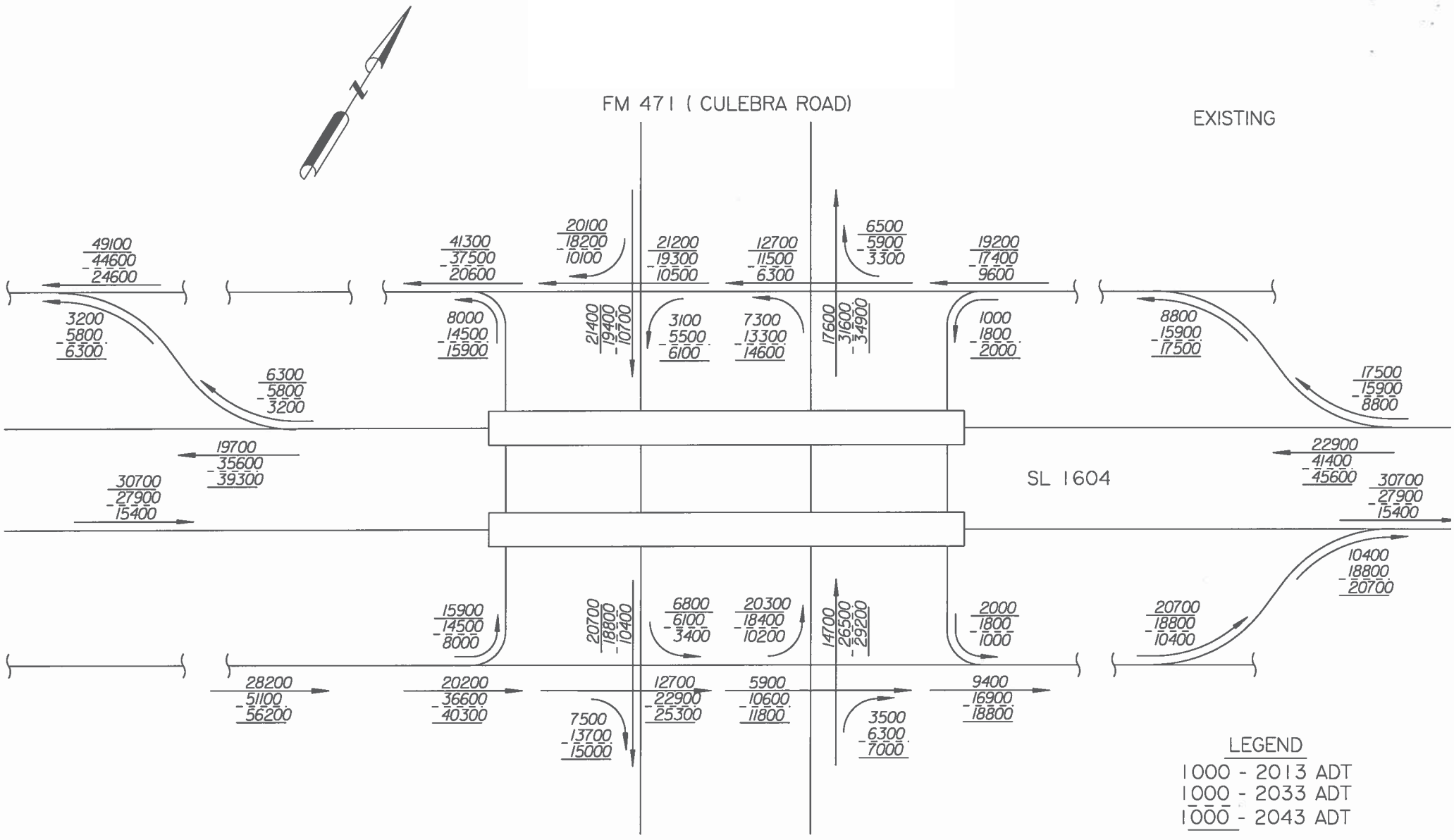

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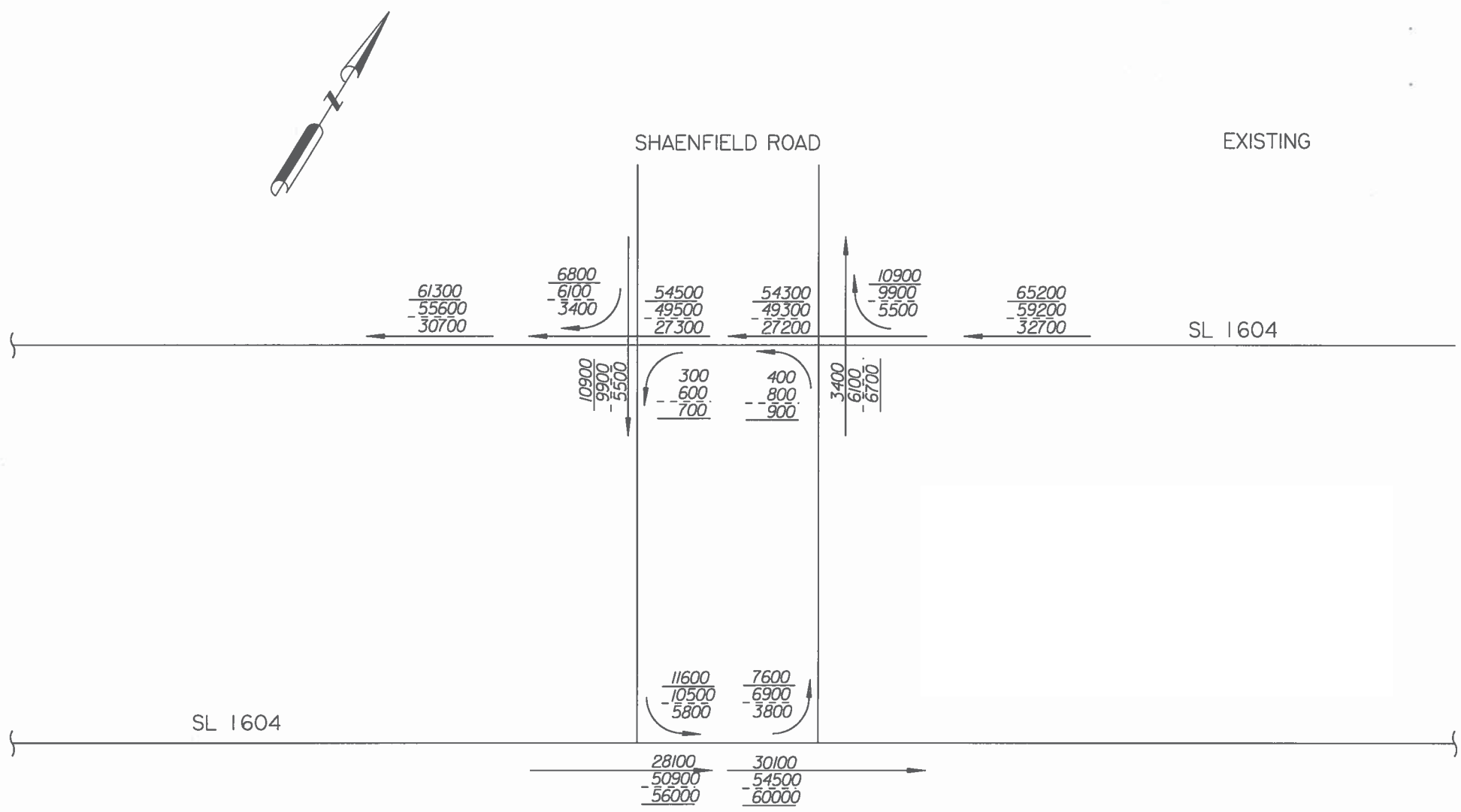
TRANSPORTATION PLANNING AND PROGRAMMING DIVISION
DECEMBER 12, 2012



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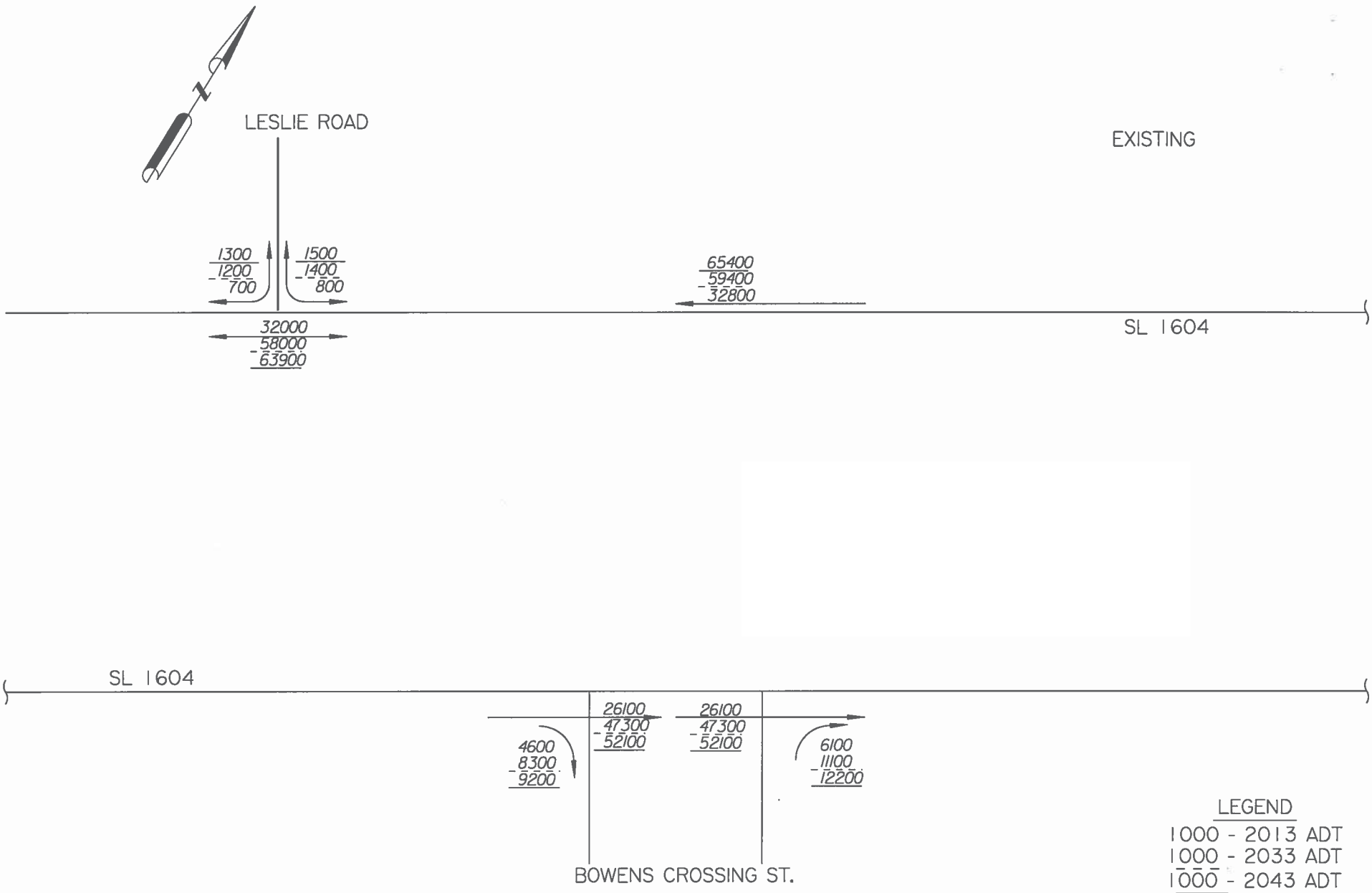

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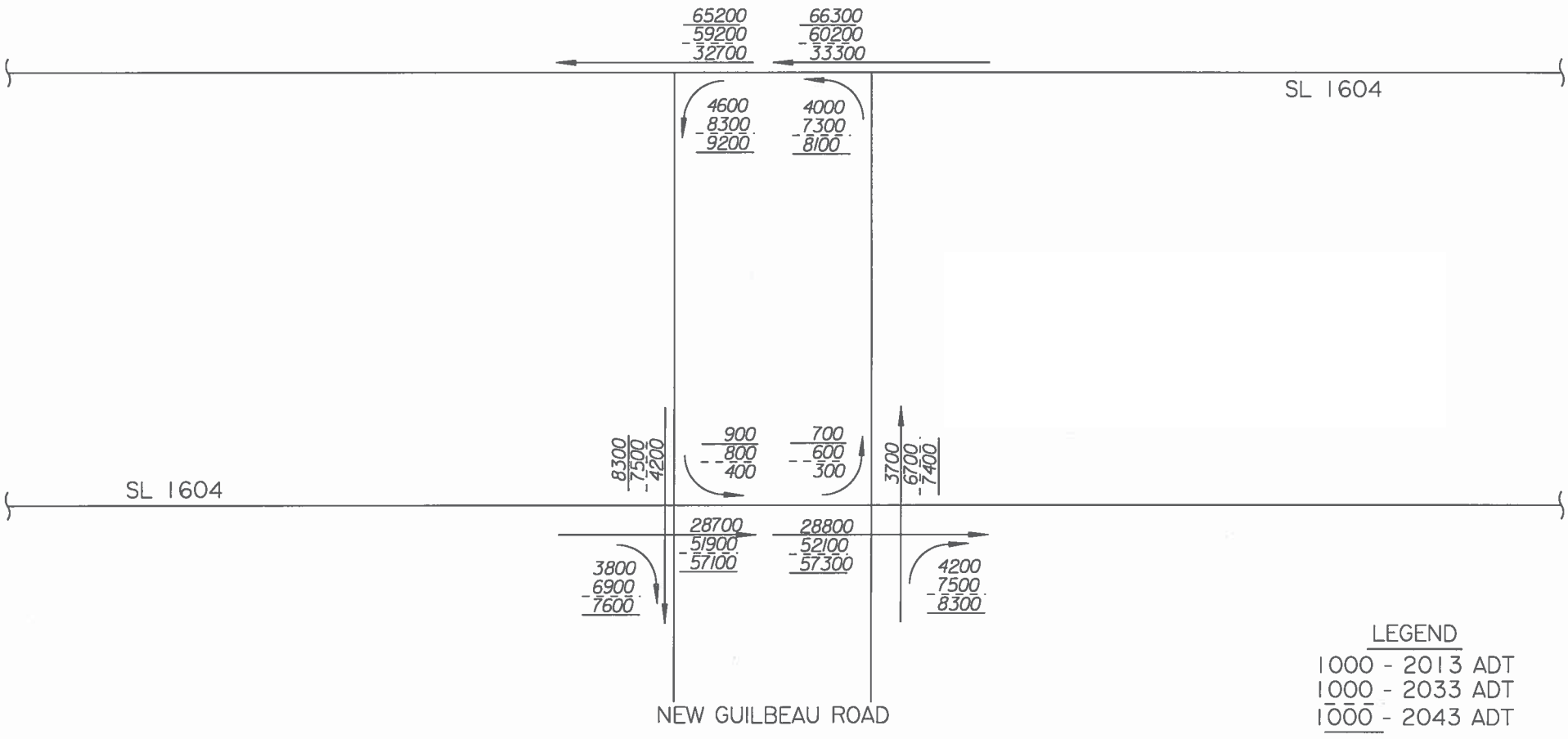

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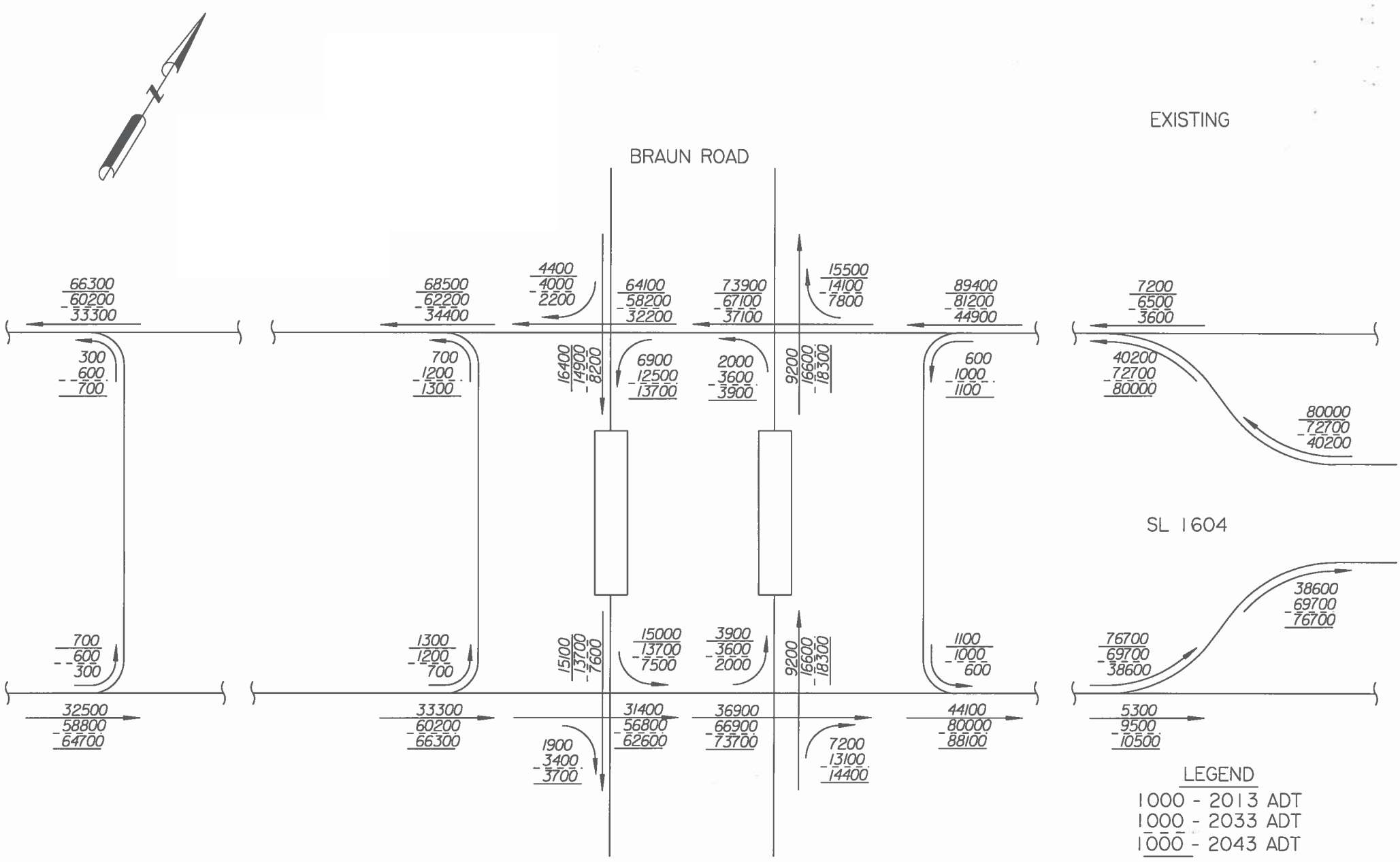

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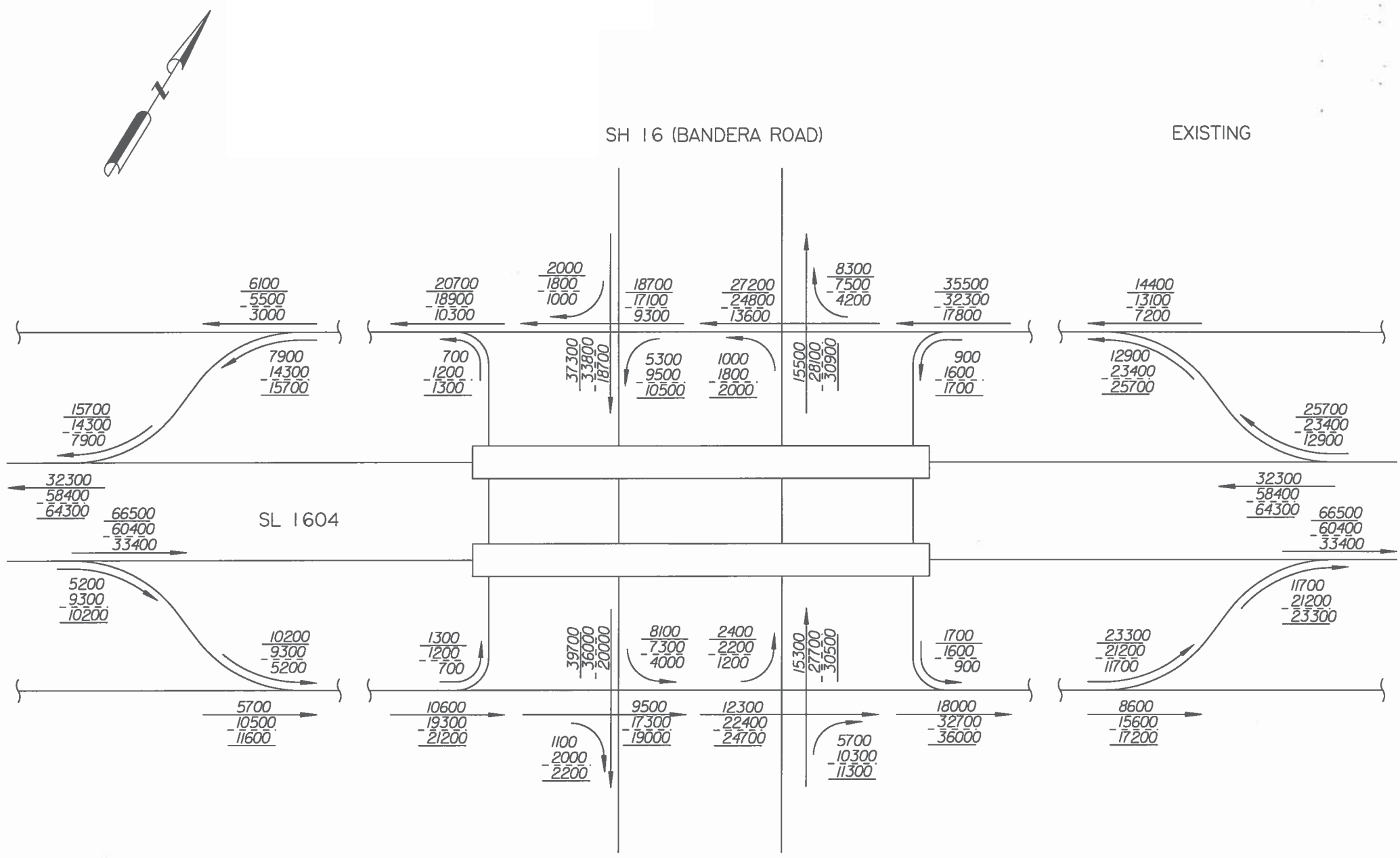

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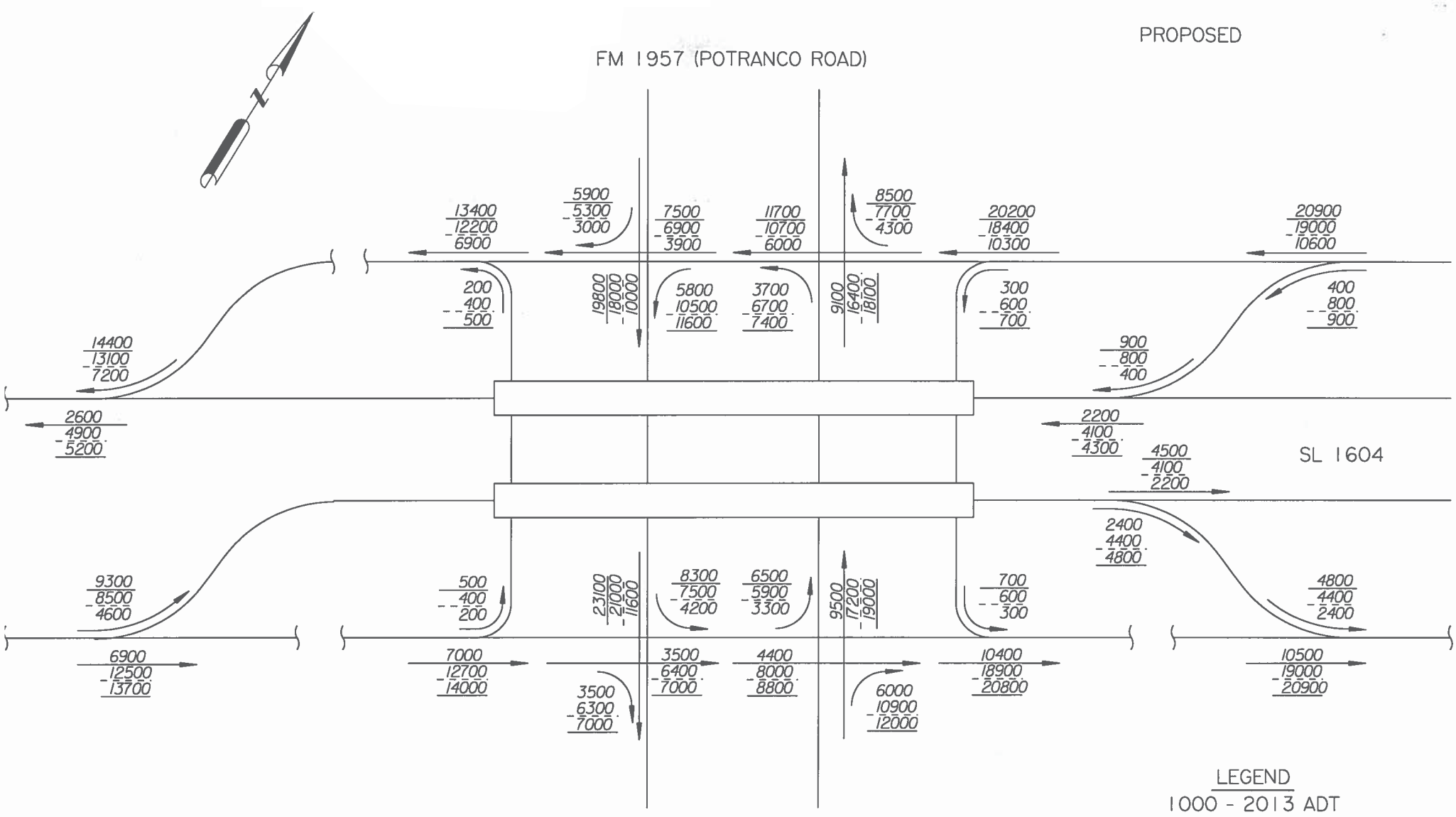

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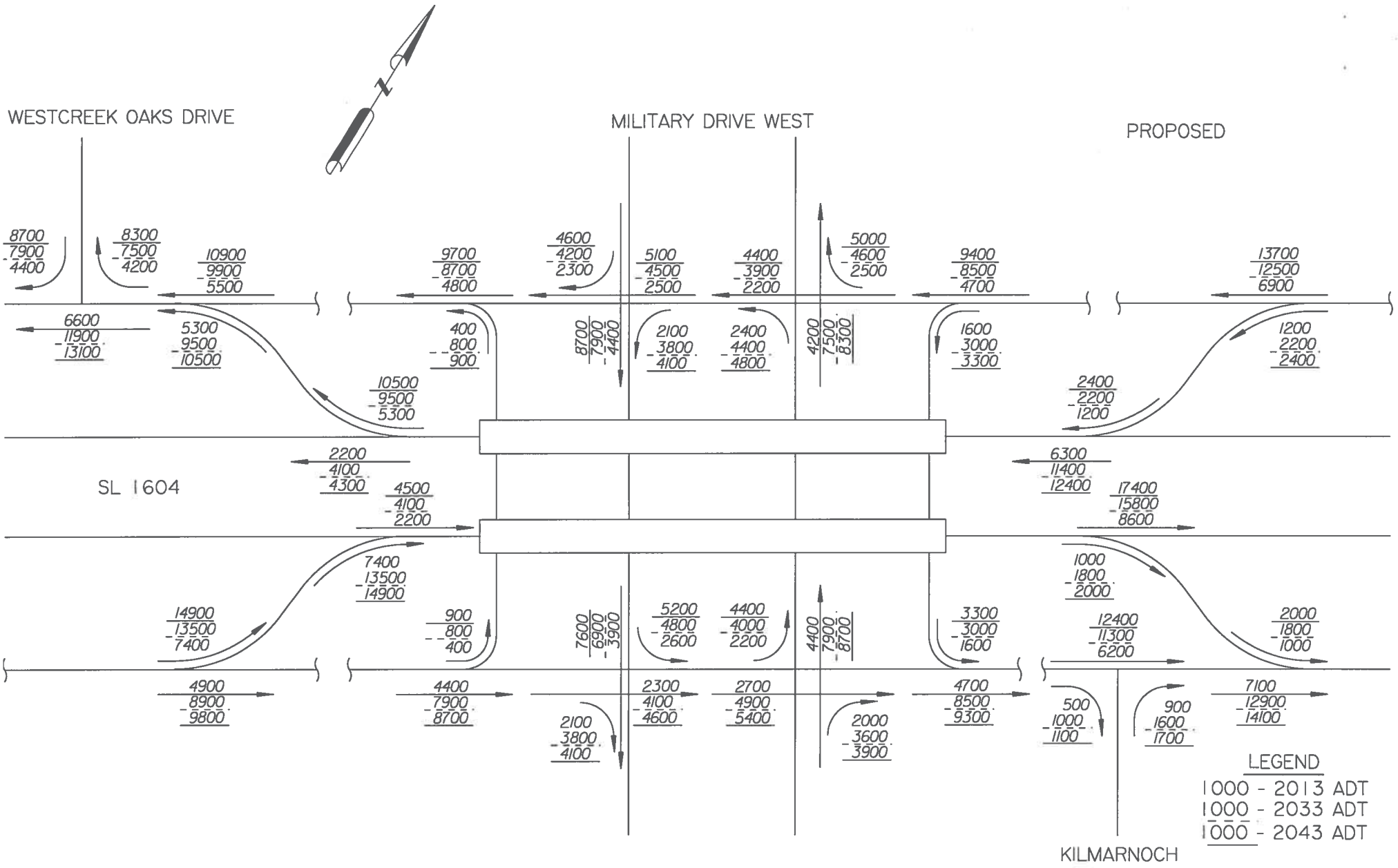

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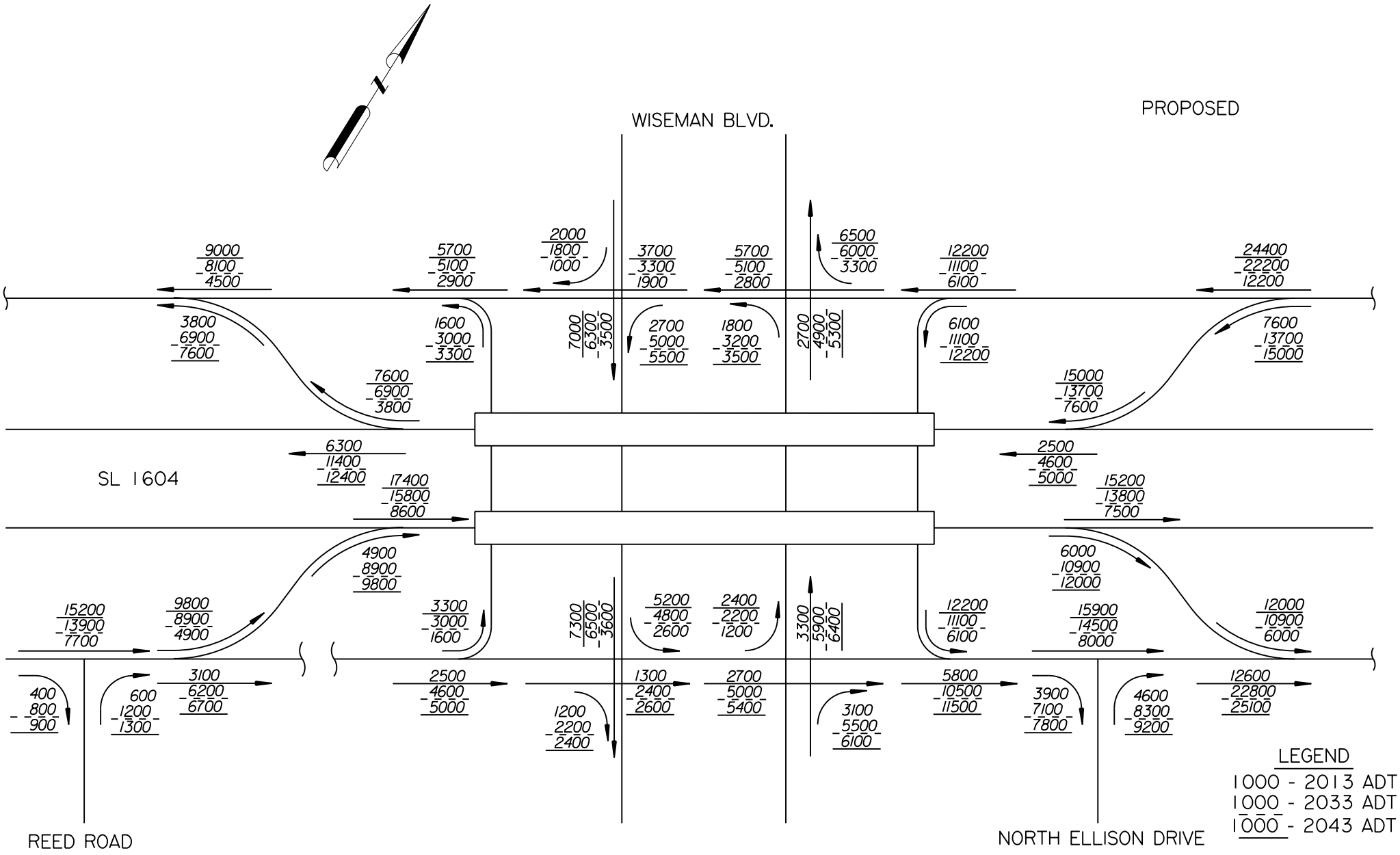

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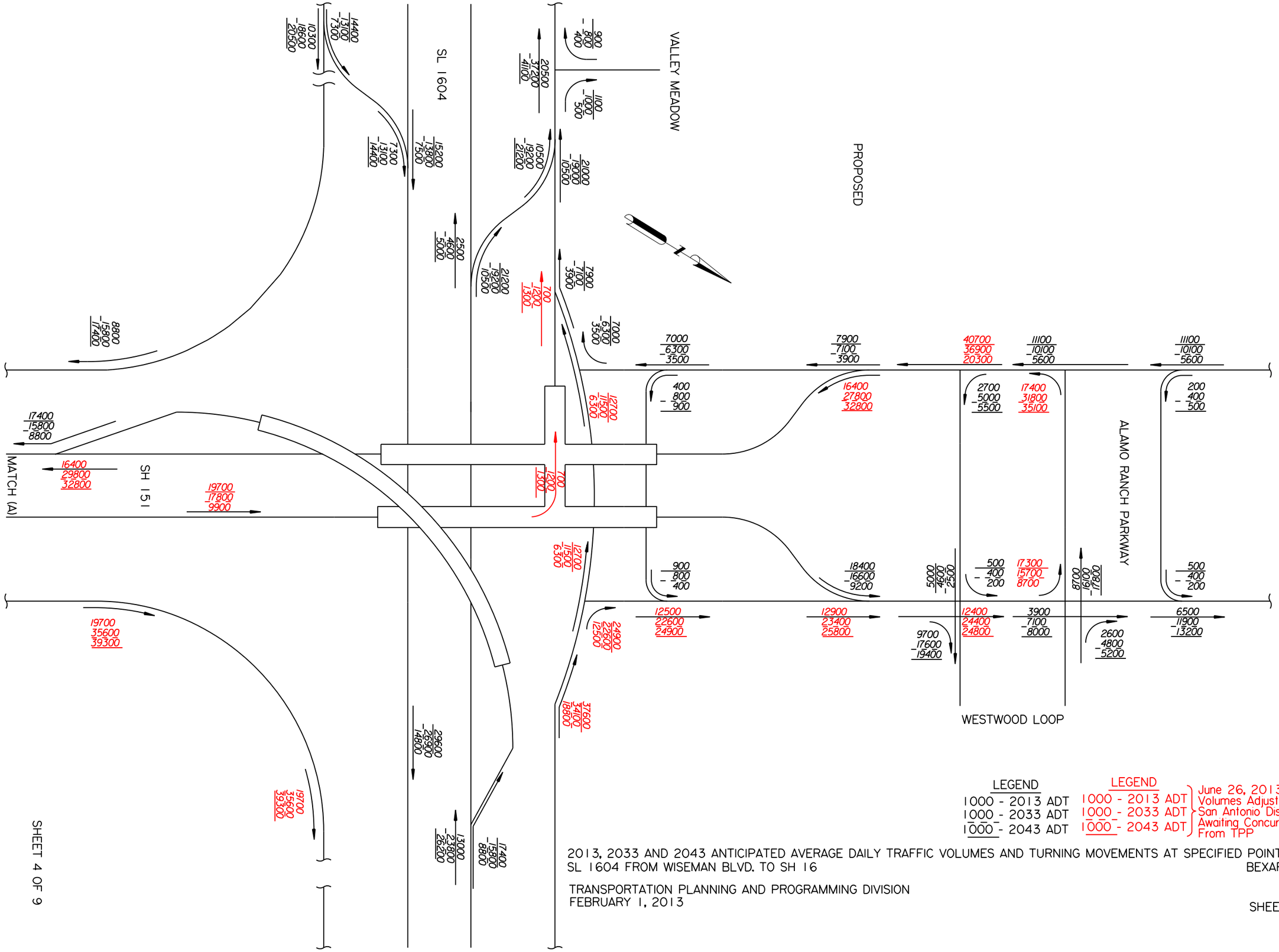

LEGEND	LEGEND	
1000 - 2013 ADT	1000 - 2013 ADT	June 26, 2013 Volumes Adjusted By San Antonio District Awaiting Concurrence From TPP
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2013, 2033 AND 2043 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SL 1604 FROM WISEMAN BLVD. TO SH 16

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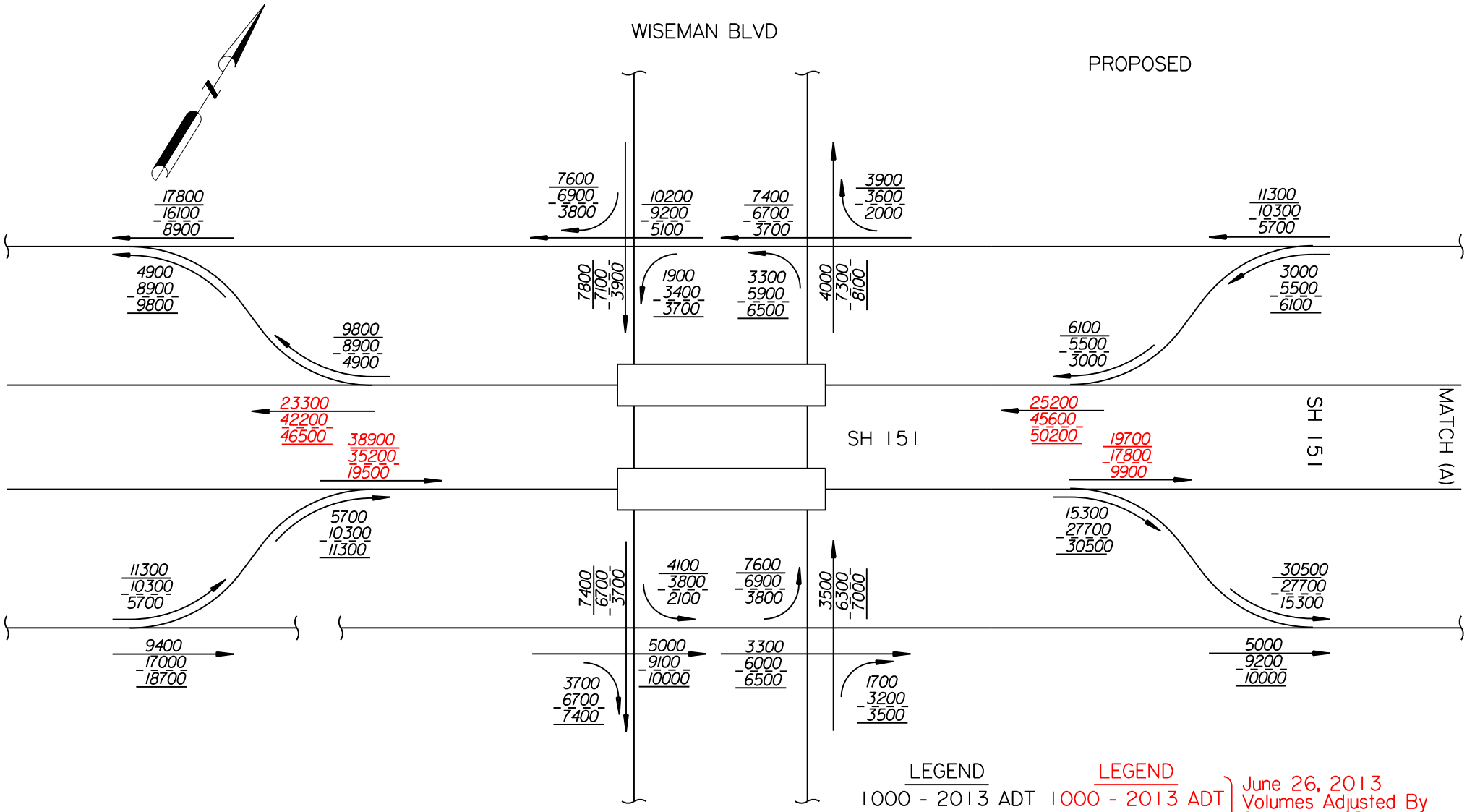

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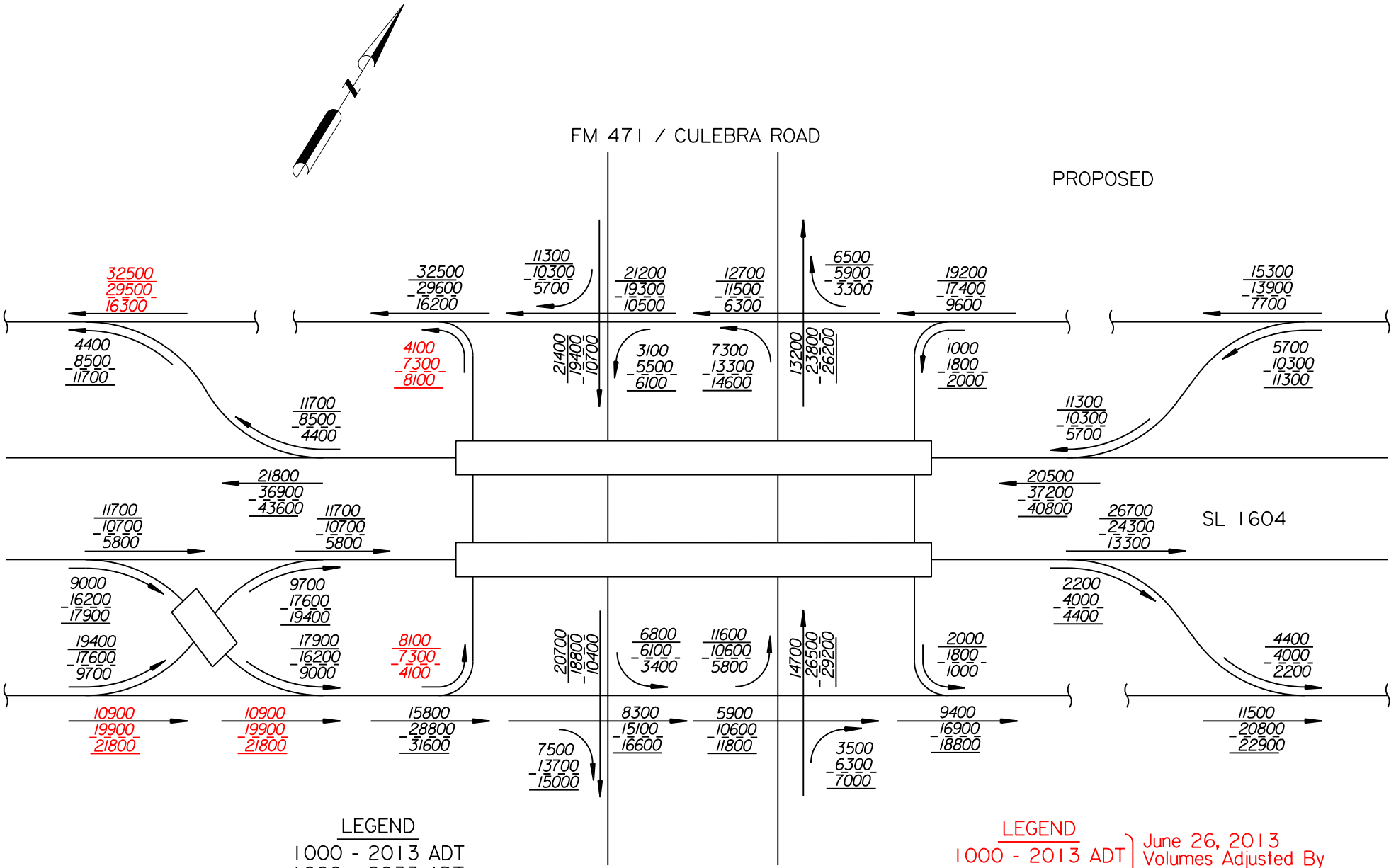

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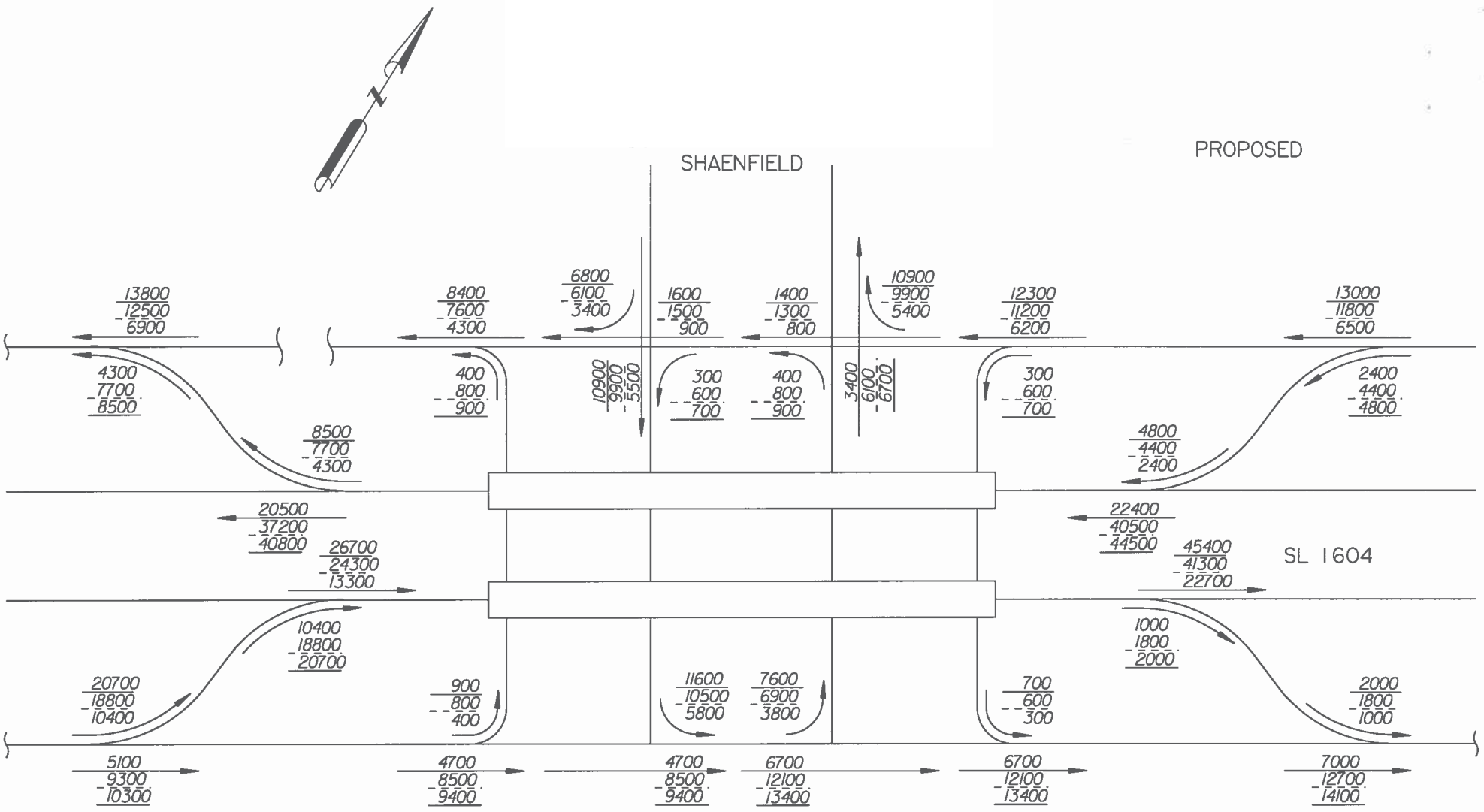

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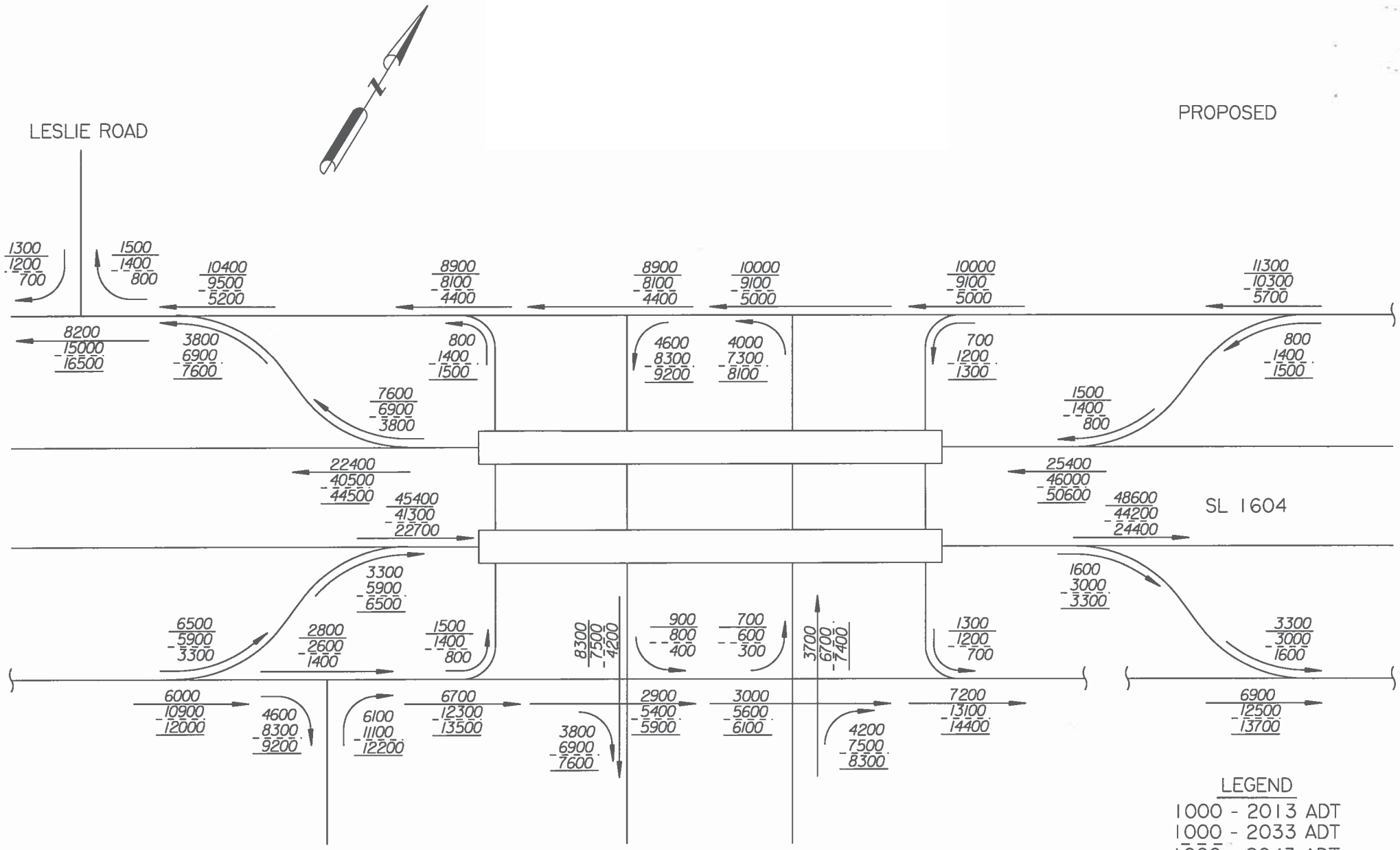

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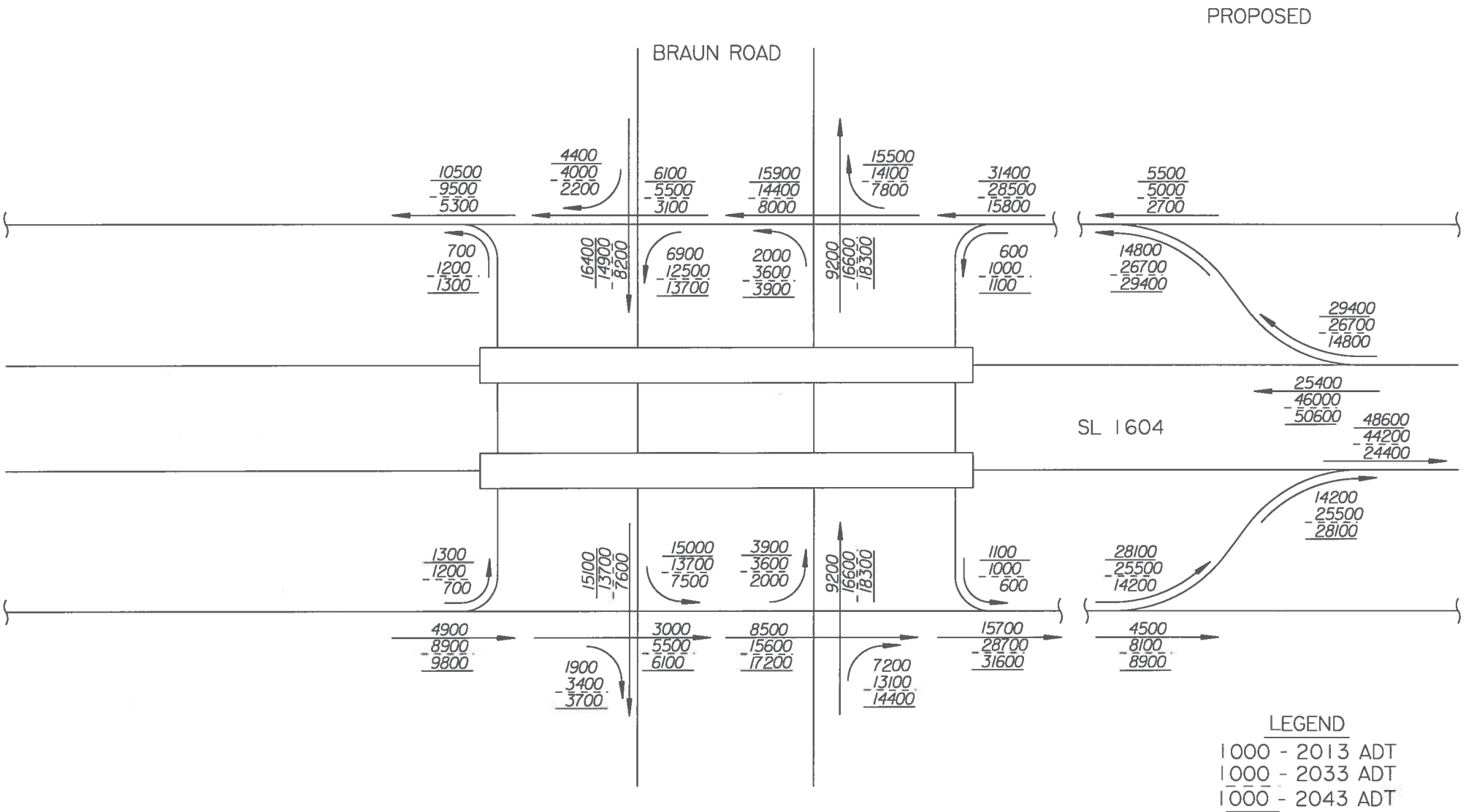

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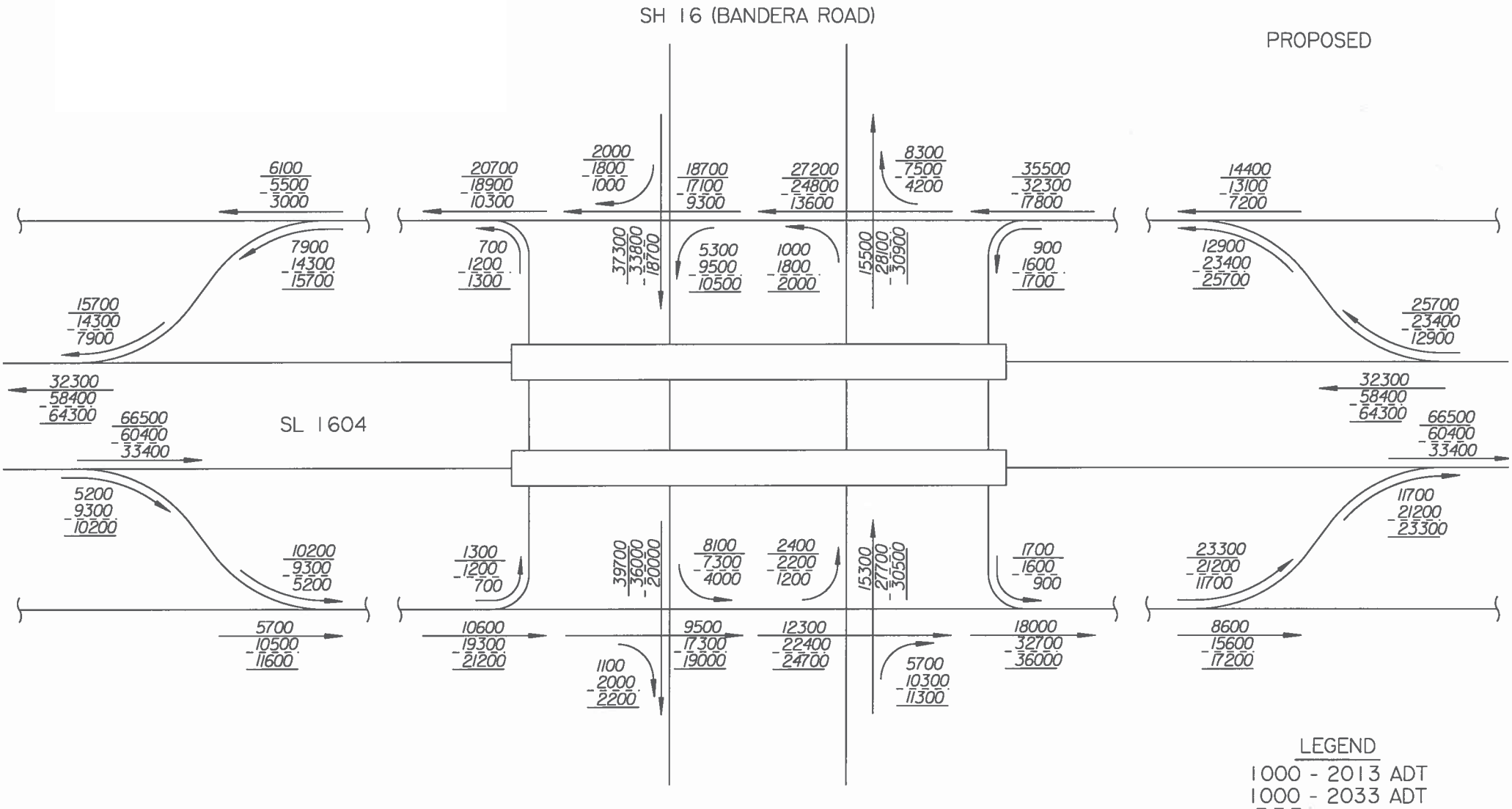

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BEXAR COUNTY

TRANSPORTATION PLANNING AND PROGRAMMING DIVISION
FEBRUARY 1, 2013

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District

January 29, 2013

Description of Location	Base Year Average Daily Traffic 2013	Base Year Average Daily Traffic 2033	Dir Dist %	K Factor	Percent Trucks ADT	Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2013 to 2033) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Existing Section 1 From Wiseman Blvd. To SH 151 Bexar County	46,300	83,600	57 - 43	8.2	5.8	3.8	12,200	20	9,290,000	3	11,409,000	8"

Data for Use in Air & Noise Analysis

Vehicle Class	Base Year % of ADT	Base Year % of DHV
Light Duty	94.2	96.2
Medium Duty	3.5	2.3
Heavy Duty	2.3	1.5

Description of Location	Base Year Average Daily Traffic 2013	Base Year Average Daily Traffic 2043	Dir Dist %	K Factor	Percent Trucks ADT	Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 30 Year Period (2013 to 2043) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Existing Section 1 From Wiseman Blvd. To SH 151 Bexar County	46,300	91,900	57 - 43	8.2	5.8	3.8	12,200	20	14,826,000	3	18,208,000	8"

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District

January 29, 2013

Description of Location	Base Year Average Daily Traffic 2013	Base Year Average Daily Traffic 2033	Dir Dist %	K Factor	Percent Trucks ADT	Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2013 to 2033) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Existing Section 2 From SH 151 To SH 16 Bexar County	87,500	158,400	57 - 43	8.2	4.1	2.7	12,400	20	12,514,000	3	15,322,000	8"

Data for Use in Air & Noise Analysis

Vehicle Class	Base Year % of ADT	Base Year % of DHV
Light Duty	95.9	97.3
Medium Duty	2.5	1.7
Heavy Duty	1.6	1.0

Description of Location	Base Year Average Daily Traffic 2013	Base Year Average Daily Traffic 2043	Dir Dist %	K Factor	Percent Trucks ADT	Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 30 Year Period (2013 to 2043) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Existing Section 2 From SH 151 To SH 16 Bexar County	87,500	174,400	57 - 43	8.2	4.1	2.7	12,500	20	19,992,000	3	24,477,000	8"

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District

January 29, 2013

Description of Location	Average Daily Traffic 2013	Average Daily Traffic 2033	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2013 to 2033) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Proposed Section 1 From Wiseman Blvd. To SH 151 Bexar County	48,500	88,100	57 - 43	8.2	5.7	3.8	12,200	20	9,604,000	3	11,792,000	8"

Data for Use in Air & Noise Analysis

Vehicle Class	Base Year % of ADT	Base Year % of DHV
Light Duty	94.3	96.2
Medium Duty	3.4	2.2
Heavy Duty	2.3	1.6

Description of Location	Average Daily Traffic 2013	Average Daily Traffic 2043	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 30 Year Period (2013 to 2043) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Proposed Section 1 From Wiseman Blvd. To SH 151 Bexar County	48,500	97,100	57 - 43	8.2	5.7	3.8	12,300	20	15,355,000	3	18,854,000	8"

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District **January 29, 2013**

Description of Location	Average Daily Traffic 2013	Average Daily Traffic 2033	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2013 to 2033) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Proposed Section 2 From SH 151 To SH 16 Bexar County	87,500	158,400	57 - 43	8.2	4.1	2.7	12,400	20	12,514,000	3	15,322,000	8"

Data for Use in Air & Noise Analysis

Vehicle Class	Base Year % of ADT	Base Year % of DHV
Light Duty	95.9	97.3
Medium Duty	2.5	1.7
Heavy Duty	1.6	1.0

Description of Location	Average Daily Traffic 2013	Average Daily Traffic 2043	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 30 Year Period (2013 to 2043) Flexible Pavement	S N	Rigid Pavement	SLAB
SL 1604 Proposed Section 2 From SH 151 To SH 16 Bexar County	87,500	174,400	57 - 43	8.2	4.1	2.7	12,500	20	19,992,000	3	24,477,000	8"

TEXAS DEPARTMENT OF TRANSPORTATION

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 17-1
CONCEPTUAL ITS LAYOUT

Executed Version

Dated as of: December 5, 2013


Site 1- LP 1604 @ SH 16
-DMS on T-Mount (SB)
-Bluetooth Reader
-Connect to exist. Fiber network
1
Site 2- LP 1604 @ Shaenfield
-CCTV Camera with T1 connection
2
Site 3- LP 1604 @ Culebra
-DMS on T-Mount (NB)
-CCTV Camera
-Bluetooth Reader
-T1 Connection for CCTV, DMS & Bluetooth
3
Site 4- LP 1604 @ SH 151
-CCTV Camera
-T1 Connection for CCTV
4
LP 1604 SH 16 to SH 151
Temporary ITS During Construction
Northside
Braun Rd
Galm Rd
Wildhorse Pkwy
Leslie Rd
Prue Rd
Camino Villa
OP Schnabel Park
Old Tezel Rd
Tezel Rd
Bandera Rd
Guilbeau Rd
Rochelle St
Bowens Crossing St
Weybridge
Dover Ridge
Mainland Dr
Silent Sunrise
Heath Cir Dr
Timber Trace St
Heath Rd
Timbertrail Dr
Grissom Rd
Les Harrison Dr
Cliffbrier Dr
Culebra Rd
Anderson Loop
Alamo Ranch Pkwy
Lone Star
Northwest
Wiseman Blvd
Nature Park
Babcock Rd
Cedar Park
Paloma Dr
Baxtershire
Sunset Blvd
Park Rd
Vollmer Ln
1604
16


Site 1- LP 1604 @ SH 16
-Relocate DMS & T-Mount (SB)
-Relocate Bluetooth Reader
-Connect to exist. Fiber network
1
Site 2- LP 1604 @ Braun
-CCTV Camera & Pole
-Radar Detectors (NB & SB)
-WER Local Hop
2
Site 3- LP 1604 @ Bowens Crossing
-WER Backhaul Link (to SH 16)
3
Site 4- LP 1604 @ Shaenfield
-DMS on T-Mount (SB)
-DMS on T-Mount (NB)
-CCTV Camera & Pole
-Radar Detectors (NB & SB)
-WER Local Hop
4
Site 5- LP 1604 @ Culebra
-Relocate DMS & T-Mount (NB)
-DMS & T-Mount (SB)
-Relocate Bluetooth Reader
-Relocate CCTV & Pole
-Radar Detectors (NB & SB)
-WER Backhaul Link to Bowens Crossing
5
Site 6- LP 1604 @ SH 151
--Relocate CCTV & Pole
-Radar Detectors (NB & SB)
-WER Local Link to Culebra
6
LP 1604 SH 16 to SH 151
Permanent ITS Equipment Layout
Nature Park
Donkey Flat
Bandera Rd
Leslie Rd
Prue Rd
Camino Villa
OP Schnabel Park
Braun Rd
Old Tezel Rd
Tezel Rd
Rochelle St
Guilbeau Rd
Galm Rd
Park Rd
Shaenfield Rd
Vollmer Ln
Bowens Crossing St
Weybridge
Les Harrison Dr
Culebra Rd
Timber Trace St
Timberhill Dr
Heath Rd
Grissom Rd
Northwest
1604
16

Texas Department of Transportation

TECHNICAL PROVISIONS

FOR

LOOP 1604 WESTERN EXTENSION PROJECT

ATTACHMENT 19-1
PERFORMANCE AND MEASUREMENT TABLE BASELINE

Executed Version
Dated as of: December 5, 2013

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
1) ROADWAY									
							Unless stated otherwise, measurements shall be conducted using procedures, techniques, and measuring equipment consistent with TxDOT's *Pavement Management Information System Rater's Manual.* Unless otherwise stated, pavement performance measurement records relate to 0.5-mile sections as described in the *Pavement Management Information System Rater's Manual*.		
	1.1	Obstructions and debris	Roadway and clear zone free from obstructions and debris	2 hrs	N/A	N/A	Visual Inspection	Number of obstructions and debris	Nil
	1.2	Pavement	All roadways have a smooth surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.						
							b) Ruts – Mainlanes, shoulders & ramps10ft straight edge used to measure rut depth for localized areas.	Depth of rut at any location greater than 0.5"	100%

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	1.2 con't.	Pavement		24 hrs	28 days	6 months			Nil Nil Nil
							c) Ride quality Measurement of International Roughness Index (IRI) according to TxDOT standard Tex-1001-S, Operating Inertial Profilers and Evaluating Pavement Profiles	For 80% of all Auditable Sections measured, IRI throughout 98% of each Auditable Section is less than or equal to: • Mainlanes, ramps - 120" per mile** • Frontage roads - 150" per mile** IRI measured throughout 98% of each lane containing a bridge deck in any Auditable Section , 0.1 mile average – 200" per mile	 100% 100% 100%
							3-ft straightedge used to measure discontinuities	Individual discontinuities greater than 0.75"	Nil
							d) Failures Instances of failures exceeding the failure criteria set forth in the TxDOT PMIS Rater's Manual, including potholes, base failures, punchouts and jointed concrete pavement	Occurrence of any failure	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
							failures		
							e) Edge drop-offs Physical measurement of edge drop-off level compared to adjacent surface	Instances of edge drop-off greater than 2"	Nil
							f) Skid resistance ASTM E274/E274M-11 Standard Test Method for Skid Resistance Testing of Paved Surfaces at 50 MPH using a full scale smooth tire meeting the requirements of ASTM E524-08 .	• Mainlanes, shoulders and ramps – Number of sections investigated as to potential risk of skidding accident and appropriate remedial action taken where average Skid Number for 0.5-mile section of mainlanes, shoulders and ramps are in excess of 30.	100%
	1.2 con't.	Pavement		24 hrs	28 days	6 months		• Frontage roads –Number of sections investigated as to potential risk of skidding accident and appropriate remedial action taken where average Skid Number for 0.5-mile section of frontage roads is in excess of 30.	100%

Table 19-1: Performance and Measurement Table Baseline

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

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	2.1	Pipes and Channels	Each element of the drainage system is maintained in its proper function by cleaning, clearing and/or emptying as appropriate from the point at which water drains from the travel way to the outfall or drainage way.	24 hrs	28 days	6 months	Visual inspection supplemented by CCTV where required to inspect buried pipe work	Length with less than 90% of cross section clear	Nil
	2.2	Drainage treatment devices	Drainage treatment and balancing systems, flow and spillage control devices function correctly and their location and means of operation is recorded adequately to permit their correct operation in Emergency.	24 hrs	28 days	6 months	Visual inspection	Devices functioning correctly with means of operation displayed	100%
	2.3	Travel Way	The travel way is free from water to the extent that such water would represent a hazard by virtue of its position and depth.	24 hrs	28 days	6 months	Visual inspection of water on surface	Instances of hazardous water build-up	Nil
	2.4	Discharge systems	Surface water discharge systems perform their proper function and discharge to groundwater and waterways complies with the relevant legislation and permits.	24 hrs	28 days	6 months	Visual inspection and records	Non-compliances with legislation	Nil
	2.5	Protected Species	Named species and habitats are protected.	24 hrs	28 days	6 months	Visual inspection	Compliance with the requirement	100%
3) STRUCTURES									
	3.1	Structures having	Substructures and	24 hrs	28 days	6	Inspection and assessment in	Records as required in the	

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
		an opening measured along the centre of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes	superstructures are free of: • graffiti • undesirable vegetation • debris and bird droppings • blocked drains, weep pipes manholes and chambers • blocked drainage holes in structural components • defects in joint sealants • defects in pedestrian protection measure • scour damage • corrosion of rebar • paint system failures • impact damage			months	accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge inspection Manual, and the Federal Administration's Bridge Inspector's Reference Manual.	TxDOT Bridge Inspection Manual Occurrences of condition rating below seven for any deck, superstructure or substructure All condition states to be one for all structure components	Nil 100%
	3.2	Structure components	i) Expansion joints are free of: • dirt debris and vegetation • defects in drainage systems	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection	Records as required in the TxDOT Bridge Inspection Manual	Nil
	3.2 con't.	Structure Components	• loose nuts and bolts • defects in gaskets ii) The deck drainage system is free of all and operates as intended. iii) Parapets are free of: • loose nuts or bolts • blockages of hollow section drain holes	24 hrs	28 days	6 months	Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge inspection Manual, and the Federal Administration's Bridge Inspector's Reference Manual.	Occurrences of condition rating below seven for any deck, superstructure or substructure All condition states to be one for all structure components	100%

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			• graffiti • vegetation • accident damage iv) Bearings and bearing shelves are clean. v) Sliding and roller surfaces are clean and greased to ensure satisfactory performance. Additional advice contained in bearing manufacturers' instructions in the Structure Maintenance Manual is followed. Special finishes are clean and perform to the appropriate standards. vii) All non-structural items such as hoists and electrical fixings, operate correctly, are clean and lubricated as appropriate, in accordance with the manufacturer's recommendations and certification of lifting						
	3.2 con't.	Structure Components	devices is maintained.	24 hrs	28 days	6 months			

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	3.3	Non-bridge class culverts	Non-bridge-class culverts are free of: • vegetation and debris and silt • defects in sealant to movement joints • scour damage	24 hrs	28 days	6 months	Visual inspection	Number with vegetation, debris and silt Number with defects in sealant and movement joints Number with scour damage	Nil Nil Nil
	3.4	Gantries and high masts	Sign signal gantries, high masts are structurally sound and free of: • loose nuts and bolts • defects in surface protection systems • graffiti	24 hrs	28 days	6 months	Visual inspection	Number with loose assemblies Number with defects in surface protection Number with graffiti	Nil Nil Nil
4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS									
	4.1	Pavement markings	Pavement markings are: • clean and visible during the day and at night • whole and complete and of the correct color, type, width and length • placed to meet the TMUTCD and TxDOT's Pavement Marking Standard Sheets	24 hrs	28 days	6 months	a) Markings - General Portable retroreflectometer, which uses 30 meter geometry meeting the requirements described in ASTM E 1710 Physical measurement	Length meeting the minimum retroreflectivity 175 mcd/sqm/lx for white Length meeting the minimum retroreflectivity 125 mcd/sqm/lx for yellow Length with more than 5% loss of area of material at any point Length with spread more than 10% of specified	100% 100% Nil Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
							b) Profile Markings Visual inspection	dimensions. Length performing its intended function and compliant with relevant regulations	100%
	4.2	Raised reflective markers	Raised reflective pavement markers, object markers and delineators are: • Clean and clearly visible • Of the correct color and type • Reflective or retroreflective as TxDOT standard • Correctly located, aligned and at the correct level • Are firmly fixed • Are in a condition that will	24hrs	28 days	6 months	Visual inspection	Number of markers associated with road markings that are ineffective in any 10 consecutive markers. (Ineffective includes missing, damaged, settled or sunk.) A minimum of four markers should be visible at 80' spacing when viewed under	Nil 100%
	4.2 con't.	Raised reflective markers	ensure that they remain at the correct level.	24 hrs	28 days	6 months		under low beam headlights. Uniformity (replacement rpms having equivalent physical and performance characteristics to adjacent markers).	100%
	4.3	Delineators & Markers	Object markers, mail box markers and delineators are: • clean and visible • of the correct color and type • legible and reflective • Straight and Vertical	24 hrs	28 days	6 months	Visual inspection	Number of object markers or delineators defective or missing	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
5) GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS									
	5.1	Guard rails and safety barriers	All guardrails, safety barriers, concrete barriers, etc... are maintained free of Defects. They are appropriately placed and correctly installed at the correct height and distance from roadway or obstacles. Installation and repairs shall be carried out in accordance with the requirements of NCHRP 350 standards.	24 hrs	28 days	6 months	Visual inspection	Length of road restraint systems correctly installed Length free from defects Length at correct height Length at correct distance from roadway and obstacle	100% 100% 100% 100%
	5.2	Impact attenuators	All impact attenuators are appropriately placed and correctly installed	24 hrs	7 days	6 months	Visual inspection	Number correctly placed and installed	100%
6) TRAFFIC SIGNS									
	6.1	General – All Signs	i) Signs are clean, correctly located, clearly visible, legible, reflective, at the correct height and free from structural and electrical defects	24 hrs	28 days	6 months	**a) Retroreflectivity** Coefficient of retro reflectivity	Number of signs with reflectivity below the requirements of TxDOT's TMUTCD	Nil
			ii) Identification markers are provided, correctly located, visible, clean and legible				**b) Face damage** Visual inspection	Number of signs with face damage greater than 5% of area	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			iii) Sign mounting posts are vertical, structurally sound and rust free				**c) Placement** Visual inspection	Signs are placed in accordance with TxDOT's Sign Crew Field Book including not twisted or leaning	100%
			iv) All break-away sign mounts are clear of silt or other debris that could impede break-away features and shall have correct stub heights				**d) Obsolete signs** Visual inspection	Number of obsolete signs	Nil
			v) Obsolete and redundant signs are removed or replaced as appropriate vi) Visibility distances meet the stated requirements				**e) Sign Information** Visual inspection	Sign information is of the correct size, location, type and wording to meet its intended purpose	100%
			vii) Sign information is of the correct size, location, type and wording to meet its intended purpose and any statutory requirements				**f) Dynamic Message Signs** Visual inspection	Dynamic message signs are fully functioning	100%
	6.1 con't.	General – All Signs	viii) All structures and elements of the signing system are kept clean and free from debris and have clear access provided. ix) All replacement and repair materials and equipment are in accordance with the	24 hrs	28 days	6 months			
	6.2	General - Safety critical signs	i) Requirements of the TMUTCD	2hrs	1 week	6 months	Visual inspection	Number of damaged Safety critical signs	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			ii) Dynamic message signs are in an operational condition						
7) TRAFFIC SIGNALS									
	7.1	General	i) Traffic Signals and their associated equipment are: • clean and visible • correctly aligned and operational • free from damage caused by accident or vandalism • correctly aligned and operational ii) Signal timing and operation is correct iii) Contingency plans are in place to rectify Category 1 defects not immediately repairable to assure alternative traffic control is provided during a period of failure	2 hrs	24 hrs	6 months	**a) General condition** Visual inspection **b) Damage** Visual inspection **c) Signal timing** Timed measurements **d) Contingency plans** Records Review	Signals are clean and visible Signals are undamaged Installations have correct signal timings Full contingency plans are in place	100% 100% 100% 100%
	7.2	Soundness	Traffic Signals are structurally and electrically sound	24 hrs	28 days	6 months	**a) Structural soundness** Visual inspection **b) Electrical soundness**	Inspection records showing	100%
	7.2 con't.	Soundness		24 hrs	28 days	6 months	Testing to meet NEC regulations	safe installation and maintenance	
	7.3	Identification marking	Signals have identification markers and the telephone number for reporting faults are correctly located, clearly visible, clean and legible	N/A	28 days	6 months	Visual inspection	Inspection records showing identification markers and other information are easily readable	100%

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	7.4	Pedestrian Elements and Vehicle Detectors	All pedestrian elements and vehicle detectors are correctly positioned and fully functional at all times	24 hrs	28 days	6 months	Visual Inspection	Inspection records showing compliance	100%
8) LIGHTING									
	8.1	Roadway Lighting – General	i) All lighting is free from defects and provides acceptable uniform lighting quality ii) Lanterns are clean and correctly positioned iii) Lighting units are free from accidental damage or vandalism iv) Columns are upright, correctly founded, visually acceptable and structurally sound	24 hrs	28 days	6 months	**a) Mainlane lights operable** Night time inspection or automated logs **b) Mainlane lights out of action** Night time inspection or automated logs	Number of sections with less than 90% of lights functioning correctly at all times Instances of more than two consecutive lights out of action	Nil Nil
	8.2	Sign Lighting	Sign lighting is fully operational	24 hrs	28 days	6 months	Night time inspection or automated logs	Instances of more than one bulb per sign not working	Nil
	8.3	Electrical Supply	Electricity supply, feeder pillars, cabinets, switches and fittings are electrically, mechanically and structurally sound and functioning	24 Hrs	7 Days	1 Month	Testing to meet NEC regulations, visual inspection	Inspection records showing safe installation and maintenance	100%
	8.4	Access Panels	All access panels in place at all times.	24 Hrs	7 Days	1 Month	Visual Inspection	Instances of missing access panels	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	8.5	High Mast Lighting	i) All high mast luminaries functioning on each pole ii) All obstruction lights are present and working (if required) iii) Compartment door is secure with all bolts in place iv) All winch and safety equipment is correctly functioning and maintained without rusting or corrosion (for structural requirements refer to Element Category 3)	24 hrs	48 hrs	1 Month	Yearly inspection and night time inspections or automated logs	Instances of two or more lamps not working per high mast pole Identification of other defects	Nil Nil
9) FENCES, WALLS AND SOUND ABATEMENT									
	9.1	Design and Location	Fences and walls act as designed and serve the purpose for which they were intended	24 hrs	28 days	6 months	Visual Inspection	Inspection records showing compliance	100%
	9.2	Construction	Integrity and structural condition of the fence is maintained	24 hrs	28 days	6 months	Structural assessment if visual inspection warrants	Inspection records showing compliance	100%

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
10) ROADSIDE MANAGEMENT									
	10.1	Vegetated Areas – Except landscaped areas – General	Vegetation is maintained so that: i) Height of grass and weeds is kept within the limits described for urban and rural areas. Mowing begins before vegetation reaches the maximum height.	24 hrs	7 days	28 days	**a) Urban areas** Physical measurement of height of grass and weeds	Individual measurement areas to have 95% of height of grass and weeds between 5 in. and 18 in	100%
			ii) Spot mowing at intersections, ramps or other areas maintains visibility of appurtenances and sight distance.				**b) Rural areas** Physical measurement of height of grass and weeds	Individual measurement areas to have 95% of height of grass and weeds between 5 in. and 30 in	100%
			iii) Grass or vegetation does not encroach into or on paved shoulders, main lanes, sidewalks, islands, riprap, traffic barrier or curbs.				**c) Encroachment** Visual inspection of instances of encroachment of vegetation	Occurrences of vegetation encroachment in each auditable section	Nil
			iv) A herbicide program is undertaken in accordance with the TxDOT Herbicide Manual to control noxious weeds and to eliminate grass in pavement or concrete.				**d) Wildflowers** Visual Inspection with audit of process.	Adherence to vegetation management manuals	100%
			v) A full width mowing cycle is completed after the first frost.				**e) Sight lines** Visual inspection	Instances of impairment of sight lines or sight distance to signs	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			vi) Wildflowers are preserved utilizing the guidelines in the mowing specifications						
	10.1 con't.	Vegetated Areas – Except landscaped areas – General	and TXDOT *Roadside Vegetation Manual*.	24 hrs	7 days	28 days			
	10.2	Landscaped Areas	i) All landscaped areas are maintained to their originally construction condition. Landscaped areas are as designated in the plans. ii) Mowing, litter pickup, irrigation system maintenance and operation, plant maintenance, pruning, insect, disease and pest control, fertilization, mulching, bed maintenance, watering is undertaken as per FMP. iii) The height of grass and weeds is kept between 2" and 8". Mowing begins before vegetation reaches 8" iv) Damaged or dead vegetation is replaced.	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance	100%
	10.3	Fire Hazards	Fire hazards are controlled	24 hrs	7 days	28 days	Visual inspection	Instances of dry brush or vegetation forming fire hazard	Nil

Table 19-1: Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	10.4	Trees, brush and ornamentals	i) Trees, brush and ornamentals on the right of way, except in established no mow areas, are trimmed in accordance with TxDOT standards. ii) Trees, brush and ornamentals are trimmed to insure they do not interfere with vehicles or sight distance, or inhibit the visibility of signs. iii) Dead trees, brush, ornamentals and branches are removed. Potentially dangerous trees or limbs are removed. iv) All undesirable trees and vegetation are removed. Diseased trees or limbs are treated or removed by licensed contractors.	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance	100%
	10.5	Wetlands	Wetlands are managed in accordance with the permit requirements	24 hrs	7 days	28 days	Visual inspection, assessment of permit issuers	Instances of permit requirements not met	Nil

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
11) REST AREAS AND PICNIC AREAS									
	11.1	Rest areas and picnic areas	i) Picnic areas are clean and neat in appearance.	24 hrs	28 days	6 months	Inspection records showing compliance	Instances where 90% of measured area shall have grass and weeds height between 2 in. and 8 in.	100%
			ii) Trash barrels are painted and attached to their supports to prevent stealing.					Mowing shall begin before vegetation reaches 8 in.	100%
			iii) Site free of any visible litter, all litter properly disposed. Litter removed from the picnic area grounds and barrels before being allowed to accumulate outside of the barrels.					Number of bare ground areas larger than 5 square feet	Nil
			iv) All vehicles used in transporting litter are equipped to prevent the accumulated litter from being strewn along the roadway.					Number of prohibited, invasive or noxious weeds present.	Nil

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			v) Vegetation damaged due to improper or careless mowing and trimming operations or any other reason is replaced.					Occurrences of encroachment of vegetation or debris for more than two (2) inches onto any curb or sidewalk located throughout each rest area.	Nil
	11.1 cont	Rest areas and picnic areas	vi) Weeds, grass and other undesirable growth are removed from beds of plants and shrubs as needed. Trees and shrubs are trimmed neatly. All curbs and sidewalks are edged and repaired.	24 hrs	28 days	6 months		Occurrences of deviation of soil or mulch above or below the top of the curb.	Nil
			vii) All picnic tables are clean, free of stains and free of any defect.					Paved surfaces maintained clean and safe with minimal obstruction.	100%
			viii) All directional, informational, safety and any other type of signage is properly installed, contains accurate information and is visible from a reasonable distance.					Occurrences of undermining greater than 2”	Nil
			ix) All striping is intact and all parking and travel areas are clearly marked.					Number of unsealed cracks > ½ inch.	Nil
			x) All curbs are in place and intact.					Number of lights fully functional.	100%
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS									

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

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	13.1	ETCS Equipment – Maintenance	All ITS and ETCS equipment is fully functional and housing is functioning and free of defects. i) All equipment and cabinet identification numbers are visible, sites are well drained and access is clear. ii) Steps, handrails and accesses are kept in a good condition. iii) Access to all communication hubs, ground boxes, cabinets and sites is clear, iv) All drainage is operational and all external fixtures and fittings are in a satisfactory condition. v) All communications cable markers, cable joint markers and duct markers are visible and missing	24 hrs	14 days	1 month	Visual Inspection	Inspection records showing compliance	100%
13) ITS and ETCS EQUIPMENT									
	13.1 con't.	ETCS Equipment – Maintenance	markers are replaced. vi) Backup power supply system is available at all times	24 hrs	14 days	1 month	Visual Inspection	Inspection records showing compliance	100%
	13.2	VES Equipment - Maintenance	All VES equipment is kept clean, the identification numbers are visible.	24 hrs	14 days	1 month	Visual Inspection	Inspection records showing compliance	100%

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	13.3	Dynamic Message Sign Equipment	Dynamic Message Signs are free from faults such as: i) Any signal displaying an message which is deemed to be a safety hazard ii) Failure of system to clear sign settings when appropriate. iii) 2 or more contiguous sign failures that prevent control office setting strategic diversions iv) Signs displaying an incorrect message.	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance	100%
	13.4	CCTV Equipment	CCTV Systems are free from faults that limit the availability of the operators to monitor the area network, such as: i) Failure of CCTV Systems to provide control offices with access and control of CCTV images ii) Failure of a CCTV camera or its video transmission	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance	100%
	13.4 con't.	CCTV Equipment	system. iii) Failure of a Pan / Tilt unit or its control system. iv) Moisture ingress onto CCTV camera lens v) Faults that result in significant degradation of CCTV images	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance	100%

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	13.5	Vehicle Detection Equipment	All equipment free of defects and operational problems such as; i) Inoperable loops. ii) Malfunctioning camera controllers.	2 hrs	24 hrs	1 month	Defect measurement dependent on equipment Traffic Detector Loops: Loop circuit's inductance to be > 50 and < 1,000 micro henries. Insulation resistance to be > 50 meg ohms.	Inspection records showing compliance Instances of loops out of compliance	100% Nil
14) TOLLING Facilities and Buildings (Not Used)									
15) AMENITY									
	15.1	Graffiti	Graffiti is removed in a manner and using materials that restore the surface to a like appearance similar to adjoining surfaces	24 hrs	28 days	6 months	All graffiti is considered a Category 1 defect	Inspection records showing compliance	100%
16) SNOW AND ICE CONTROL									
	16.1	Travel lanes	Maintain travel way free from snow and ice	2hrs	N/A	N/A	Maximum 1hr response time to complete manning and loading of spreading vehicles Maximum 2hrs from departure from loading point to complete treatment and return to loading point	Inspection records showing compliance	100%
	16.1 con't.	Travel lanes		2hrs	N/A	N/A	Maximum 1hr response time for snow and ice clearance vehicles to depart from base		
17) INCIDENT RESPONSE									
	17.1	General	Respond to Incidents in	1 hr	N/A	N/A	Response times met for 98% of	Inspection records showing	100%

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			accordance with Section 22.				incidents measured on a 1 year rolling basis. No complaints from Emergency Services.	compliance	
	17.2	Hazardous Materials	For any hazardous materials spills, comply with the requirements of Section 22.	1 hr	N/A	N/A	FMP details the process and procedures in place and followed.	Inspection records showing compliance	100%
	17.3	Structural assessment	Evaluate structural damage to structures and liaise with emergency services to ensure safe working in clearing the incident	1 hr	N/A	N/A	Inspections and surveys as required by incident	Incident reports showing compliance	100%
	17.4	Temporary and permanent remedy	Propose and implement temporary measures or permanent repairs to Defects arising from the Incident.	24hrs	28 days	N/A	Review and inspection of the incident site	Auditable inspection records showing compliance	100%
	17.4 con't.	Temporary and permanent remedy	Ensure the structural safety of any structures affected by the incident.	24hrs	28 days	N/A			
18) CUSTOMER RESPONSE									
	18.1	Response to inquiries	Timely and effective response to customer inquiries and complaints.	48 hrs	28 days	N/A	Contact the customer within 48 hours following initial customer inquiry.	Number of responses within specified times	100%

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
							All work resulting from customer requests is scheduled within 48 hours of customer contact. Follow-up contact with the customer within 72 hours of initial inquiry. All customer concerns/requests are resolved to TxDOT's satisfaction within 2 weeks of the initial inquiry.		
	18.2	Customer contact line	Telephone line manned during business hours and 24 hour availability of messaging system. Faults to telephone line or message system rectified.	24 hrs	28 days	N/A	Instances of line out of action or unmanned	Operations records showing non availability including complaints from public.	nil
19) SWEEPING AND CLEANING									
	19.1	Sweeping	i) Keep all channels, hard shoulders, gore areas, ramps, intersections, islands and frontage roads swept clean.	24 hrs	28 days	6 months	Buildup of dirt, ice rock, debris, etc. on roadways and bridges not to accumulate greater than 24" wide or 1/2" deep	Inspection records showing compliance	100%

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ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	19.1 con't.	Sweeping	ii) Clear and remove debris from traffic lanes, hard shoulders, verges and central reservations. footways and cycle ways iii) Remove all sweepings without stockpiling in the right of way and dispose of at approved tip.	24 hrs	28 days	6 months			
	19.2	Litter	i) Keep the right of way in a neat condition, remove litter regularly. ii) Pick up large litter items before mowing operations. iii) Dispose of all litter and debris collected at an approved solid waste site.	24 hrs	28 days	6 months	No more than 20 pieces of litter per roadside mile shall be visible when traveling at highway speed.	Inspection records showing compliance	100%