Product 0-4661-P2

ESSENTIAL ELEMENTS OF CDA MASTER CONTRACT

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Project 0-4661: Monitoring and Evaluation of SH 130 Project Construction

AUGUST 2004

Performing Organization:	**Sponsoring Organization:**
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Project conducted in cooperation with the U. S. Department of Transportation, Federal Highway Administration, and the Texas Department of Transportation.

Abstract:	**Keywords:**	**No. of Pages:**
This paper includes an overview of CDA Master Contract elements, a matrix of fundamental differences between CDA versus traditional contracting, and a set of lessons learned pertaining to contract clauses. It also summarizes an analysis of selected clauses focusing on guidance to project practitioners.	Procurement, Comprehensive Development Agreement, CDA	82

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Table of Contents

List of Figures

List of Tables

1. Introduction

This report provides an analysis of the Comprehensive Development Agreement (CDA) contract essential elements, and associated lessons learned. The purpose of this research product is to facilitate the preparation of future CDA contracts. This document primarily includes findings from the State Highway 130 (SH 130) project, but it also incorporates some findings from the State Highway 45 Southeast (SH 45 SE) project, currently underway within the Austin District.

Since the SH 130 project agreement was signed, legislative changes substituted the term CDA (Comprehensive Development Agreement) for Exclusive Development Agreement (EDA). Thus, *CDA* is used within this report in order to take in consideration this change in nomenclature. CDA contracting is the statutory approach for adopting innovative contracting methods in the State of Texas. In order to be considered to be a CDA, a project has to follow the characteristics of Design–Build (D–B) contracting, defined as follows:

> *A comprehensive development agreement is an agreement with a private entity that, at a minimum, provides for the design and construction of a transportation project and may also provide for the financing, acquisition, maintenance, or operation of a transportation project.*
> [Source: Texas Transportation Code, Title 6, Section 370.305, subsection (b)]

The U.S. Code defines a D–B contract as "an agreement that provides for design and construction of a project by a contractor, regardless of whether the agreement is in the form of a design–build contract, a franchise agreement, or any other form of contract approved by the Secretary" [of Transportation]. (U.S. Code Title 23, Section 112)

The research team conducted interviews of Texas Department of Transportation (TxDOT) personnel and TxDOT consultants accountable for the contracting in order to determine the essential elements of a CDA master contract. Figure 2.1 explains the structure of Product No. 2 (P2) that includes the following: (1) an overview of CDA master contract elements in form of flowcharts (Section 3.1) and a table (Appendix A); (2) a

matrix of fundamental differences between CDA versus traditional contracting (Appendix B); and (3) a set of lessons learned pertaining to contract clauses (Appendix C).

2. Research Methodology

In order to achieve the established Product No. 2 (P2) objective, the research team followed a methodology that is represented in Figure 2.1. Initially, we identified contracting guidelines for traditional projects. We conducted a concurrent thorough analysis of the SH 130 Exclusive Development Agreement (EDA) contract in order to understand substantial differences between CDA contracting and conventional design-bid-build contracting. The verification of these activities with findings resulting from research task No. 2 ("Develop a streamlined CDA procurement process") and research task No. 6 ("Consolidate and synthesize lessons learned") allowed the researchers to outline a draft list of standard clauses for CDA contracting.

That draft was tested and submitted for feedback on necessary provisions through a first round of interviews with SH 130 project personnel and TxDOT legal consultants. The activities that were conducted to develop this approach are given in Table 2.1. The analysis was widened to take advantage of lessons learned thus far on SH 45 SE. A matrix with fundamental differences between CDA versus traditional contracting was developed. In addition, lessons learned pertaining to contract clauses were selected.

Figure 2.1 Research Methodology

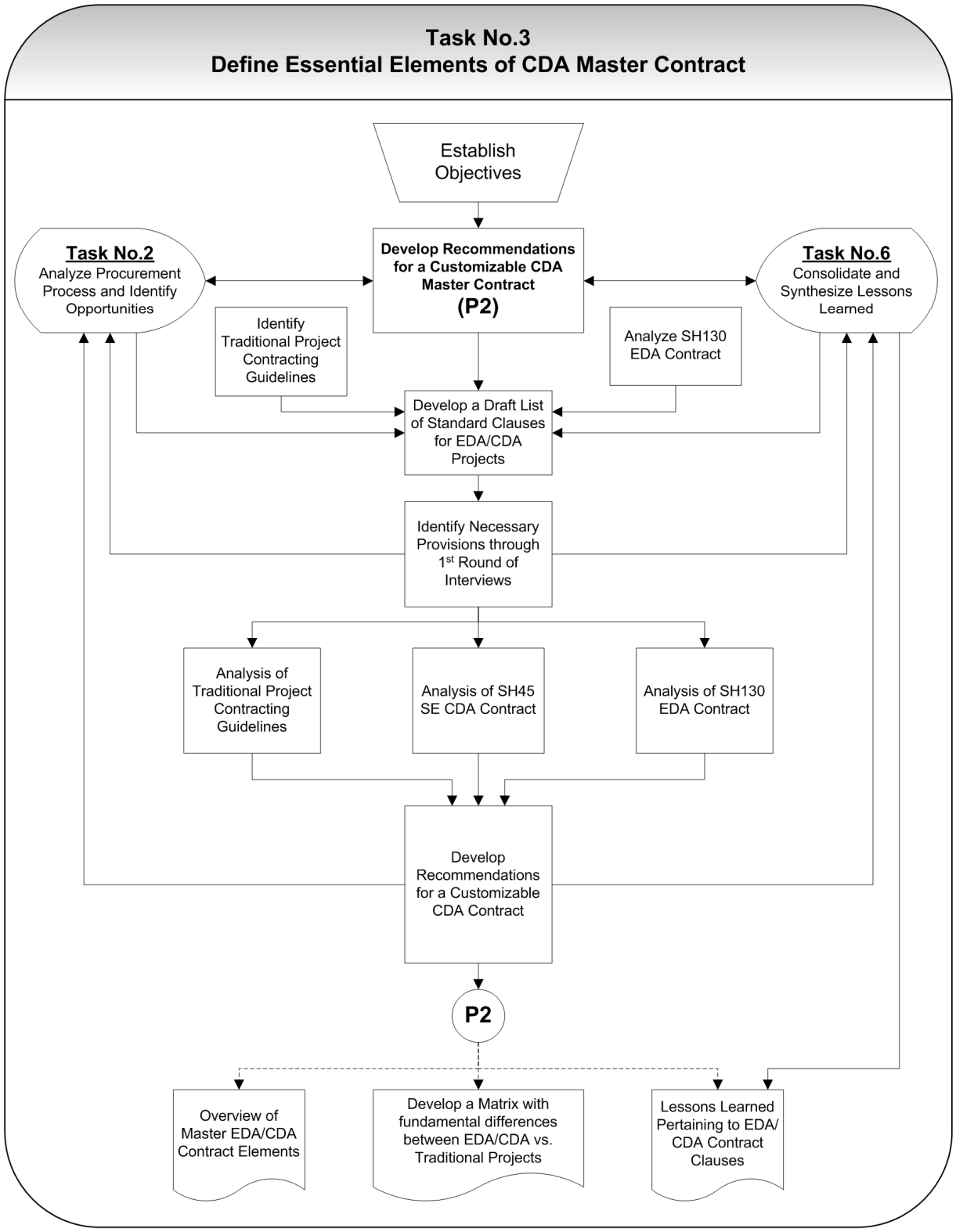

Table 2.1 List of Attended Meetings and Events

Date	Type	Place	Topic
09/23/2003	Kick-off meeting	Turnpike Office, Pflugerville	*General presentation of the project; decision on what documents can be made available for research* SH 130 Program Manager
10/15/2003	Training Conference	College Station, Texas A&M	*77th Annual Transportation Short course. Session 18: Toll Roads*
11/4/2003	Interview	Turnpike Office, Pflugerville	*General discussion on project management perspective and collection of lessons learned* TxDOT Turnpike Director of Construction, SH 130 Program Manager
11/21/2003	Interview	UT, 4th floor ECJ	*General discussion on contractor perspective* SW Account Manager – Fluor Daniel
12/15/2003	Interview	Turnpike Office, Pflugerville	*General discussion on right-of-way (ROW) and utility adjustments and collection of lessons learned* TxDOT Turnpike ROW Manager, TxDOT Turnpike Utility Adjustments Coordinator, TxDOT Turnpike ROW Coordinator
12/17/2003	Interview	Turnpike Office, Pflugerville	*General discussion on ROW and utility adjustments and collection of lessons learned* SH 130 ROW Coordinator
12/18/2003	Open Forum Public meeting	High School – Del Valle	*Public forum on modifications to schematic ROW - Speakers* TxDOT Turnpike Director of Construction, TxDOT Turnpike ROW Manager, LSI SH130 Environmental Manager
01/12/2004	Interview	Turnpike Office, Pflugerville	*Discussion on utility adjustments and collection of lessons learned* TxDOT Turnpike Utility Adjustments
01/14/2004	Interview	Turnpike Office, Pflugerville	*Discussion on utility adjustments and collection of lessons learned* SH 130 Utility Adjustments Specialist, TxDOT SH 130 ROW Specialist
01/22/2004	Interview	Turnpike Office, Pflugerville	*General discussion on environmental aspects and collection of lessons learned* TxDOT Turnpike Environmental Manager, SH 130 Environmental Coordinator
03/25/2004	Interview	Turnpike Office, Pflugerville	*Discussion on CDA procurement process* TxDOT Turnpike Director of Construction
04/27/2004	Phone Interview	UT office, Austin to Turnpike Office, Pflugerville	*Discussion on CDA procurement process* TxDOT legal counselor
05/10/2004	Interview	Turnpike Office, Pflugerville	*Discussion on CDA contract provisions* TxDOT legal counselors
05/21/2004	Interview	Austin district offices	*Discussion on CDA procurement process* TxDOT Deputy District Engineer — Austin District
07/06/2004	Interview	Turnpike Office, Pflugerville	*Discussion on CDA procurement process* SH 130 Program Manager
07/15/2004	Interview	Austin district offices	*Discussion on CDA procurement process* TxDOT Deputy District Engineer — Austin District

3. Findings

Overview of Comprehensive Development Agreement Master Contract Elements

Figure 3.1 represents the structure of the SH 130 Exclusive Development Agreement (EDA) package versus the SH 45 SE package. This structure diagram highlights two major differences, as follows.

a) The SH 130 EDA package includes a maintenance agreement that TxDOT can exercise "on or before 270 days after Final Acceptance of the first Segment…" (SH 130 CMA, p. 4)

b) The SH 45 SE CDA package includes technical requirements and preliminary engineering supplied by TxDOT in a separate document: the *Technical Provisions* and its attachments. Differently, the SH 130 EDA package placed them as exhibits of the agreement.

Figures 3.2 and 3.3 represent the structure of the two agreements for SH 130 and SH 45 SE. The structure of the second agreement (SH 45 SE) was streamlined, with twenty-four sections versus the twenty-nine sections for the SH 130 EDA. In the SH 45 SE agreement, several key issues (e.g., utility adjustments, hazardous materials, environmental clearance, and dispute resolution) were included in separate sections. Figure 3.4 includes a cross-listing for reference of the following documentation.

- SH 130 EDA
- SH 45 SE CDA
- TxDOT standard specifications
- TxDOT Construction Contract Administration Manual

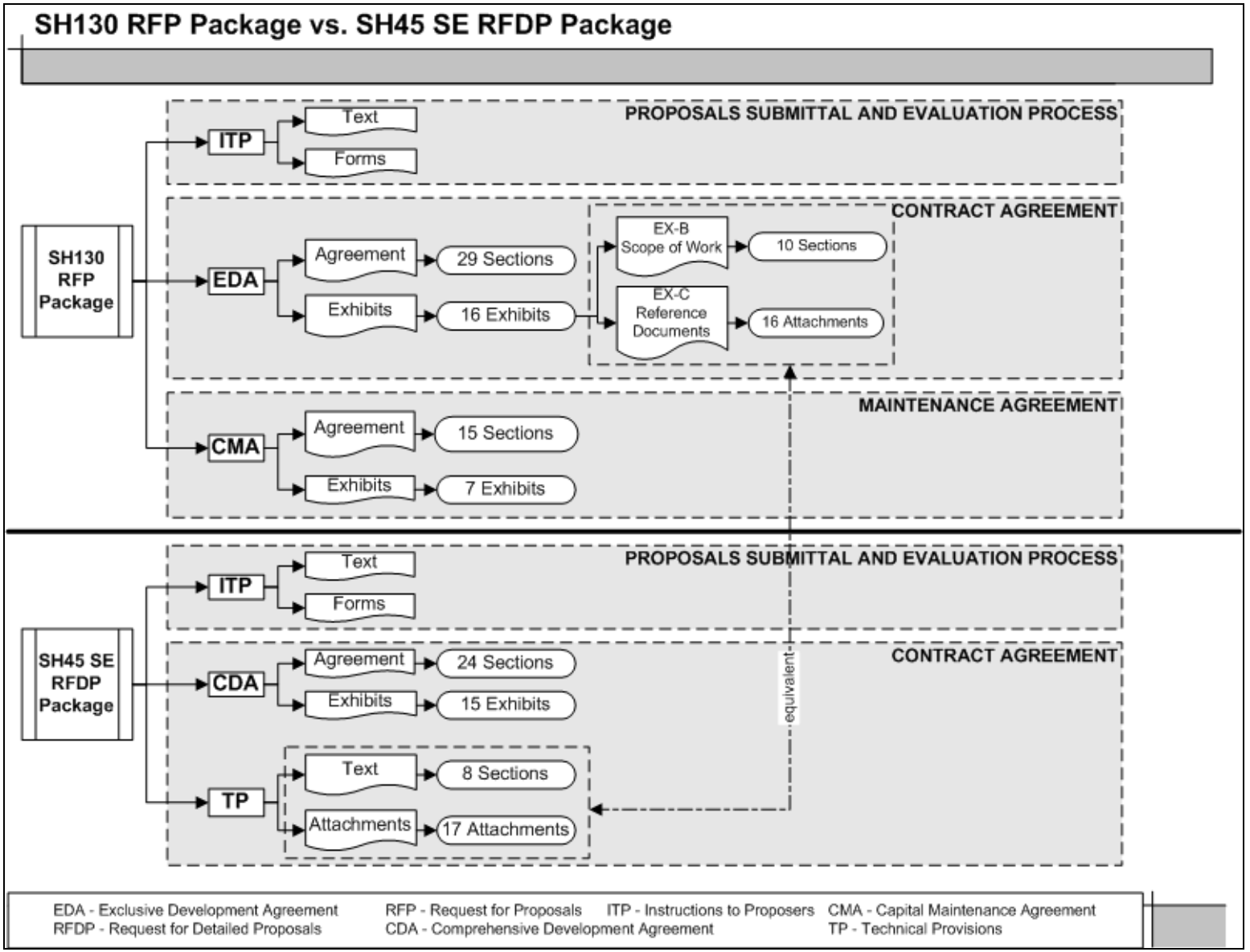

Figure 3.1 Request for Proposals Package Elements

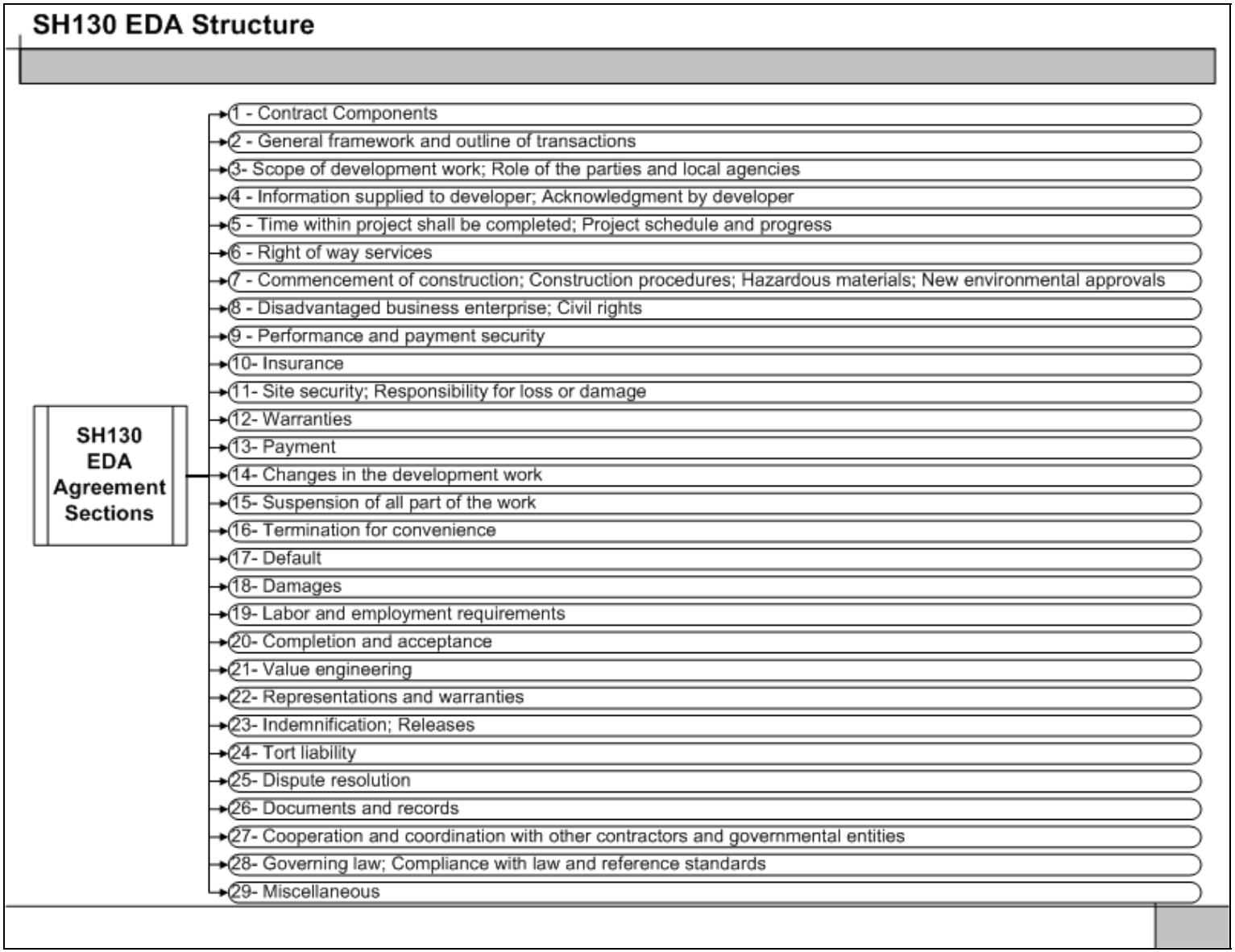

Figure 3.2 SH 130 Exclusive Development Agreement Contract Sections

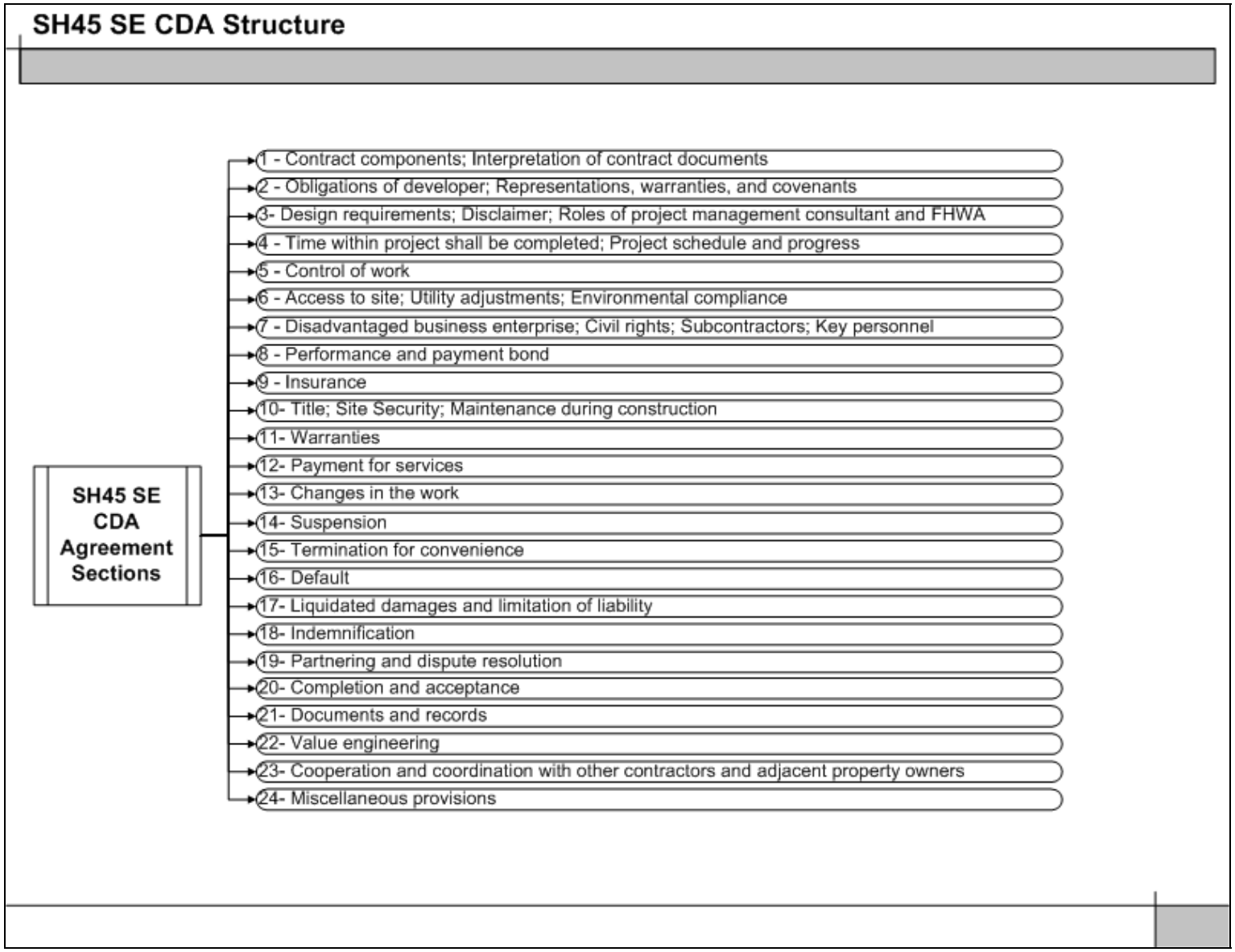

Figure 3.3 SH 45 SE Comprehensive Development Agreement Contract Sections

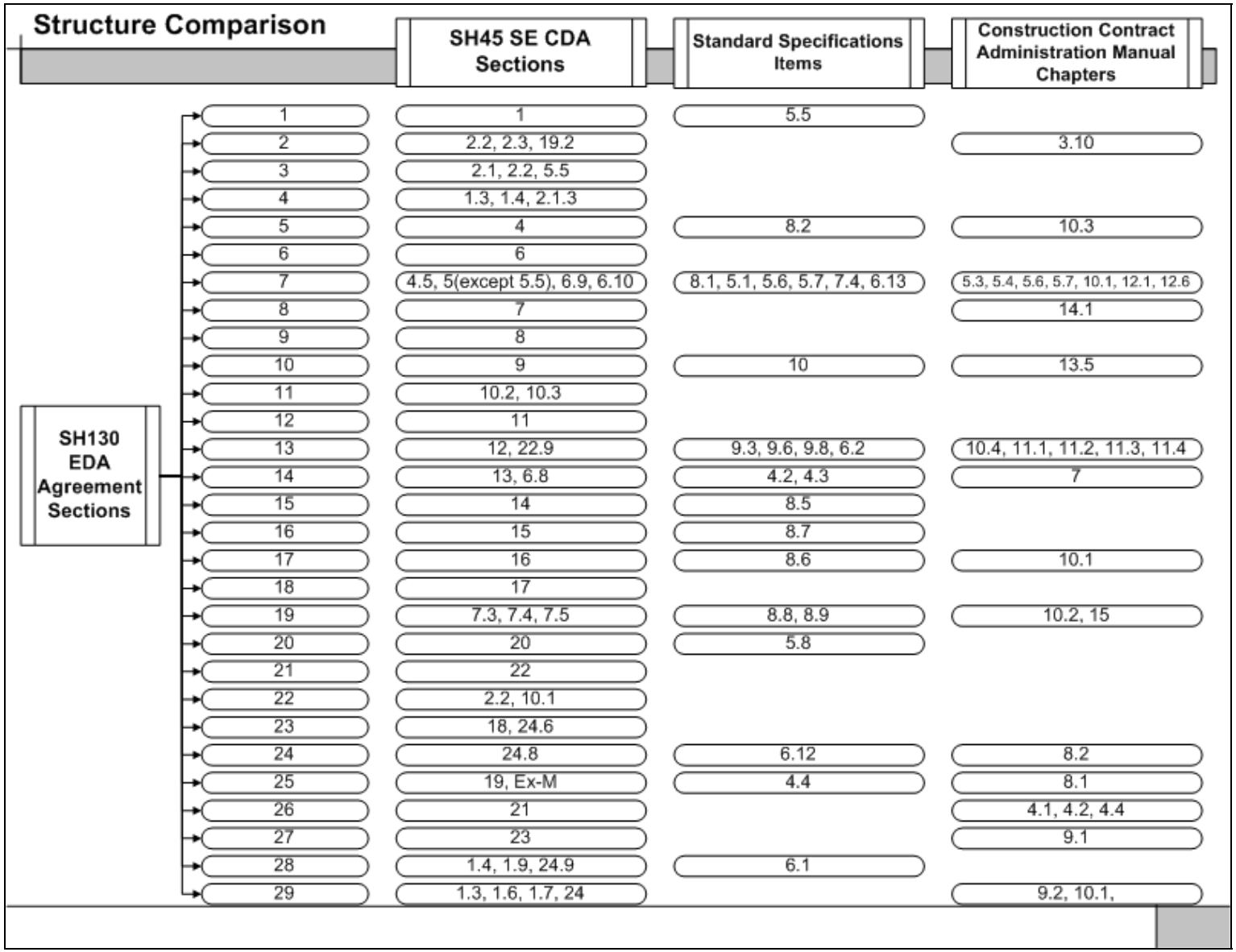

Figure 3.4 SH 130 and SH 45 SE Contracts Versus Traditional TxDOT Requirements

Analysis on Fundamental Differences between Comprehensive Development Agreement and Traditional Contracting

Appendix B includes a clause-by-clause analysis of many elements of the two CDA master contracts as identified during interviews with TxDOT legal consultants.

Overview of Lessons Learned Pertaining to Contract Clauses

Appendix C includes a set of lessons learned to date pertaining to EDA/CDA contract clauses and acquired through interviews with SH 130 personnel. Most of these lessons learned were implemented in preparing the SH 45 SE CDA contract and are related to right-of-way (ROW) services, utilities adjustments, environmental clearance, and contract interpretation issues.

4. Conclusions

This research product identifies essential elements in Comprehensive Development Agreement (CDA) contracting. These elements are compared between the two projects analyzed as well as versus TxDOT contracts for traditional design-bid-build projects. Associated lessons learned are included in Appendix C, and these should be helpful in outlining future CDA contracts.

This research product provides the following:

(i) A CDA contract guidelines map that can be used for developing future CDA contracts and for understanding differences between CDA contracting and traditional contracting.

(ii) An analysis of CDA master contract essential elements that will help in avoiding repetition or overlapping of contract provisions.

(iii) A set of lessons learned that will help in making future CDA agreements even more effective.

References

1. Federal Highway Administration (FHWA) (2002). "Design–Build Contracting: Final Rule." *Federal Register*, 67(237), 75901-75935.

2. Texas Department of Transportation (TxDOT) (2001). *Request for proposals to construct, maintain and repair the SH130 turnpike through an exclusive development agreement: Exclusive Development Agreement*. Austin, TX: Texas Department of Transportation.

3. Texas Department of Transportation (TxDOT) (2004). *Construction contract administration manual*. Austin, TX: Texas Department of Transportation.

4. Texas Department of Transportation (TxDOT) (2004). *Request for detailed proposals to develop, design, and construct the SH45 Southeast turnpike through a comprehensive development agreement: Comprehensive Development Agreement*. Austin, TX: Texas Department of Transportation.

5. Texas State (2004)."Title 6. Roadways." *Texas Transportation Code* <http://www.capitol.state.tx.us/statutes/tntoc.html> (Aug. 12, 2004).

Appendix A:

Overview of Exclusive Development Agreement/Comprehensive Development Agreement Master Contract Elements

Table A.1 Comprehensive Development Agreement Master Contract Elements

Item	Section / Subsection	SH 130 EDA [Page]	SH 45 SE CDA [Section/page]	Significantly Different Sections [*]	Lessons Learned to Date [**]
1	**CONTRACT COMPONENTS**	pp.3-5	[1] pp.2-6		
1.1	Certain Definitions	Yes	Yes		
1.2	Order of Precedence	Yes	Yes	Yes	
1.3	Referenced Standards	Yes	Yes		
2	**GENERAL FRAMEWORK AND OUTLINE OF TRANSACTION**	pp.6-9	[2] pp. 8-9, [19.2] 119		
2.1	Public-Private Transaction	Yes	???		
2.2	Role of Parties to Transaction	Yes	Yes		
2.2.1	Developer's Role	Yes	[2.2] pp.8-9		
2.2.2	TXDOT's Role	Yes	No		
2.3	Partnering	Yes	[19.2] pp.119		
2.3.1	Purpose; Scope	Yes	Yes		
2.3.2	Schedule; Participation	Yes	Yes		
2.3.3	Confidentiality	Yes	Yes		
3	**SCOPE OF DEVELOPMENT WORK; ROLE OF THE PARTIES AND LOCAL AGENCIES; EFFECT OF TESTS AND INSPECTIONS**	pp.10-13	[2.1, 2.2] pp.7-8, [5.5] pp.21		
3.1	Development Work Scope	Yes	[2.1.1.1] pp.7		
3.2	Project Location and Description	Yes	No		
3.3	Project Management Plan	Yes	[2.1.1.2] pp.7		
3.4	TXDOT's Role	Yes	???	Yes	
3.5	Local Agency Role	Yes	???		
3.6	Developer Obligations	Yes	[2.2] pp.8		
3.7	Effect of Reviews, Inspections, Tests and Approvals	Yes	[5.5] pp.21		
4	**INFORMATION SUPPLIED TO DEVELOPER; ACKNOWLEDGMENT BY DEVELOPER**	pp.14-16	[1.3, 1.4] pp.3-4, [2.1.3] 7-8		
4.1	Information Supplied	Yes	[1.3] pp.3-4		
4.2	Acknowledgment by Developer	Yes	[1.4] pp.3-4		
4.3	Changes in Basic Configuration	Yes	[2.1.3] pp.7-8		

[*]During an interview with Nossaman lawyers, these sections were indicated as high critical for D-B contracting and usually with major differences compared to traditional contracting.
[**] The Lessons Learned number corresponds to the numbering in Appendix C.

5	**TIME WITHIN WHICH PROJECT SHALL BE COMPLETED; PROJECT SCHEDULE AND PROGRESS**	pp.17-20	[4] pp.16-19	Yes	
5.1	Time of Essence	Yes	[4.1.1] pp.16		
5.2	Guaranteed Completion	Yes	[4.2] pp. 16		
5.2.1	Completion Deadlines	Yes	Yes		
5.2.2	Acceptance Deadlines	Yes	Yes		
5.2.3	No Time Extensions	Yes	Yes		
5.3	Project Schedule	Yes	[4.3.1] pp. 16		
5.4	Project Schedule Submittals	Yes	[4.3.1] pp.16		
5.5	Recovery Schedule	Yes	[4.5] pp.18-19		
5.6	Float	Yes	[4.3.2] pp. 17	Yes	
5.7	Maximum Payment Curve	Yes	[4.3.3] pp.17	Yes	

6	**RIGHT OF WAY SERVICES**	pp.21-25	[6] pp.23-27	Yes	3.2, 3.4, 4.2
6.1	Acquisition of Final ROW	Yes	[6.1] pp.23	Yes	
6.2	Costs of Acquisitions	Yes	[6.2] pp.23	Yes	3.6, 4.1
6.3	Limiting Acquisition of Additional Properties	Yes	[6.3] pp.25	Yes	
6.4	Representations by Developer	Yes	[6.4] pp.25	Yes	
6.5	Negotiations and Condemnation Proceedings Relative to the Acquisition of Final ROW	Yes	[6.5] pp.26	Yes	
6.6	Physical Possession of Final ROW	Yes	[6.6] pp.27	Yes	
6.7	Rights of Early Access	Yes	[6.7] pp.27-28	Yes	

7	**COMMENCEMENT OF CONSTRUCTION; CONSTRUCTION PROCEDURES; HAZARDOUS MATERIALS; NEW ENVIRONMENTAL APPROVALS**	pp.26-32	[4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 6.9, 6.10]pp. 17-23, 36-39		
7.1	Commencement of Construction	Yes	[4.4] pp.17-18		
7.2	Supervision and Construction Procedures	Yes	[5.1, 5.2, 5.3] pp.20		
7.3	Inspection and Testing	Yes	[5.4] pp.20-21		
7.4	Correction of Nonconforming Work Materials	Yes	[5.6] pp.22-23		
7.5	Hazardous Materials Management	Yes	[6.9] pp.36-38		
7.5.1	Procedures and Compensation for Hazardous Materials Management	Yes	Yes		
7.5.2	Hazardous Material Generator	Yes	Yes		
7.5.3	Hazardous Material Releases Caused by Developer	Yes	Yes		
7.5.4	Materials Brought to Final ROW by Developer	Yes	Yes		
7.5.5	Environmental Approvals Relating to Hazardous Materials	Yes	Yes		
7.6	Environmental Compliance	Yes	[6.10] pp.38-39	Yes	
7.6.2	TXDOT's Responsibility for Approvals	Yes	Yes	Yes	
7.6.2	Approvals To Be Obtained by Developer	Yes	Yes	Yes	

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[**] The Lessons Learned number corresponds to the numbering in Appendix C.

8	**DISADVANTAGED BUSINESS ENTERPRISE; CIVIL RIGHTS**	pp.33	[7] pp.40		
8.1	DBE Requirements	Yes	[7.1] pp. 40		
8.2	Civil Rights	Yes	[7.2] pp.40		

9	**PERFORMANCE AND PAYMENT SECURITY**	pp.34-36	[8] pp.46-47	Yes	
9.1	Proposal Bond; NTP1 Bonds	Yes	NA	Yes	
9.2	NTP2 Performance Bond	Yes	[8.1.1] pp.46	Yes	
9.3	NTP2 Payment Bond	Yes	[8.1.2] pp.46	Yes	
9.4	Warranty Bond	Yes	[8.1.3] pp.46	Yes	
9.5	Surety Financial Requirements	Yes	[8.1.4] pp.46	Yes	
9.6	Performance by Surety or Guarantor	Yes	[8.2] pp.46	Yes	
9.7	Guarantee	Yes	[8.3] pp.47	Yes	

10	**INSURANCE**	pp.37-45	[9] pp.48-53		
10.1	Insurance During NTP1 Period	Yes	NA		
10.2	Insurance After Issuance of NTP2	Yes	[9.1] pp.48		
10.2.1	Commercial General Liability Insurance	Yes	Yes		
10.2.2	Workers' Compensation Insurance and Employer's Liability Insurance	Yes	Yes		
10.2.3	Business Automobile Liability Insurance	Yes	Yes		
10.2.4	Professional Liability Insurance	Yes	Yes		
10.2.5	Builder's Risk	Yes	No		
10.2.6	TXDOT Delayed Opening Insurance	Yes	No		
10.2.7	Railroad Protective	Yes	No		
10.2.8	Valuable Papers	Yes	No		
10.3	General Insurance Requirements	Yes	[9.2] pp.49		
10.3.1	Premiums, Deductibles and Self-Insured Retentions	Yes	Yes		
10.3.2	Verification of Coverage	Yes	Yes		
10.3.3	Subcontractor Insurance Requirements	Yes	Yes		
10.3.4	Endorsements and Waivers	Yes	Yes		
10.3.5	Waivers and Subrogation	Yes	Yes		
10.3.6	Changes in Requirements	Yes	Yes		
10.3.7	No Recourse	Yes	Yes		
10.3.8	Support of Indemnifications	Yes	Yes		
10.3.9	Commercial Unavailability of Required Coverages	Yes	No		
10.4	TXDOT's Right to Remedy Breach by Developer	Yes	[9.5] pp.52		
10.5	Other Conditions	Yes	No		
10.5.1	Minimum Safety Compliance Requirements	Yes	No		
10.5.2	Due Care Required	Yes	No		
10.6	Prosecution of Claims	Yes	[9.3] pp.52		
10.7	Commencement of Development Work	Yes	[9.4] pp.52		
10.8	Disclaimer	Yes	[9.6] pp.53		
10.9	Insurance During Warranty Period	Yes	No		

[*]During an interview with Nossaman lawyers, these sections were indicated as high critical for D-B contracting and usually with major differences compared to traditional contracting.
[**] The Lessons Learned number corresponds to the numbering in Appendix C.

11	**SITE SECURITY; RESPONSIBILITY FOR LOSS OR DAMAGE**	pp.46	[10.2, 10.3] pp.54		
11.1	Site Security	Yes	[10.2] pp.54		
11.2	Risk of Loss or Damage; Maintenance and Repair of Development Work	Yes	[10.3] pp.54		

12	**WARRANTIES**	pp.47-53	[11] pp.56-58		
12.1	Warranties	Yes	[11.1] pp.56		
12.2	Applicability of Warranties to Repaired, Replaced or Corrected Development Work	Yes	[11.2] pp.57		
12.3	Subcontractor and Extended Warranties	Yes	[11.3] pp.57		
12.4	Effect of the TXDOT or Maintenance Contractor Activities on Warranties	Yes	No		
12.5	No Limitation of Liability	Yes	[11.4] pp.58		
12.6	Damages for Breach of Warranty	Yes	[11.5] pp.58		
12.7	Warranty Beneficiaries	Yes	[11.1.2] pp.56		

13	**PAYMENT**	pp.54-68	[12, 22.9] pp.59-70		
13.1	Development Price	Yes	[12.1] pp.59		
13.2	NTP Work Payments; Delay in Issuance of NTP2; Early Issuance of NTPs	Yes	[12.1] pp.59-61		
13.2.1	NTP Work Payments	Yes	Yes		
13.2.2	Delay in Issuance of NTP2; Escalation	Yes	Yes		
13.2.3	Early Issuance of NTP2	Yes	Yes		
13.2.4	Early Issuance of NTP3	Yes	Yes		
13.2.5	Early Issuance of NTP4	Yes	Yes		
13.3	Payments	Yes	[12.2, 12.3, 12.5] pp.61-70		
13.3.1	Delivery of Draw Request	Yes	Yes		
13.3.2	Contents of Draw Request	Yes	Yes		
13.3.3	Draw Request Cover Sheet Contents	Yes	Yes		
13.3.4	Certification by Design Quality Control Manager and Construction Quality Assurance Manager	Yes	Yes		
13.3.5	Report of Personnel Hours	Yes	Yes		
13.3.6	Draw Request Data Sheets	Yes	Yes		
13.3.7	Payment by the TXDOT	Yes	Yes		
13.3.8	Payment to Subcontractors	Yes	Yes		
13.3.9	Continued Performance During Disputes	Yes	Yes		
13.3.10	Retainage	Yes	Yes		
13.3.11	Deductions	Yes	Yes		
13.3.12	Unincorporated Materials	Yes	Yes		
13.3.13	Mobilization	Yes	Yes		
13.3.14	Equipment	Yes	Yes		
13.3.15	Bond and Insurance Premiums	Yes	Yes		
13.4	Developer Note	Yes	No		
13.5	Compensation for Early Completion	Yes	No		
13.6	Final Payment	Yes	[12.4] pp.68-69		

[*]During an interview with Nossaman lawyers, these sections were indicated as high critical for D-B contracting and usually with major differences compared to traditional contracting.
[**] The Lessons Learned number corresponds to the numbering in Appendix C.

13.7	Taxes	Yes	[2.2.9] pp.9 [12.1.2] pp.59		

14	**CHANGES IN THE DEVELOPMENT WORK**	pp.69-100	[13] pp.71-96, [6.8]28-35		
14.1	Change Orders	Yes	[13.1] pp. 71-72	Yes	
14.1.1	Definition of and Requirements Relating to Change Orders	Yes	Yes	Yes	
14.1.2	Right of the TXDOT to Issue Change Orders	Yes	Yes		
14.1.3	Options	Yes	No		
14.2	Procedure for Issuance of Change Orders by the TXDOT	Yes	[13.2] pp.72-74		
14.2.1	Request for Change Proposal	Yes	Yes		
14.2.2	Unilateral Change Orders for TXDOT-Directed Changes	Yes	Yes		
14.2.3	Options	Yes	No		
14.3	Developer-Requested Change Orders	Yes	[13.3] pp.74-80		
14.3.1	Eligible Changes	Yes	Yes		
14.3.2	Notification Requirements as Conditions Precedent	Yes	Yes		
14.3.3	Submission of Request for Change Order	Yes	Yes		
14.3.4	Performance of Disputed Development Work	Yes	Yes		
14.4	Contents of Change Orders	Yes	[13.4] pp.80-81		
14.4.1	Form of Change Order	Yes	Yes		
14.4.2	Contents of Change Order	Yes	Yes		
14.4.3	Justification	Yes	Yes		
14.4.4	Developer Representation	Yes	Yes		
14.4.5	Maintenance Changes	Yes	No		
14.5	Limitations on Change Orders	Yes	[13.5] pp.81-83		
14.5.1	Exclusion from Price Increase	Yes	Yes		
14.5.2	Delay Damages and Acceleration Costs	Yes	Yes		
14.5.3	Limitation on Time Extensions	Yes	Yes		
14.5.4	Development Work Performed Without Direction	Yes	Yes		
14.5.5	Options	Yes	No		
14.6	Pricing of Change Orders	Yes	[13.6] pp.83		
14.6.1	Contents	Yes	Yes		
14.6.2	Added Work	Yes	Yes		
14.6.3	Deleted Work	Yes	Yes		
14.6.4	Work Both Added and Deleted	Yes	Yes		
14.6.5	All-Inclusive Change Orders	Yes	Yes		
14.7	Time and Materials Change Orders and Cost Data	Yes	[13.7] pp.85-88		
14.7.1	Labor Costs	Yes	Yes		
14.7.2	Material Costs	Yes	Yes		
14.7.3	Equipment	Yes	Yes		
14.7.4	Subcontracted Work	Yes	Yes		

[*]During an interview with Nossaman lawyers, these sections were indicated as high critical for D-B contracting and usually with major differences compared to traditional contracting.
[**] The Lessons Learned number corresponds to the numbering in Appendix C.

14.7.5	Work Performed by Utility Owners	Yes	Yes		
14.7.6	Other Direct Costs	Yes	Yes		
14.7.7	Items Included in Mark-Ups	Yes	Yes		
14.7.8	Change Order Data	Yes	Yes		
14.8	Hazardous Materials Management	Yes	[13.9.4] pp.91		
14.8.1	Basis for Compensation	Yes	Yes		
14.8.2	TXDOT Right to Inspect	Yes	Yes		
14.8.3	Insurance Proceeds	Yes	Yes		
14.8.4	Reimbursement from Third Parties	Yes	No		
14.8.5	Time Extensions	Yes	Yes		
14.9	Differing Site Conditions	Yes	[13.9.1] pp.89-90	Yes	
14.10	Force Majeure Events	Yes	[13.9.3] pp.90	Yes	
14.11	Eliminated Development Work	Yes	No		
14.12	Utility Adjustment Work	Yes	[13.9.2] pp.90 [6.8] pp.28-35	Yes	5.4, 6.1, 6.4, 6.5, 6.4, 6.7, 6.8
14.12.1	Inaccuracies in Existing Utility Information	Yes	Yes	Yes	5.1, 6.3
14.12.2	Utility Enhancements	Yes	Yes	Yes	
14.12.3	Utility Agreements	Yes	Yes	Yes	
14.12.4	Early Adjustment Work	Yes	Yes	Yes	
14.12.5	Delays by Utility Owners	Yes	Yes	Yes	
14.12.6	Amounts Owed by Utility Owners to Developer	Yes	Yes	Yes	
14.12.7	Additional Restrictions on Change Orders	Yes	Yes	Yes	
14.13	Restrictions and Limitations on Change Orders	Yes	[13.11] pp.94-95		
14.14	Disputes	Yes	[13.12] pp.95-96		
14.15	No-Cost Changes	Yes	[13.13] pp.96		
14.16	No Release or Waiver	Yes	[13.14] pp.96		

[*]During an interview with Nossaman lawyers, these sections were indicated as high critical for D-B contracting and usually with major differences compared to traditional contracting.
[**] The Lessons Learned number corresponds to the numbering in Appendix C.

15	**SUSPENSION OF ALL OR PART OF THE WORK**	pp.101-101	[14] pp.97-98		
15.1	Suspension for Convenience	Yes	[14.1] pp.97		
15.2	Suspension for Other Reasons, Including Compliance with Environmental Approvals	Yes	[14.2] pp.97		
15.3	Compensation and Time Extensions for Suspensions	Yes	[14.1] pp.97		

16	**TERMINATION FOR CONVENIENCE**	pp.102-106	[15] pp.99-105		
16.1	Developer's Right to Terminate for Delay in Project Financing	Yes	[15.10] pp.103		
16.2	TXDOT's Right to Terminate for Convenience	Yes	[15.1] pp.99		
16.3	Notice of Termination	Yes	[15.1] pp.99		
16.4	Developer's Responsibilities After Receipt of Notice of Termination	Yes	[15.2] pp.99-100		
16.5	Inventory	Yes	[15.2.7] pp.100		
16.6	Settlement Proposal	Yes	[15.4] pp.101		
16.7	Amount of Termination Settlement	Yes	[15.5] pp.101-102		
16.8	No Agreement as to Amount of Claim	Yes	[15.6] pp.102-103		
16.9	Reduction in Amount of Claim	Yes	[15.7] pp.103		
16.10	Preservation of Records	Yes	[15.2.7] pp.100		
16.11	TXDOT's Unilateral Right to Issue NTPs	Yes	[15.1] pp.99		

17	**DEFAULT**	pp.107-112	[16] pp.106-111		
17.1	Default of Developer	Yes	[16.1] pp.106-108		
17.2	Remedies	Yes	[16.2] pp.108-111		
17.3	Failure to Comply Caused by Delay Event	Yes	[16.3] pp.111		
17.4	Right to Stop Work for Failure by the TXDOT to Make Undisputed Payment	Yes	[16.4] pp.111		

18	**DAMAGES**	pp.113-115	[17] pp.112-113		
18.1	Liquidated Damages	Yes	[17.1,17.2] pp.112-113		
18.2	Payment Terms/Offset; Reduction; Waiver	Yes	[17.3] pp.113		
18.3	Limitation of Developer's Liability	Yes	[17.4] pp.113		
18.4	Failure to Complete NTP3 Work Timely	Yes	NA		

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[**] The Lessons Learned number corresponds to the numbering in Appendix C.

19	**LABOR AND EMPLOYMENT REQUIREMENTS**	pp.116-120	[7] pp.40-45		
19.1	Key Personnel; Qualifications of Employees	Yes	[7.4] pp.43-45		
19.2	Responsibility for Employees and Subcontractors	Yes	[7.5] pp.45		
19.3	Subcontracts	Yes	[7.3] pp.40-43		

20	**COMPLETION AND ACCEPTANCE**	pp.121-123	[20] pp.122-124		
20.1	Substantial Completion	Yes	[20.1] pp.122-123		
20.2	Final Acceptance	Yes	[20.2] pp.123-124		
20.3	Assignment of Causes of Action	Yes	[20.3] pp.124		

21	**VALUE ENGINEERING (VE)**	pp.124-127	[22] pp.133-137		
21.1	General	Yes	[22.1] pp.133		
21.2	Value Engineering Recommendation	Yes	[22.2] pp.133		
21.3	Required Information	Yes	[22.3] pp.133-134		
21.4	TXDOT Review and Approval	Yes	[22.4] pp.134-135		
21.5	Development Price Adjustment	Yes	[22.5] pp.136-137		
21.6	Implementation of VEs	Yes	[22.6] pp.137		
21.7	Use of VEs By the TXDOT	Yes	[22.7] pp.137		

22	**REPRESENTATIONS AND WARRANTIES**	pp.128-132	[2.2] pp.9-11, [10.1] pp. 54		
22.1	TXDOT Representations and Warranties	Yes	NA		
22.2	Developer Representations, Warranties and Covenants	Yes	[2.2] pp.9-11 [10.1] pp.54		

23	**INDEMNIFICATION; RELEASES**	pp.133-136	[18] pp.114-118, [24.6] pp.139		
23.1	Indemnification By Developer	Yes	[18.1] pp.114-116		
23.2	Restrictions	Yes	[18.1.3] pp.116		
23.3	Employee Claims	Yes	[18.1.4] pp.116		
23.4	No Relief from Responsibility	Yes	[18.6] pp.117		
23.5	Right to Rely	Yes	[18.7] p.117		
23.6	Survival	Yes	[24.6]pp. 139		
23.7	Intent of Indemnity for Breach of Contract	Yes	[18.5] pp.117		
24	**TORT LIABILITY**	pp.137	[24.8] pp.139-140		

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24.1	Notice of Claims	Yes	[24.8] pp.139		
24.2	Limitation on State's Liability	Yes	[24.8] pp.140		

25	**DISPUTE RESOLUTION**	pp.138-143	[19] pp.119-121 [Ex-M]		
25.1	General Dispute Resolution Provisions	Yes	[19.1, 19.3] pp.119		
25.1.1	Nature of Process	Yes	[19.1] pp.119		
25.1.2	Demands and Disputes; Disputes Governed by this Section; Priorities	Yes	[19.3] pp.119		
25.1.3	Overview of Process	Yes	[Ex-M]		
25.1.4	Continuation of Development Work	Yes	[19.7] pp.121		
25.1.5	Records Related to Dispute	Yes	[19.8] pp.121		
25.2	Dispute Resolution Process	Yes	[Ex-M]		
25.2.1	Notice of Demand	Yes	Yes		
25.2.2	Negotiation; Response to Claim	Yes	Yes		
25.2.3	Request for Reconsideration	Yes	Yes		
25.2.4	Final Determination	Yes	Yes		
25.2.5	Developer Claim Under Texas Government Code Chapter 2260	Yes	Yes		
25.2.6	TXDOT Disputes	Yes	Yes		
25.3	Dispute Resolution: Additional Requirements for Subcontractor Demands	Yes	[19.4] pp.119-120		
25.4	Mediation or Other Alternative Dispute Resolution	Yes	[19.5] pp.120		
25.5	Subsequent Proceedings	Yes	[19.6] pp.120		
25.5.1	Resolution of Claims Against the State	Yes	No		
25.5.2	Exclusive Jurisdiction and Venue	Yes	Yes		
25.5.3	Admissibility of Disputes Resolution Proceedings	Yes	Yes		

26	**DOCUMENTS AND RECORDS**	pp.144-149	[21] pp.125-132		6.7, 6.8
26.1	Escrowed Proposal Documents (EPDs)	Yes	[21.1] pp.125-126		
26.1.1	Availability for Review	Yes	Yes		
26.1.2	Proprietary Information	Yes	Yes		
26.1.3	Representation	Yes	Yes		
26.1.4	Contents of EPDs	Yes	Yes		
26.1.5	Form of EPDs	Yes	Yes		
26.1.6	Review by TXDOT	Yes	Yes		
26.2	Subcontract Pricing Documents	Yes	[21.2] pp.126-127		
26.3	Reporting Requirements	Yes	[21.3] pp.127-128		
26.4	Maintenance of, Access to and Audit of Records	Yes	[21.4] pp.128-129		
26.5	Retention of Records	Yes	[21.5] pp.130		
26.6	Public Records Act	Yes	[21.6] pp.131		

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27	**COOPERATION AND COORDINATION WITH OTHER CONTRACTORS AND GOVERNMENTAL ENTITIES**	pp.150	[23] pp.137		
27.1	Cooperation with Other Contractors	Yes	[23.1] pp.137		
27.2	Interference by Other Contractors	Yes	[23.2] pp.137		
27.3	Coordination with Governmental Entities and Contractors	Yes	[23.3] pp.137		
27.4	Coordination with Toll Related Project Participants; Delays	Yes	No		

28	**GOVERNING LAW; COMPLIANCE WITH LAW AND REFERENCE STANDARDS**	pp.151	[1.4] pp.4, [1.9] pp.5, [24.9] pp.140, [Ex-D]		
28.1	Texas Law	Yes	[24.9] pp.140		
28.2	Compliance With Laws and Federal Requirements	Yes	[1.9] pp.5 [Ex-D]		
28.3	Compliance With Referenced Standards	Yes	[1.4] pp.4		

29	**MISCELLANEOUS**	pp.152-159	[24] pp.138-142 [1] pp.3-5		
29.1	Reserved Rights	Yes	???		
29.2	Ownership of Documents	Yes	[21.7] pp.131-132		
29.3	Amendments to Contract Documents	Yes	[24.1] pp.138		
29.4	Waiver	Yes	[24.2] pp.138		
29.5	Relationship of Parties	Yes	[24.3] pp.138		
29.6	Assignment	Yes	[24.4] pp.138		
29.7	Designation of Representatives; Cooperation with Representatives and with Financing Entities	Yes	[24.5] pp.139		
29.8	No Gift or Dedication	Yes	No		
29.9	Use of Police and Other Powers	Yes	No		
29.10	Survival	Yes	[24.6] pp.139		
29.11	No Third Party Beneficiaries	Yes	[24.7] pp.139		
29.12	Notices and Communications	Yes	[24.10] pp.140-141		
29.13	Further Assurances	Yes	[24.11] pp.141-142		
29.14	Severability	Yes	[24.12] pp.142		
29.15	Headings	Yes	[24.13] pp.142		
29.16	Interpretation of Contract Documents	Yes	[1.3] pp.3-4		
29.17	Approvals under Contract Documents	Yes	[1.7] pp.5		
29.18	Counterparts	Yes	[24.15] pp.142		
29.19	Non-Business Days	Yes	[1.6] pp.5		
EX-A	**ABBREVIATIONS & DEFINITIONS**	Yes	[Ex-A]		5.1, 6.3, 6.1, 6.4

EX-B	**SCOPE OF WORK**	Yes	Technical Provisions		

EX-C	**REFERENCE DOCUMENTS**	Yes	[Ex-N]		9.3

EX-D	**FEDERAL REQUIREMENTS**	Yes	[Ex-D]		

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EX-E	**AMENDMENTS, MODIFICATIONS AND SUPPLEMENTS TO TXDOT STANDARD SPECIFICATIONS**	Yes	[Ex-B]		
EX-F	**MAXIMUM PAYMENT CURVE**	Yes	[Ex-F]		
EX-G	**DBE PROGRAM**	Yes	[Ex-G]		
EX-H	**FORM OF PERFORMANCE BONDS**	Yes	[Ex-H]		
EX-I	**FORM OF PAYMENT BONDS**	Yes	[Ex-I]		
EX-J	**FORM OF WARRANTY BOND**	Yes	[Ex-O]		
EX-K	**FORM OF DRAW REQUEST AND CERTIFICATE**	Yes	[Ex-J]		
EX-L	**QC/QA SUMMARY TABLES**	Yes	???		
EX-M	**FORM DEVELOPER NOTE**	Yes	No		
EX-N	**FORM OF CHANGE ORDER**	Yes	[Ex-K]		
EX-O	**INITIAL DESIGNATION OF AUTHORIZED REPRESENTATIVES**	Yes	[Ex-L]		
EX-P	**DEVELOPER COMMITMENTS AND ATCS**	Yes	[Ex-N]		

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Appendix B:

Analysis of Comprehensive Development Agreement Master Contract Essential Elements

Contract Clauses Analyzed

I. Contract Components [SH 130 Contract Section #1]
   A. Order of Precedence
II. Role of Parties [SH 130 Contract Section #3]
   A. Role of Program Manager
III. Project Schedule [SH 130 Contract Section #5]
   A. Float
   B. Maximum Payment Curve
IV. ROW Services [SH 130 Contract Section #6]
   A. Acquisition of Final ROW
   B. Costs of Acquisitions
   C. Limiting Acquisition of Additional Properties
   D. Representations by Developer
   E. Negotiations and Condemnation Proceedings Relative to the Acquisition of Final ROW
   F. Physical possession of Final ROW
   G. Right of early entry
V. Environmental Compliance [SH 130 Contract Section #7]
   A. General Provision
   B. TxDOT Responsibilities for Approval
   C. Approvals to Be Obtained by Developer
VI. Performance and Payment Security [SH 130 Contract Section #9]
   A. Proposal Bond
   B. Performance Bond
   C. Payment Bond
   D. Warranty Bond
   E. Surety Financial Requirements
   F. Performance by Surety or Guarantor
   G. Guarantee
VII. Payment [SH 130 Contract Section #13]
   A. Developer Note
VIII. Change Order [SH 130 Contract Section #14]
   A. Definition/Eligibility
   B. Force Majeure Events
   C. Differing Site Conditions
IX. Utility Adjustments [SH 130 Contract Section #14.12]
   A. General
   B. Inaccuracies in Existing Utility Information
      1. General
      2. Unidentified Utilities
      3. New Utilities
X. Maintenance [SH 130 Maintenance Contract]
   A. Maintenance Option

Table B.1 Analysis of Contract Clauses Pertaining to Contract Components

Provision	**Traditional**	**SH 130 EDA**	**SH45 SE CDA**
Contract Components	*Standard Specifications*	*EDA 1 pp. 3-5*	*CDA 1 pp. 2-6*
[Contract Components] Order of Precedence	"5.5. Coordination of Plans, Specifications and Special Provisions. The specifications accompanying plans, special provisions and supplemental agreements are essential parts of the contract and a requirement occurring in one is as binding as though occurring in all. They are intended to be cooperative and to describe and provide for a complete work. In cases of disagreement, figured dimensions shall govern over scaled dimensions, plans shall govern over standard and special specifications, and special provisions shall govern over both standard and special specifications and plans." *[Standard Specifications Item 5.5 pp.5]* "1.44. Plans. The drawings approved by the Engineer, or true reproductions thereof, which show the location, character, dimensions and details of the work and which are a part of the contract." *[Standard Specifications Item 1.44 pp.5]* "1.57. Special Provisions. Additions and/or revisions to the Standard Specifications or Special Specifications." *[Standard Specifications Item 1.57 pp.7]* "1.59. Specifications. The directions, provisions and requirements referenced or contained herein or in special specifications, supplemented by such special provisions as may be issued or made pertaining to the method and manner of performing the work or to	1.2.1 For design standards and requirements, the order of precedence shall be: (a) *Change Orders and Agreement amendments;* (b) *Agreement* (including all exhibits, appendices and the Federal Requirements, but excluding the TxDOT Standards, Scope of Work and Developer Commitments and ATCs); (c) *Scope of Work* (Exhibit B to this Agreement) and Developer Commitments and ATCs (Exhibit P to this Agreement); (d) *TxDOT Standards;* (e) *AASHTO Guidelines;* and (f) The *Proposal*, to the extent that it meets or exceeds the requirements of the other Contract Documents. 1.2.2 For construction-related standards, specifications and requirements, the order of precedence shall be: (a) Change Orders and Agreement amendments; (b) Agreement (including all exhibits, appendices and the Federal Requirements, but excluding the TxDOT Standards, Scope of Work and Developer Commitments and ATCs); (c) Design Documents, with specifications contained therein having precedence over plans and excluding any Deviations contained therein which have not been approved in writing by the TTA specifically as a Deviation; (d) Scope of Work (Exhibit B to this Agreement) and Developer Commitments and ATCs (Exhibit P to this Agreement); (e) TxDOT Standards; (f) AASHTO Guidelines; and (g) The Proposal, to the extent that it meets or exceeds the requirements of the other Contract Documents. 1.2.3 For all other matters, the order of precedence shall be:	(a) For design and other non-construction Work: 1. *Change Orders and Agreement amendments;* 2. *Agreement* (including all exhibits other than Exhibits B, C and N); 3. *Technical Provisions;* 4. *Attachments to the Technical Provisions;* 5. Exhibit B (*Amendments, Modifications and Supplements to TxDOT Standard Specifications*); and 6. *Proposal* (including all modifications thereto set forth in Exhibit C). …… (b) For construction-related standards, specifications and requirements, the order of precedence set forth in clause (a) shall apply, except that the *Final Design Documents* shall also be considered Contract Documents and shall be added following the Proposal in the order of precedence, provided that (i) specifications contained therein shall have precedence over plans, and (ii) no conflict shall be deemed to exist between the Final Design Documents and the other Contract Documents with respect to requirements of the Final Design Documents that TxDOT determines are more beneficial than the requirements of the other Contract Documents; and (iii) any other Deviations contained in the Final Design Documents shall have priority over conflicting requirements of other Contract Documents only to the extent that the conflicts are specifically identified in the approval. [*CDA 1.2 pp.2*]

Provision	Traditional	SH 130 EDA	SH45 SE CDA
	quantities and qualities of materials to be furnished under the contract. Where the phrases such as "or directed by the Engineer", "or as approved by the Engineer" or "or to the satisfaction of the Engineer" occur, it is to be understood that the directions, orders or instructions to which they relate are within the limitations of and authorized by the contract. Special provisions and special specifications will cover work pertaining to a particular project and included in the proposal but not covered by the Standard Specifications. Where reference is made to Departmental Material Specifications, specifications of ASTM, AASHTO or Bulletins and Manuals of the Department, it shall be construed to mean the latest standard or tentative standard in effect on the date of the proposal. Incorporation of subsequent changes to the above documents will be considered by the Engineer in accordance with Item 4, "Scope of Work", as appropriate." *[Standard Specifications Item 1.59 pp.7]*	(a) Change Orders and Agreement amendments; (b) Agreement (including all exhibits, appendices and the Federal Requirements, but excluding the TxDOT Standards, Scope of Work and Developer Commitments and ATCs); (c) Scope of Work (Exhibit B to this Agreement) and Developer Commitments and ATCs (Exhibit P to this Agreement); (d) TxDOT Standards; (e) AASHTO Guidelines; and (f) The Proposal, to the extent that it meets or exceeds the requirements of the other Contract Documents. [*EDA 1.2 p. 3*]	
Comments: The TxDOT manual for traditional projects does not mention the need to set an order of precedence between the contract documentation. The SH 130 contract outlined three different hierarchies for design, construction, and other matters, while the SH 45 contract adopted only two hierarchies, one for design and other non-construction work and the other for construction. The only significant change relates to the decrease in importance of final design documentation in the order of precedence for construction in the SH 45 SE contract. Placing an Order of Precedence clause in the contract is intended to preclude disputes over contract language.			

Table B.2 Analysis of Contract Clauses Pertaining to Role of Parties

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Role of the Parties		*EDA 3 pp. 10-13*	*CDA 3 pp. 13-15*
[Role of Parties] – Program Manager	*Not Addressed*	"The TTA will retain a Program Manager to assist the TTA with the administration and oversight of the Development Work. The Program Manager is not authorized to: (a) Direct the performance of the Development Work unless continued performance of the Development Work appears imminently likely to (i) result in a violation of any environmental Law or any conditions of any environmental Governmental Approval or otherwise endanger the environment; or (ii) endanger the health, welfare or safety of workers or the public, as determined by the TTA. (b) Waive any requirements or provisions of this Agreement." [*EDA 3.4 pp. 10*] "*Program Manager* shall mean HDR Engineering, Inc. or such other Person (including the entity, as well as its personnel) designated in writing by TTA as its Program Manager." [*EDA Ex-A pp. 31*] *"Indemnified Parties* shall mean the TTA, TXDOT, the State and their respective successors, assigns, officeholders, officers, directors, agents, representatives, consultants and employees (including the Program Manager)." [*EDA Ex-A pp. 25*]	"HDR, Inc. has been designated as TxDOT's Program Manager. The Program Manager will assist TxDOT in the management and oversight of the Project and the Agreement." [*CDA 3.4 pp. 15*] "*Program Manager* shall mean HDR, Inc. or such other Person (including the entity, as well as its personnel) designated in writing by TxDOT as its Program Manager." [C*DA Ex-A pp. 26*] "*Indemnified Parties* shall mean TXDOT, the State and their respective successors, assigns, officeholders, officers, directors, agents, representatives, consultants and employees (including the Program Manager)." [C*DA Ex-A pp. 20*]
Comments: Both EDA/CDA contracts defined the role of HDR as Program Manager. While the SH 130 contract introduces this entity in a clause regarding the TXDOT's role, the SH 45 SE contract inserted a specific clause on its role (3.4 Role of Program Manager), that does not place limits on its authority.			

Table B.3 Analysis of Contract Clauses Pertaining to Project Schedule

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Project Schedule	*Standard Specifications Item 9.5*	*EDA 5 pp. 17-20*	*CDA 4 pp.16-19*
[Project Schedule] Float	*Not Addressed*	"All Float contained in the Project Schedule shall be considered a Project resource available to either Party or both Parties, on an as-needed basis, to achieve Project Schedule milestones, interim completion dates, Substantial Completion of each Segment by its Completion Deadline and/or Final Acceptance of each Segment by its Acceptance Deadline. All Float shall be shown in the Project Schedule on each Project Schedule submittal. Identification of (or failure to identify) Float on the schedule shall be evaluated by the TTA in determining whether to approve the Project Schedule. Once identified, Float shall be monitored, accounted for and maintained in accordance with critical path methodology." *[EDA 5.6 pp. 19]*	*Same as SH 130 except for some minor rewording* [*CDA 4.3.2 pp.17*]
Comments: Clarifies the use of float and its importance in insuring that the schedule is maintained.			
[Project Schedule] Maximum Payment Curve	"9.5. Partial Payments. Once each month, the Engineer will make an approximate estimate, in writing, of the materials in place, the amount of work performed and the value thereof at the contract unit prices." *[Standard Specifications Item 9.5 pp.56]*	The Project Schedule shall provide for payment to be made solely on the basis of progress by Developer, subject to a cap on payments shown on the Maximum Payment Curve established for the Project. The Maximum Payment Curve shall not limit payment for Change Order Development Work unless otherwise specified in the Change Order. In other words, at no time shall Developer's cumulative total progress payments for a Segment (including mobilization payments but exclusive of payments for Change Order Development Work) exceed the cumulative total expenditure permitted by the Maximum Payment Curve for such Segment. The Maximum Payment Curve shall be calculated based on the monthly expenditure rate set forth in Exhibit F hereto (Form M-2), which is based on certain assumptions regarding the dates of issuance of notices to proceed. If Developer and the TTA mutually agree in writing to a different expenditure rate at any time or if an adjustment to the expenditure rate is required due to early issuance of an	*Same as SH 130 except for some minor rewording* [*CDA 4.3.3 pp.17*]

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
		NTP as evidenced by a Change Order, then such revised rate shall thereafter be the Maximum Payment Curve for the Project. The Maximum Payment Curve shall be revised from time to time thereafter upon request by the TTA or by Developer on its own initiative, as appropriate to account for any changes in the Development Price as evidenced by Change Orders (including adjustments to the Development Price in accordance with the Contract Documents due to delay in issuance of NTP2 or non-issuance issuance of other NTPs) and/or Agreement amendments (including TTA's exercise of options in accordance with Section 14.1.3). The aggregate amount of progress payments to Developer hereunder shall not exceed the amount allowed by the Maximum Payment Curve at any time without the prior written approval of the TTA and the Bond Trustee, which approval may be withheld in their sole discretion. *[EDA 5.7 pp. 19]*	
Comments: TxDOT manual for traditional contracts does not mention this issue and relies on standard practices in the industry. Conversely, both CDA contracts include this contract provision. The purpose is to smooth payment over the project life and to tie progress directly to resources.			

Table B.4 Analysis of Contract Clauses Pertaining to ROW Services

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
ROW Services		*EDA 6 pp. 21-25*	*CDA 6 pp.23-27*
[ROW] Acquisition of Final ROW	*Not Addressed*	"Acquisition of Final ROW shall be undertaken and completed in accordance with the requirements and obligations of the Scope of Work, including Section 7 thereof." *[EDA 6.1 pp. 21]* "Final ROW shall be acquired in accordance with the practices, guidelines, procedures and methods contained in the following: a) TxDOT Right of Way Manual … b) TxDOT New & Revised Right of Way Acquisition Procedures dated July 1, 1998, c) TxDOT Appraisal and Review Manual, 1998 Edition, d) TxDOT Project Development Process Manual, and e) FHWA's Right-of-Way Project Development Guide (FAPG). The TxDOT ROW manuals have been amended for TTA activities by documents identified as TTA Addendum to TxDOT ROW Manuals and TTA Survey and ROW Document Standards, as found in Appendix C-8s of Exhibit C. *[Ex-B - Scope of Work 7.1.1 pp.206]*	*Same as SH 130* *[CDA 6.1 pp.23]* Final ROW shall be acquired in accordance with the practices, guidelines, procedures and methods contained in the following, as may be amended from time to time: a) March 2004 TxDOT Right of Way Manual … b) TxDOT Survey Manual, c) TxDOT Appraisal and Review Manual, d) TxDOT Project Development Process Manual, and e) FHWA's Right-of-Way Project Development Guide (as contained in FAPG). *[Ex-B – Technical Provisions 6.1 pp.165]*
Comments: Both CDA contracts adopted the same language to manage this issue. The Agreement referenced the corresponding section of the Technical Provisions, as well as external references and manual amendments. In traditional projects, ROW acquisition is wholly the responsibility of TxDOT.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[ROW] Costs of Acquisitions	*Not Addressed*	"The TTA shall be responsible for the purchase price for all parcels, exclusive of Existing Utility Property Interests, within the Schematic ROW, the Maintenance Site(s), service center sites described in Section 3.7.3 of the Scope of Work and the Mitigation Site(s). Developer shall be responsible for all right of way engineering, administration, acquisition and related services for all such parcels, as described in the Scope of Work, including all costs and expenses of negotiation and, if necessary, support services for condemnation proceedings described in the Scope of Work." *[EDA 6.2 pp. 21]* "Developer shall be responsible for the costs of all services and preparation of all documentation for Final ROW acquisition and related relocation assistance for the Project. The Development Work related to Final ROW acquisition includes, but is not limited to, mapping, appraisal, appraisal review, negotiation, acquisition, procurement of title insurance, clearing of title, closing of acquisitions, condemnation support, relocation assistance, clearance/demolition of improvements, and environmental testing and remediation as required." *[Ex-B - Scope of Work 7.1.1 pp.206]*	"…Developer shall be responsible for all right of way engineering, surveying, appraisals, administration, acquisition, environmental permitting (other than certain mitigation requirements expressly excluded under Section 6.10.1.2) and related services for all such parcels, as described in TP Section 6, including all costs and expenses of negotiation and, if necessary, support services for condemnation proceedings described in the TP. *Same as SH 130 except for some minor rewording and additions as follows:* • Risk for properties acquired for drainage easements allocated to TxDOT (TxDOT-land, Developer-Services) (6.2.2) • No increase in the Price or any time extension for site conditions and delay, inability or cost associated with Developer-Designated ROW (6.2.5) • Process to manage ROW activities for parcels in which Developer holds a real property interest (6.2.6) *[CDA 6.2 pp.23]* "Developer shall be responsible for the costs of all services and preparation of certain documentation for all Final ROW acquisition, easement acquisition, permitting and related relocation assistance for the Project. The Work related to Final ROW acquisition includes, but is not limited to, mapping, surveying, appraisal, appraisal review, negotiation, acquisition, procurement of title insurance, clearing of title, closing of acquisitions, condemnation support, all fees and expenses for exhibits and photos associated with condemnation services and proceedings required by the Attorney General's office, relocation assistance, clearance/demolition of improvements, and environmental testing and remediation, as required." *[Ex-B – Technical Provisions 6.1 pp.165]*
Comments: TxDOT is responsible for ROW purchase price with Developer assistance as opposed to traditional projects. The SH 45 SE contract approached this issue in the same way as SH 130, but it is more prescriptive in describing the associated costs allocated to the Developer (surveying, fees and expenses associated with condemnation services). This issue is strictly related to some lessons learned in managing the SH 130 project (see Lesson Learned 3.6).The latter contract (SH 45 SE) allocated to TxDOT any cost associated for acquiring properties for drainage easements, does not allow increase in the Price or any time extension for site conditions and delay, inability or cost associated with Developer-Designated ROW; and finally outlined a process to manage ROW activities for parcels in which Developer holds a real property interest.			
[ROW]	*Not Addressed*	"…Developer shall use its best efforts to restrict and limit	*Same as SH 130 except:*

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
Limiting Acquisition of Additional Properties		additional costs to the Project associated with TTA-Directed Changes. To the extent reasonably possible, consideration shall be given to using retaining walls or making other engineering adjustments as an alternative to the acquisition of Additional Properties…" [*EDA 6.3 pp. 22*]	"…Developer shall use its best efforts to restrict and limit additional costs to the Project associated with TxDOT-Directed Changes, drainage easements and Mitigation Sites. To the extent reasonably possible, consideration shall be given to using retaining walls or making other engineering adjustments as an alternative to the acquisition of Additional Properties." [*CDA 6.3 pp.25*]
Comments: Both CDA contracts managed this issue in the same way except that the SH 45 SE contract specifically mentions the obligation for the Developer to restrict additional costs related with drainage easements and Mitigation Sites. [???]			
[ROW] Representations by Developer	*Not Addressed*	"No member of the Developer Group shall represent him or herself as an agent of the TTA while communicating with any of the owners or occupants of the Final ROW, any property in which Developer seeks to obtain a temporary right or interest or a permanent right that will not be part of the Final ROW, or at any other time in connection with performing the services described in Section 7 of the Scope of Work.…" *[EDA 6.4 pp. 23]*	"Developer's designated ROW Project Manager, referred to herein as the ROW PM, shall be entitled to undertake the right-of-way acquisition services described in TP Section 6 on behalf of TxDOT as its agent for such limited purpose, subject to the conditions and limitations of this Section 6.4." *[CDA 6.4.1 pp.25]*
Comments: The SH 45 SE approach in managing this issue is very innovative. In fact, under this clause the Developer's designated ROW Project Manager is entitled to undertake the ROW acquisition services as a TxDOT agent. Conversely, the SH 130 specifically has forbidden members of the Developer Group to represent themselves as TxDOT agents. [???]			
[ROW] Negotiations and Condemnation Proceedings Relative to the Acquisition of Final ROW	*Not Addressed*	"Developer shall incorporate any suggested changes and provide any additional information requested by the TTA and shall resubmit the condemnation package to the TTA for review and approval. The TTA shall have 10 Business Days to approve or provide comments to Developer on any resubmittals." "Delays to the Critical Path due to failure of the TTA to make Schematic ROW available with 300 days of approval of a condemnation packet shall be considered a TTA-Caused Delay." *[EDA 6.5 pp. 23]*	*Same as SH 130 except:* "…15 Business Days", "…200 days…", and more details in managing these delays. *[CDA 6.7 pp.26]*
Comments: Both CDA contracts manage this issue in the same way except few changes concerning the timing for approval. These changes were done probably on the basis of the SH 130 experience (especially the reduction from 300 days to 200 days). In fact, during an interview with SH 130 project representatives resulted that the TxDOT ROW team did not ever need or get close to the 300 days limit that they have for approval of a condemnation packet (Interview to D. Toner, K. Fulton and J. Breed, December 2003).			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[ROW] Physical possession of Final ROW	*Not Addressed*	"The TTA shall notify Developer of the availability of Final ROW within ten Business Days after the TTA has received access to such Final ROW. Developer shall be responsible for being informed of and complying with any access restrictions that may be set forth in any documents granting access to any Final ROW. Upon obtaining knowledge of any anticipated delay in the dates for acquisition of any Final ROW, the Party obtaining knowledge shall promptly notify the other party in writing. In such event, Developer shall immediately determine whether the delay impacts the Critical Path and, if so, to what extent it might be possible to avoid such delay through alternative construction methods or otherwise. Developer shall promptly meet with the TTA to determine the best course of action and prepare a written report setting forth its recommendations, which recommendations shall be subject to the written approval of the TTA." *[EDA 6.6 pp. 24]*	*Same as SH 130 except for some minor rewording and final addition of provision on Transfer of Title to Improvements:* "TxDOT may, in its sole discretion, transfer, without representation or warranty, TxDOT's right, title and interest in and to any improvements within the acquired ROW to Developer for purposes of facilitating demolition of such improvements and construction of the Project as soon as feasible after title is acquired by TxDOT. Developer shall accept such transfer of title and shall assume all responsibility associated with such improvements upon transfer to Developer." *[CDA 6.6 pp.27]*
Comments: While both CDA contracts approach this issue in the same way, the latter (SH 45 SE) allows TxDOT to transfer to the Developer the right of physical possession in order to facilitate demolition and construction activities. [???]			
[ROW] Right of early entry	*Not Addressed*	"…Developer shall work around such Final ROW with the goals of minimizing delay to the completion of the Project. Except for delays caused by the type of event described in clause (b) of the definition of "TTA-Caused Delay" (that is, the failure of the TTA to make Schematic ROW available within 300 days of the TTA's approval of a condemnation package in accordance with Section 6.5), Developer shall not be entitled to any increase in the Development Price or time extension for delays caused by the failure or inability of the TTA to provide Final ROW. Where Developer makes a written request for access or rights of entry for any Final ROW for which access has not yet been acquired, Developer may, with the TTA's written consent, and subject to the provisions of Section 6.6 above and the Scope of Work, negotiate with property owners or occupants for early access or temporary use of land, …" *[EDA 6.7 pp. 24]*	*Same as SH 130 (We noticed a mistake when they mention 300 days when in definition they mention 200 days for TxDOT caused-delay)* *[CDA 6.7 pp.27]*
Comments: Both CDA contracts approach this issue in the same way. Interviews to project representatives highlighted this innovative clause as critical for speeding up the ROW process and for triggering an early commencement of construction activities.			

Table B.5 Analysis of Contract Clauses Pertaining to Environmental Compliance

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Environmental Compliance	*Construction Contract Administration Manual (CCAM) Chapter 12*	*EDA 7 pp. 30-32*	*CDA 6 pp. 38-39*
[Environmental Compliance] – General Provision	"….All such requirements must be observed by both TxDOT and contractors, once the recommendations have been accepted by TxDOT. The accepted recommendations should be included in the contract, when necessary, to ensure that the recommendations will be followed." *[CCAM Chapter 12, Section 2, pp. 12-12]*	"Developer shall be responsible for performance of all environmental mitigation measures (which term shall be deemed to include all requirements of the Environmental Approvals, including the TTA-Provided Approvals and similar Governmental Approvals, regardless of whether such requirements would be considered to fall within a strict definition of the term) for the Project (other than those which the TTA has expressly agreed to perform under the Contract Documents). The Development Price includes compensation for Developer's performance of all such mitigation measures, except to the extent Developer is entitled to a Change Order under Section 7.6.1." [*EDA 7.6 pp. 30*]	*Same as SH 130 except for some minor rewording* [*CDA 6.10 pp. 38*]
Comments: CDA contracts assign most environmental risks to the Developer. The Development Price (Lump sum) includes compensation for these risks.			
[Environmental Compliance] – TxDOT Responsibility for Approvals	"In some cases, however, TxDOT must complete mitigation or other requirements after award of the construction contract. In those cases, TxDOT will: ♦ obtain Texas Historical Commission approval to proceed to construction with the commitment to avoid construction or other transportation activities that may impact significant cultural resources until the commitment has been met or ♦ include a requirement in the PS&E to require that no	"All mitigation requirements contained in the final TTA-Provided Approvals shall automatically be deemed included in the scope of the Development Work. If Developer believes the final TTA-Provided Approvals result in a material modification of Developer's obligations hereunder, Developer may submit a PCO (Proposed Change Order) Notice in accordance with Section 14.3.2.3 (or, if the requirements of Section 14.3.2.2 are met, a Request for Partnering); provided that Developer shall have 30 Days to deliver the PCO Notice in lieu of the ten Days allowed in Section 14.3.2.4.1. Any change in the activities to be performed by Developer as a result of an alteration in mitigation requirements from the original scope of the Development Work shall be treated as a TTA-Directed Change, provided that Developer complies with the notification and other requirements set forth in this Section 7.6.1 and Section 14. Notwithstanding the foregoing, in the event that the final	"All conditions and requirements, including mitigation requirements, contained in the FEIS and ROD (Record of Decision) shall automatically be deemed included in the scope of the Work. TxDOT shall be responsible for the cost and performance of all mitigation requirements contained in the USACE Nationwide Permit and Section 401 certification and the archeological clearances under Section 106 of NHPA. With respect to the USACE Nationwide Permit and Section 401 certification, Developer shall utilize Best Management Practices and shall be responsible for performance of the anticipated general conditions and requirements described in Federal Register Volume 67, No. 10, p. 2089, published January 15, 2002 (the "General Conditions"). If the final USACE Nationwide Permit contains conditions or requirements other than the General Conditions and such conditions (1) have a material adverse impact on Developer's obligations hereunder, and (2) were not caused by modifications to the

	construction related activities occur in specifically designated project areas until TxDOT's commitments to the Texas Historical Commission have been completed. The ENV will coordinate these commitments and their completion with the AE and the district's environmental coordinator." *[CCAM Chapter 12, Section 4, pp. 12-21]*	TTA-Provided Approvals incorporate mitigation requirements addressing any modification in the Final Design from the original design concept included in the FEIS, such additional mitigation requirements shall be Developer's responsibility and shall not be considered a TTA-Directed Change or Force Majeure Event." [*EDA 7.6.1.2 pp. 31*]	Schematic Design that were initiated by Developer, Developer shall be eligible for a Force Majeure Change Order pursuant to Section 13.9.3. If the final TxDOT-Provided Approvals (other than the USACE NationwidePermit or Section 106 archeological clearances) incorporate mitigation requirements addressing any modification in the Final Design from the Schematic Design, (other than a TxDOT-Directed Change or a Necessary Basic Configuration Change), such additional mitigation requirements shall be Developer's sole responsibility and shall not be considered a TxDOT-Directed Change or Force Majeure Event. TxDOT will be responsible for additional mitigation requirements resulting from TxDOT-Directed Changes, Necessary Basic Configuration Changes or as a result of modifications to the USACE Nationwide Permit (but not for any individual Section 404 permit) or archeological clearances under Section 106 of NHPA." [C*DA 6.10.1.2 pp. 38*]
<u>*Comments:*</u> The two CDA Contracts address this issue in different way. The SH 45 SE approaches the risk allocation between TxDOT and Developer in a much more prescriptive way, while the former (SH 130) present more leeway in interpretation. Moreover, the SH 45 SE allocates the costs and performance of all mitigation requirements contained in the USACE Nationwide Permit to TxDOT.			
[Environmental Compliance] – Approvals to Be Obtained by Developer	<u>*Not Addressed*</u>	"If it is necessary to obtain a New Environmental Approval for any reason other than a Force Majeure Event or a TTA -Directed Change, […] Developer shall be fully responsible, at its sole cost and expense, for obtaining the New Environmental Approval and any other environmental clearances that may be necessary, and for all requirements resulting therefrom, as well as for any litigation arising in connection therewith. If the New Environmental Approval is associated with a VE, the costs of obtaining and complying with the terms of the New Environmental Approval shall be considered in determining the Development Price adjustment under Section 21." [*EDA 7.6.2 pp. 32*]	<u>*Same as SH 130*</u> <u>except the following is added where […] is indicated:</u> "…including any New Environmental Approval associated with the drainage easements or any right-of-way outside of the Schematic ROW, …" [*CDA 6.10.2 pp. 39*]
<u>*Comments:*</u> CDA contracts assign to the Developer most of the responsibility for obtaining new environmental approvals. The SH 45 SE contract explicitly includes Developer responsibility for the task of obtaining new environmental approvals related to drainage easements and ROW outside the Schematic ROW.			

Table B.6 Analysis of Contract Clauses Pertaining to Performance and Payment Security

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Performance and Payment Security	*Standard Specifications*	*EDA 9 pp. 34-35*	*CDA 8 pp. 46-47*
[Performance and Payment Security] General Provision and Proposal Bond	"Within 15 days after written notification of award of the contract the bidder shall execute and furnish to the Commission the contract, with (1) a performance bond and a payment bond, with powers of attorneys attached, each in the full amount of the contract price, executed by a surety company or surety companies authorized to execute surety bonds under and in accordance with the laws of the State of Texas, and (2) the Certificate of Insurance showing coverages in accordance with contract requirements. The performance bond and payment bond are to be furnished as a guarantee of the faithful performance of the work and for the protection of the claimants for labor and materials as outlined in Item 1, "Definition of Terms". When the amount of the contract is $25,000 or less, a performance bond and a payment bond will not be required." [*Standard Specifications Item 3.4 pp.15*]	"Developer shall deliver to the TTA, and maintain in full force and effect at all times, security for performance of the Development Work as described below (or other assurance satisfactory to the TTA in its sole discretion)." *[EDA 9 pp. 34]* "Developer has provided a Proposal Bond to the TTA in the amount of $50,000,000. The Proposal Bond shall remain in place as security for performance of Developer's obligations under the Contract Documents during the period prior to issuance of NTP1, including Developer's obligation to provide the NTP1 Performance Bond and NTP1 Payment Bond hereunder. Upon the TTA's receipt of the NTP1 Performance Bond and the NTP1 Payment Bond and all other documents required to be provided to the TTA on or before issuance of NTP1, the TTA shall release the Proposal Bond." *[EDA 9.1 pp. 34]*	"Developer shall provide payment and performance bonds to TxDOT securing Developer's obligations hereunder, each in an amount equal to 100% of the value of construction Work, and shall maintain such bonds in full force and effect as described below, subject to replacement by a Warranty Bond as provided below." [*CDA 8.1 pp. 46*]

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
Comments: While SH 45 SE contract follows the TxDOT manual for traditional contracts administration by requiring performance bonds covering the full value of construction Work, the SH 130 contract used a different approach in order to bypass problems with bonding capacity. In fact, two different sets of bonds are issued: the first relating Design, ROW, and other services for an amount of $50 million, and the second covering the construction phase for an amount of $350 million. The SH 130 contract required a proposal bond to be in place from the proposal date until performance and payment bonds were received. The SH 45 SE contract did not require this bond.			
[Performance and Payment Security] Performance Bonds	*Same as General Provision*	**NTP1 Performance Bond:** "On or before the issuance by the TTA of NTP1, Developer shall deliver to the TTA a performance bond in the amount of $50,000,000 and in the form attached hereto as Exhibit H-1 (the "NTP1 Performance Bond"). The TTA shall provide a written release of the NTP1 Performance Bond to Surety upon issuance of NTP2, provided that: (a) Developer is in compliance with the terms of the Contract Documents and is not in default thereunder; (b) no event has occurred that with the giving of notice or passage of time would constitute a default by Developer hereunder or under the Contract Documents; and (c) the TTA has received the NTP2 Payment Bond and NTP2 Performance Bond under Section 9.2. In the event Developer terminates this Agreement for failure to issue NTP2 in accordance with Section 13.2.2.2, the NTP1 Performance Bond shall be released upon the date of such termination provided that: (a) Developer is in compliance with the terms of the Contract Documents and is not in default thereunder; and (b) no event has occurred that with the giving of notice or passage of time would constitute a default by Developer hereunder or under the Contract Documents." *[EDA 9.1 pp. 34]* **NTP2 Performance Bond:** "On or before the issuance by the TTA of NTP2, Developer shall deliver to the TTA a performance bond in the amount of $250,000,000 and in the form attached hereto as Exhibit H-2 (the "NTP2 Performance Bond"). After Final Acceptance of each Segment, the TTA shall provide a written release of the NTP2 Performance Bond with respect to such Segment, provided that and upon such date after Final Acceptance of such Segment that all of the following have occurred: (a) Developer is in compliance with the terms of the Contract Documents and is not in default thereunder; (b) no event has occurred that with the giving of notice or passage of time would constitute a default by Developer hereunder or under the Contract Documents; (c) the TTA has received the Warranty Bond (and, as applicable, rider adding such Segment thereto); and (d) if the TTA has issued Maintenance NTP1 (as defined and within the timeframe specified in the Maintenance Agreement), the Maintenance Contractor has delivered the payment and performance bonds required under the Maintenance Agreement. If the Development Price is increased in connection with a Change Order, the TTA may, in its sole	"A copy of the Performance Bond previously provided is attached hereto as Exhibit H. TxDOT will release the Performance Bond (a) upon expiration of the Warranty term provided that no outstanding claims are then pending against Developer hereunder, or (b) upon satisfaction of the conditions in Section 8.1.3." [*CDA 8.1.1 pp. 46*] For the amount refer to the general provision : "…in an amount equal to 100% of the value of construction Work…" [*CDA 8.1 pp. 46*]

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
		discretion, require a corresponding proportionate increase in the amount of the NTP2 Performance Bond. In such event, Developer shall be entitled to reimbursement of any increased premiums resulting from such increase in bond amount." *[EDA 9.2 pp. 35]*	

Comments: The SH 130 project is subdivided in different phases that are triggered by 6 different NTP. The first two NTP concerns the four segments of the highways that will be built while the other relate to the other two segments that may be built if adequate funding resources will be available. Issuance of Payment and Performance Bonds reflects this structure by creating two different sets of bonds: NTP1 and NTP2. The first set substituted the proposal bond before the issuance of NTP1, and last until the release of the second set before the issuance of NTP2. The second substituted the first and last until the Final Acceptance of the Work and subsequent release of the Warranty Bond, and of the Maintenance Bonds.
NTP1 work included: design, ROW, environmental mitigation, and other activities such as:

- participate in meetings and presentations as requested by the TXDOT (at Developer expenses),
- provide information for meetings and presentations,
- implement a geotechnical investigation program,
- Develop a design and construction QA/QC program, the environmental mitigation plan and a ROW QC/quality review program,
- And, update Project Management Plan

Therefore, the amount of the required bond ($50,000,000) is much lower than the one for the construction phase starting with the NTP2 [NTP2 work includes all the other activities needed to complete the work for the segment 1 to 4] ($250,000,000). The SH 45 SE contract required only a Performance Bond (amount: 100% of the value of construction Work) to be released by TxDOT after the issuance of the Warranty Bond or the expiration of the Warranty term.

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Performance and Payment Security] Payment Bonds	*Same as General Provision*	**NTP1 Payment Bond:** "On or before the issuance by the TTA of NTP1, Developer shall deliver to the TTA a payment bond in the amount of $50,000,000 and in the form attached hereto as Exhibit I-1 (the "NTP1 Payment Bond"). The TTA shall provide a written release of the NTP1 Payment Bond to Surety upon issuance of NTP2, provided that: (a) Developer is in compliance with the terms of the Contract Documents and is not in default thereunder; (b) no event has occurred that with the giving of notice or passage of time would constitute a default by Developer hereunder or under the Contract Documents; and (c) the TTA has received the NTP2 Payment Bond and NTP2 under Section 9.2. In the event Developer terminates this Agreement for failure to issue NTP2 in accordance with Section 13.2.2.2, the TTA shall provided a written release of the NTP1 Payment Bond to Surety (a) one year after such termination, provided that Developer has delivered to the TTA (i) evidence satisfactory to the TTA that all Persons performing the Development Work have been fully paid, (ii) unconditional waivers of claims in form and substance satisfactory to the TTA, executed by all of such Persons, and (iii) expiration of the statutory period for Subcontractors to file a claim against the bond." *[EDA 9.1 pp. 34]* **NTP1 Payment Bond:** "On or before the issuance by the TTA of NTP2, Developer shall deliver to the TTA a labor and material payment bond in the amount of $250,000,000 and in the form attached hereto as Exhibit I-2 (the "NTP2 Payment Bond"). The TTA shall provide a written release of the NTP2 Payment Bond with respect to each Segment (a) one year after Final Acceptance of the Segment, provided that Developer has delivered to the TTA (i) evidence satisfactory to the TTA that all Persons performing the Development Work on such Segment have been fully paid, (ii) unconditional waivers of claims in form and substance satisfactory to the TTA, executed by all of such Persons, and (iii) the Warranty Bond (and, as applicable, rider adding such Segment thereto); or (b) expiration of the statutory period for Subcontractors to file a claim against the bond for Development Work on such Segment, provided that the TTA has received the Warranty Bond (and, as applicable, rider adding such Segment thereto). If the Development Price is increased in connection with a Change Order, the TTA may, in its sole discretion, require a corresponding proportionate increase in the amount of the NTP2 Payment Bond. In such event, Developer shall be entitled to reimbursement of any increased premiums resulting from such increase in bond amount." *[EDA 9.3 pp. 35]*	For the amount refer to the general provision : "…in an amount equal to 100% of the value of construction Work…" [*CDA 8.1 pp. 46*] "A copy of the Payment Bond previously provided is attached hereto as Exhibit I. TxDOT will release the Payment Bond (a) upon receipt of (i) evidence satisfactory to TxDOT that all Persons eligible to file a claim against the bond have been fully paid and (ii) unconditional releases of Liens and stop notices from all Subcontractors who filed preliminary notice of a claim against the bond, (b) upon expiration of the statutory period for Subcontractors to file a claim against the bond if no claims have been filed, or (c) upon satisfaction of the conditions in Section 8.1.3." [*CDA 8.1.2 pp. 46*]
Comments: Same rules and amounts as for Performance Bonds.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Performance and Payment Security] Warranty Bond	*Not addressed*	"After Final Acceptance of each Segment and subject to the requirements herein, Developer may obtain a release of the Performance and Payment Bonds for such Segment by providing a warranty bond which shall guarantee performance of the Development Work required to be performed during the Warranty period for each Segment and which shall also constitute a payment bond guaranteeing payment to Persons performing such Development Work ("Warranty Bond"). The Warranty Bond shall be in the amount of $65,327,746.00 and shall be in the form attached hereto as Exhibit J. Initially, the Warranty Bond shall apply to the first Segment to reach Final Acceptance. Upon Final Acceptance of each subsequent Segment, Developer may provide a rider to the Warranty Bond adding the remaining Development Work for such Segment to the scope of the Warranty Bond, provided that the penal sum shall not change." *[EDA 9.4 pp. 35]* "12.1.2 The Warranties for each Segment of the Project shall commence upon Substantial Completion of the Segment and shall remain in effect until one year after the date of Final Acceptance of the Segment, except that an extended three-year warranty term and special warranty requirements shall apply with respect to plant establishment and certain landscape elements for each Segment, in accordance with Section 3.9.10 of the Scope of Work. Notwithstanding anything to the contrary in this Section 12.1.2, the term of the warranty for all elements of the Development Work which will be owned by Persons other than the TTA (such as Utility Owners) shall commence as of the date of acceptance thereof by such Persons and shall end one year thereafter. If the TTA determines that any of the Development Work has not met the standards set forth in this Section 12.1 at any time during the warranty period for such Development Work, then Developer shall correct such Development Work as specified below, even if the performance of such corrective work extends beyond the stated warranty period." *[EDA 12.1.2. pp.50]*	*Same as SH 130 except:* "…The Warranty Bond shall be in an amount equal to 10% of the Price and shall be substantially in the form attached hereto as Exhibit O, and shall be released upon satisfaction of the conditions in Section 8.1.1(a) and Section 8.1.2(a) or (b)." [*CDA 8.1.3 pp. 46*]
Comments: While the SH 130 contract set a specific amount for the Warranty Bond (Why that amount?), the SH 45 SE contract set it equal to 10% of the project price. In case of the SH 130, this warranty bond covers the warranty that the Development Work meet all of the requirements of the Contract Documents and more specifically that 36 construction items respect some additive criteria (see EDA 2.1.1.2, pp.47). This warranty remain in effect for the duration of the Warranty period (equal to 1 year except for some landscape element for which this period is extended to three years) after completion of the segment. On the other hand, the SH 45 SE does not specify any additive criteria.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Performance and Payment Security] Surety Financial Requirements	"1.66. Surety. The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the contract and for the payment for all labor and material supplied in the prosecution of the work." [*Standard Specifications Item 1.66 pp.8*]	"Any bond provided in accordance with this Section 9 shall be issued by a Surety with an A.M. Best and Company rating level of A-minus (A-) or better, Class VIII or better, or as otherwise approved in writing by the TTA, in its sole discretion." *[EDA 9.5 pp. 36]*	*Same as SH 130 except following addition:* "…If any bond previously provided becomes ineffective, or if the Surety that provided the bond no longer meets the requirements hereof, Developer shall provide a replacement bond in the same form issued by a surety meeting the foregoing requirements, or other assurance satisfactory to TxDOT in its sole discretion. If the Price is increased in connection with a Change Order, TxDOT may, in its sole discretion, require a corresponding proportionate increase in the amount of each bond or alternative security." [*CDA 8.1.4 pp. 46*]
Comments: Both CDA contracts set the standard for the issuing Surety company. Moreover, the SH 45 SE contract outlined a process for substituting the Surety and/or the bond when they no longer meet the requirements.			
[Performance and Payment Security] Performance by Surety or Guarantor	*Not addressed*	"Performance by a Surety or a Guarantor of any of the obligations of Developer shall not relieve Developer of any of its obligations hereunder." *[EDA 9.6 pp. 36]*	*Same as SH 130 except some minor rewording* [*CDA 8.2 pp. 46*]
Comments: CDA contracts required the Developer to keep its obligations independently from the performance of the Surety or the Guarantor. This allows for added recourse by TxDOT if needed.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Performance and Payment Security] Guarantee	*Not addressed*	"9.7.1 Fluor Corporation is the Guarantor of the Developer's obligations under the Contract Documents in accordance with that certain guarantee executed by Fluor Corporation and delivered to the TTA concurrently with the execution of this Agreement. 9.7.2 If at any time during the course of the Agreement the total combined Tangible Net Worth of Developer, its equity members and any Guarantors, if any, is less than $350,000,000 (excluding Tangible Net Worth in excess of any applicable limit of liability stated in the guarantee), Developer shall provide one or more guarantees making up the difference. Each such guarantee shall be in the form attached to the Instructions to Proposers as Form P together with appropriate evidence of authorization thereof, and the total liability thereunder shall be equal to or greater than the difference between $350,000,000 and such total combined Tangible Net Worth. Each guarantee must be provided by (a) a parent corporation or a shareholder of Developer, or (b) a parent corporation or a shareholder of an equity member of Developer." *[EDA 9.7 pp. 36]*	"8.3.1 _____ [is/are] the Guarantor[s] of Developer's obligations under the Contract Documents in accordance with that certain guarantee executed by _____ and delivered to the TxDOT concurrently with the execution of this Agreement. Such guarantee(s) assure(s) performance of Developer's obligations hereunder and shall be maintained in full force and effect throughout the duration of this Agreement. [to be deleted if no guarantee is required] 8.3.2 If at any time during the course of this Agreement the total combined Tangible Net Worth of Developer, its equity members and any Guarantors, if any, is less than $150,000,000 (excluding Tangible Net Worth in excess of any applicable limit of liability stated in the guarantee), Developer shall provide one or more guarantees. Each such guarantee shall be in the form attached to the RFDP as Form M together with appropriate evidence of authorization, execution, delivery and validity thereof (including an opinion of counsel as to the guarantee in the form of Form R of the RFDP), and shall guarantee the Guaranteed Obligations (as defined in Form M). Each guarantee must be provided by (a) a parent corporation or a shareholder of Developer, or (b) a parent corporation or a shareholder of an equity member of Developer." [*CDA 8.2 pp. 46*]
Comments: CDA contracts establish a Guarantor for the contract and its requirements.			

Table B.7 Analysis of Contract Clauses Pertaining to Payment

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
Payment		*EDA 13 pp. 54-68*	*CDA 12 pp.59-70*
[Payment] – Developer Note	*Not Addressed*	"Developer shall complete and manage such portions of the Development Work for which the TTA issues an NTP at a fixed price (with certain limited exceptions thereto set forth in Section 14 of this Agreement) in a manner satisfactory to the TTA and in accordance with the Project Schedule, including: …. (k) Subordinating a portion of its fees for Development Work and Change Orders to repayment of certain portions of the Project financing and deferring such amounts in accordance with the terms of the Developer Note." [*EDA 2.2.1 pp. 6-7*] "13.4.1 The Developer Note shall be delivered by the TTA to Developer in substantially the form set forth in Exhibit M pursuant to the terms and provisions of the Project Finance Documents, and shall represent payment of the final installments of the Development Price. The TTA shall have the option to pay cash in lieu of delivering the Developer Note. Delivery of the Development Note by the TTA shall be subject to the approval of (a) the State Attorney General pursuant to Chapter 1201 and 1202 of the Texas Government Code and (2) Bond counsel for consistency with the Project Finance Documents. The principal amount of the Developer Note shall be an amount not to exceed $2,000,000 plus 50% of the dollar amount of each approved Change Order excluding Change Orders implementing material changes in the Basic Configuration directed by the TTA. In no event shall the principal amount exceed $10,000,000 in the aggregate. If the Development Note is increased as the result of a Change Order, Developer shall nevertheless be entitled to receive payments for the Development Work which is the subject of the Change Order as it is performed, subject to any Retainage requirements hereunder and subject to the requirement that Developer accept the Developer Note for the final payments of the Development Price hereunder. The Developer Note shall accrue interest from the date that is 30 Days after the date of the first approved Draw Request to be paid with the Developer Note. If the Developer Note involves multiple Draw Requests, each Draw Request submitted following original issuance of the Developer Note shall be accompanied by a blank endorsement to the Developer Note reflecting an increase in the principal balance thereof, executed by Developer, with the date and amount left blank and including a signature block for the TTA. The TTA will date the endorsement as of 30 days after the date of the approved Draw Request, will fill in the approved amount and will deliver it to Developer. Interest shall accrue on the unpaid principal balance of the Developer Note at the rate of 6.5% per annum. Payments shall be due and owing as specified in the Project Finance Documents. The maturity date of the Developer Note will be no later than the average life of the First Tier Obligations in accordance with the Project Finance Documents. 13.4.2 The Developer Note shall be secured by and payable from the Project revenues deposited in the First Tier Debt Service Fund established by and held under the Project Finance Documents. The TTA shall execute and deliver such documents as may be required by applicable Law to perfect	*Not Addressed*

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
		such security interest. 13.4.3 If Developer is in default under this Agreement, the TTA will have the right to withhold all or a portion of the payment due with respect to the Developer Note; provided that the foregoing right to withhold payment shall not apply to any bona fide purchaser for value who is not an Affiliate of Developer. 13.4.4 Interest on the Developer Note shall be excludable from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended. 13.4.5 If, prior to issuance of NTP2, revisions to the form of the Developer Note become necessary or reasonably advisable due to financing requirements for the Project, the Parties agree to negotiate in good faith such changes; provided, however, that neither Party is required to agree to any changes that would materially alter its obligations hereunder." [*EDA 13.4 pp. 64-45*]	
Comments: The SH 130 contract inserts this innovative clause that forces the Developer to subordinate a portion of its fees to repayment of certain portions of the Project financing. Only a maximum value for the amount of such portion was fixed in 10 million.			

Table B.8 Analysis of Contract Clauses Pertaining to Change Orders

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Change Order	*Construction Contract Administration Manual (CCAM)* *Standard Specifications*	*EDA 14.1.1.1 pp. 69-85*	*CDA 13 pp.71-96*
[Change Order] Definition/Eligibility	"It is the intent of TxDOT to amend contracts whenever a significant change in character of work occurs." … "The term "significant change" shall apply only to the following circumstances: • When the character of the work as altered or changed differs materially in kind or nature from the original proposed construction, or • When a major item as defined below is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. A major item is defined as any individual bid item included in the proposal that has a total cost equal to or greater than 5 percent of the original contract or $100,000, whichever is less. Note that a major item at the time of the bid will remain a major item. An item that is not originally a major item does not become one through overruns, CO's, etc." *[CCAM Chapter 7 Section 1 pp.7-3]*	"Change Orders may be issued for the following purposes: a. To modify the scope of the Development Work; b. To revise a Completion Deadline or an Acceptance; c. To revise the Development Price; a. To revise other terms and conditions of the Contract" *[EDA 14.1.1.1 pp. 69]* "Change Order shall mean a written order issued by the TTA to Developer delineating changes in the requirements of the Contract Documents in accordance with Section 14 of this Agreement and establishing, if appropriate, an adjustment to the Development Price, the Completion Deadline or the Acceptance Deadline." *[EDA Ex-A pp. 10]*	*Same as SH 130* *[CDA 13.1.1.1 pp.71]*
Comments: CDA projects seem to set more flexible conditions under which a change order (CO) can be issued. These changes are tied to a fixed price. On the other hand, in traditional projects these changes are tied to a range for the contract quantity. Moreover, traditional projects heavily rely on the concepts of "significant change" and "major item", i.e., unit pricing.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Change Order] Force Majeure Events	*Not Addressed*	" … the TTA shall issue Change Orders (a) to compensate Developer for additional costs incurred arising directly from Force Majeure Events (excluding Acceleration Costs or delay and disruption damages other than for any Force Majeure Events which are included in the definition of TTA-Caused Delay), and (b) to extend the applicable Completion Deadlines and/or Acceptance Deadlines as the result of any delay in a Critical Path directly caused by a Force Majeure Event, to the extent that it is not possible to work around the problem." [*EDA 14.10 p. 88*]	*Same as SH 130* *[CDA 13.9.3 pp.90]* *Changes in definition of Force Majeure Events (Ex-A):* Differences in the included events: ◆ No mention to New utilities ◆ No mention to Karst features requiring investigations ◆ addition of new requirement or condition in the final USACE Nationwide Permit Differences in the specifically excluded events: • No mention to railroad adjustments *[CDA Ex-A pp.16]*
Comments: TxDOT manual for traditional contract administration (CCAM) does not mention force majeure events. In the SH 45 SE contract new utilities, and some underground features were excluded from the definition while changes in requirements for USACE permits were included.			
[Change Order] Differing Site Conditions	"During the progress of the work, if subsurface or latent physical conditions are encountered at the site, differing materially from those indicated in the contract, or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the Party discovering such conditions shall promptly notify the other Party in writing of the specific differing conditions before they are disturbed and before the affected work is performed. Upon written notification, the Engineer will promptly investigate the conditions, and if he determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing in accordance with Article 9.3. The Contractor will be notified of the Engineer's determination whether or not an adjustment of the	"14.9.1 … No time extension shall be available with respect to Differing Site Conditions, and no delay damages shall be recovered. To the extent that additional costs are incurred in connection with the Project due to changes in Developer's obligations relating to the Work resulting from the existence of Differing Site Conditions and which are not reimbursed by insurance proceeds, the TTA and Developer shall share the risk as follows: 14.9.1.1 Developer shall be fully responsible for, and thus shall not receive a Change Order with respect to, the first $5,000,000 in aggregate additional costs incurred directly attributable to changes in Developer's obligations hereunder resulting from the existence of Differing Site Conditions. 14.9.1.2 TxDOT shall be fully responsible for any additional costs incurred in excess of $5,000,000 directly attributable to changes in Developer's obligations relating to the Development Work resulting from the	"13.9.1 *Same as SH 130 14.9.1* 13.9.1.1 *Same as SH 130 14.9.1.1* except for amount of risk fully charged to Developer ($1,000,000 instead than $5,000,000) 13.9.1.2 *Same as SH 130 14.9.1.2* except for amount of risk fully charged to Developer ($1,000,000 instead than $5,000,000) 13.9.1.3 *Same as SH 130 14.9.2* 13.9.1.4 Differently *from SH 130 14.9.3:* …….Developer shall track the first $1,000,000 in costs associated with a Differing Site Condition in accordance with the requirements and limitations in Section 13.7 and shall track the costs incurred in excess of $1,000,000 in accordance with the requirements and limitations in Section 13.6. 13.9.1.5 *New clause respect to SH*

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
	contract is warranted. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice in accordance with Article 4.4." *[Standard Specifications Item 9.7 pp.58]*	experience of Differing Site Conditions, and a Change Order shall be issued to compensate Developer for such additional costs. 14.9.2 During progress of the Development Work, if Differing Site Conditions are encountered, Developer shall immediately notify the TTA thereof telephonically or in person, to be followed immediately by written notification. Developer shall be responsible for determining the appropriate action to be undertaken, subject to concurrence by the TTA. In the event that any Governmental Approvals specify a procedure to be followed, Developer shall follow the procedure set forth in the Governmental Approvals. If the discovery of Differing Site Conditions necessitates a change in the design of the Project, such change shall be submitted to the TTA for concurrence in accordance with Section 3 of Scope of Work. 14.9.3 Developer hereby acknowledges and agrees that it has assumed all risks with respect to the need to work around locations impacted by Differing Site Conditions. Developer shall bear the burden of proving that a Differing Site Condition exists and that it could not reasonably have worked around the Differing Site Condition so as to avoid additional cost. Developer shall track all costs associated with a Differing Site Condition in accordance with the requirements and limitations in Section 14.7. *[EDA 14.9 p. 87]*	*130::* Each request for a Change Order relating to a Differing Site Condition shall be accompanied by a statement signed by a qualified professional setting forth all relevant assumptions made by Developer with respect to the condition of the Site, justifying the basis for such assumptions, explaining exactly how the existing conditions differ from those assumptions, and stating the efforts undertaken by Developer to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs. No time extension or costs will be allowed in connection with any work stoppage in affected areas during the investigation period described above. *[CDA 13.9.1 pp.89]*
Comments: While the TxDOT manual for traditional contract administration (CCAM) entrusts the TxDOT engineer with most of the responsibilities relating the solution of this issue, CDA contracts allocate most responsibilities to the Developer to work around the impacted locations, and they are responsible for determining the appropriate action to be undertaken. The two D-B contract adopted the same structure to allocate risk between the Department and the Developer. They charge the whole risk in terms of time to the Developer ["*No time extension shall be available with respect to Differing Site Conditions, and no delay damages shall be recovered*"]. However, they allow Developer to share additional costs from Differing Site Conditions with the Department. Both introduce a maximum limit of $5,000,000 (SH 130) and $1,000,000 (SH 45 SE) in additional costs over which TxDOT become fully responsible. The latter contract (SH 45SE) introduces two different procedures to track costs. Moreover, it introduces the need of an official statement signed by a qualified professional.			

Table B.9 Analysis of Contract Clauses Pertaining to Utility Adjustments

Provision	**Traditional**	**SH 130 EDA**	**SH 45 SE CDA**
Utility Adjustments	*Standard Specifications*	*EDA 14 pp. 89-97*	*CDA 6 pp.28-35*
[Utility Adjustments] General	*Not Addressed*	"Developer agrees that (a) the Development Price (as it may be increased pursuant to this Section 14.12) covers all of the Utility Adjustment Work and payments which are Developer's responsibility pursuant to Section 5 of the Scope of Work and/or in this Section 14.12, (b) it is feasible to obtain and/or perform all necessary Utility Adjustments within the time deadlines of the Contract Documents, and (c) the Development Price includes contingencies deemed adequate by Developer to cover the possibility that the Reference Documents do not accurately identify all Utilities impacted by the Project, taking into consideration the fact that Developer is entitled to Change Orders only in specified situations." *[EDA 14.12 pp. 89]*	*Same as SH 130* *[CDA 6.8 pp.28]*
		"…Except as otherwise specified in Section 5.7.5 – Anticipated Early Adjustments, Developer is responsible for performing or causing to be performed at Developer's expense, each and every Adjustment of Utilities, including all coordination, design, design review, permitting, construction, inspection, payment, maintenance of records, and work necessary for relinquishment of Existing Utility Property Interests, preparation of Joint Use Agreements, and acquisition of New Utility Property Interests in accordance with Section 5.20.3. The term "Adjustment" includes each reinstallation in a new location, adjustment, reconstruction, adjustment-to-grade, restoration, provision of temporary services as required, maintenance, support and protection-in-place (whether permanent or temporary), removal, and/or abandonment (in accordance with proper procedures) of existing Utilities: a) as necessary to accommodate or permit construction of the Project improvements (or determined by Developer to be required for its construction activity), and b) as necessary to accommodate construction of the Ultimate Design for Segment 1, Segment 2, Segment 3, Segment 4, and Segment 6 as projected in the Schematic Design plan provided in Appendix C-2a of Exhibit C…" *[Ex-B – Scope of Work 5.1 pp.168]*	*Same as SH 130 except for some minor rewording* *[CDA Technical Provisions 6.1 pp.170]*
Comments: Notable differences between CDA and traditional contracting are: (i) Utility relocation in developer scope and, (ii)Risk of uncharted utilities born by developer.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Utility Adjustments] Inaccuracies in Existing Utility Information – General	"2.3. Examination of Plans, Specifications, Special Provisions and Site of Work. Before submitting a bid, the bidder shall examine carefully the proposal, plans, specifications, special provisions and the form of contract to be entered into for the work contemplated. The bidder shall examine the site of work and satisfy himself as to the conditions which will be encountered relating to the character, quality and quantity of work to be performed and materials to be furnished. The submission of a bid by the bidder shall be conclusive evidence that he has complied with these requirements." *[Standard Specifications 2.3 pp.10]*	"Except as otherwise provided in Section 14.10 with regard to New Utilities, the parties' entitlement to Change Orders on account of inaccuracies in the Existing Utility Information shall be determined in accordance with this Section 14.12.1." *[EDA 14.12.1 pp. 90]* "Except as otherwise provided in Section 14.10 with regard to New Utilities, no time extension will be allowed on account of any delays attributable to any inaccuracy(ies) in the Existing Utility Information." *[EDA 14.12.1.2 pp. 91]*	"Developer's entitlement to Change Orders for additional compensation or extension of time on account of New Utilities, omissions or inaccuracies in the Utility Strip Map shall be limited as set forth in this Section 6.8.1. Developer shall use its best efforts to minimize costs for which Developer is entitled to compensation pursuant to this Section 6.8.1, including avoidance of an Unidentified Utility where feasible rather than its removal and/or reinstallation in a new location, and to minimize any delay for which Developer is entitled to an extension in the Completion Deadline pursuant to this Section 6.8.1. subject to Developer's obligation to comply with all applicable requirements of the Contract Documents, including the Utility Accommodation Policy and the other requirements described in TP Section 5." *[CDA 6.8.1 pp.28]* "Except as otherwise provided in Section 6.8.1.1 with regard to New Utilities, no time extension will be allowed on account of (i) any delays attributable to any inaccuracy(ies) in the Utility Strip Map; or (ii) the performance of Utility Adjustments for Unidentified Utilities or Unidentified Private Utility Lines." *[CDA 6.8.1.4 pp.30]*
		"Identified Utility shall mean any Utility impacted by the Project to which any one or more of the following applies: (a) Its owner is accurately stated on the Existing Utility Information, and, as determined by the TTA, the location and extent of such Utility as shown on the Existing Utility Information (whether as existing or proposed) is a reasonable representation of the location and extent of such Utility, given the quality level of investigation performed in developing the Existing Utility Information (as described in Scope of Work Section 5.12); (b) Its type (e.g., gas, water, electric) is accurately stated on the Existing Utility Information (differences in material, e.g., clay vs. plastic, shall not be considered a difference in type), and, as determined by the TTA, the location and extent of such Utility as shown on the	"Identified Utility shall mean any Utility impacted by the Project to which any one or more of the following applies: (a) The Utility line is shown on the Utility Strip Map (irrespective of whether correct ownership is shown). (b) The Utility type (e.g., gas, water, communication, electric) is shown on the Utility Strip Map (differences in material, e.g., clay vs. plastic, shall not be considered a difference in type). (c) The Utility is an overhead Utility existing as of the Proposal Date or which commenced

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
		Existing Utility Information (whether as existing or proposed) is a reasonable representation of the location and extent of such Utility, given the quality level of investigation performed in developing the Existing Utility Information (as described in Scope of Work Section 5.12); (c) It is an overhead Utility existing as of the Proposal Date or which commenced installation prior to the Proposal Date; (d) A surface inspection of the area in which the Utility is located on the Proposal Date would have shown the Utility's existence or the likelihood of its existence by reason of above-ground facilities such as buildings, meters, manholes or markers; provided, however, that if Developer has not been granted access to the parcel on which a Utility is located prior to the Proposal Date, then for purposes of determining whether a surface inspection would have shown the Utility's existence or likelihood of its existence, such surface inspection shall be deemed to have been made from the nearest parcel to which Developer has been granted access prior to the Proposal Date, or from the nearest public right of way, whichever is closer; or (e) It is located in the same trench as an Identified Utility, and is of the same type or ownership as the Identified Utility. If a Utility falls within any of the categories listed in clauses (a) through (e) above, then it is an Identified Utility regardless of any discrepancy between (i) the information provided on the Existing Utility Information, and (ii) the actual characteristics of that Utility with respect to its size, its horizontal or vertical location, its ownership, its type, or any other characteristic. Without limiting the generality of the foregoing, if a Utility is shown on the Existing Utility Information as being on public right of way, and it is in fact located on private right of way, or vice versa, that discrepancy is of no relevance in determining whether or not that Utility is an Identified Utility. If there is any discrepancy between the information provided by the Utility Strip Maps and the information provided by the Utility Summary (which together constitute the Existing Utility Information), only the more accurate information shall be relevant for purposes of determining whether or not a Utility is an Identified Utility. Accordingly, if a Utility would be considered an Identified Utility based on the information provided in the Utility Summary but not based on the Utility Strip Maps, or vice versa, then such Utility shall be considered an Identified Utility." *[EDA Ex-A, pp. 24]*	installation prior to the Proposal Date. (d) The Utility is an extension of an Identified Utility (including a Service Line extending from an Identified Utility). (e) The Utility is located in the same trench as an Identified Utility (e.g. communication duct bank and joint communication cable facilities). Any appurtenance, including manholes, pedestals, handholes, fire hydrants, and Fxboxes, not shown on the Utility Strip Map that is a component or extension of an Identified Utility is considered a part of the Identified Utility. If a Utility falls within any of the categories listed above, then it is an Identified Utility regardless of any discrepancy between (i) the information provided on the Utility Strip Map, and (ii) the actual characteristics of that Utility with respect to its size, its horizontal or vertical location, its ownership, its type (e.g., gas, water, communication, electric), or any other characteristic. Without limiting the generality of the foregoing, if a Utility is shown on the Utility Strip Map as being on public right of way, and it is in fact located on private right of way, or vice versa, that discrepancy is of no relevance in determining whether or not that Utility is an Identified Utility." *[CDA Ex-A, pp. 20]*
Comments: Notable difference between CDA and traditional contracting is that there is no time extension for inaccurate utility information. SH 45 CDA slightly changed the definition of identified utilities.			

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
[Utility Adjustments] Inaccuracies in Existing Utility Information – Unidentified Utilities	"The Contractor's attention is directed to the fact that pipelines and other underground installations as may or may not be shown on the plans may be located within the right of way. The locations shown on the plans have been taken from the best available information. The Contractor shall save the State harmless from any and all suits or claims resulting from damage by his operations to any pipeline or underground installation. In addition, the Contractor shall submit, at the pre-construction conference, his scheduled sequence of work to the respective utility owners so that any necessary adjustments of their utilities that conflict with the proposed work may be coordinated and scheduled." [Standard Specifications 7.11 pp.39]	"Developer shall be entitled to an increase in the Development Price in connection with certain increases in the cost of the Development Work due to Unidentified Utilities within the Schematic ROW. Such increase shall be determined on a facility-by-facility basis, and shall apply for a particular Unidentified Utility facility only if the Cost Differential for that facility is greater than $50,000. The amount of the Development Price increase in any Change Order issued under this Section 14.12.1.1 for each such Unidentified Utility facility shall be equal to the Cost Differential for that facility, less $50,000. Notwithstanding the foregoing, the following aggregate caps shall apply to the total amount of such $50,000 "deductibles" that are Developer's responsibility: (a) Developer shall be responsible for no more than $1,000,000 of such $50,000 deductibles for Utility Adjustment Work authorized by issuance of NTP2, and (b) Developer shall be responsible for no more than $750,000 of such $50,000 deductibles for Utility Adjustment Work authorized by issuance of NTP4. In determining whether either of the foregoing caps has been reached, Adjustments of Unidentified Utilities with Cost Differentials of less than $50,000 shall not be counted. If either (or both) of the foregoing aggregate caps is reached, then the amount of the Development Price increase in any Change Order thereafter issued under this Section 14.12.1.1 for Adjustment of any Unidentified Utility with a Cost Differential in excess of $50,000 authorized by the applicable notice shall be equal to the Cost Differential for that facility. In no event shall Developer be entitled to a Change Order for increased costs due to Adjustments for Unidentified Utilities with a Cost Differential of $50,000 or less, regardless of whether either (or both) of the aggregate caps is reached." *[EDA 14.12.1.1 pp. 90]*	*Same as SH 130 except for some minor rewording and:* • *$20,000 cap instead of $50,000 cap* • *$200,000 cap instead of $750,000 cap* • *following additions:* "6.8.1.2.2 All Basic Costs calculations submitted by Developer shall be supported by detailed cost proposals and supporting documentation (for all estimates used in such calculations) meeting the requirements of Section 13.6 of this Agreement. TxDOT shall have the right to require that any or all of the information submitted by Developer in the EPDs (Escrowed Proposal Documents) be used in valuating the cost proposals." *[CDA 6.8.1.2 pp.28]* "6.8.1.3 Unidentified Private Utility Lines. 6.8.1.3.1 Developer shall be entitled to payment for Utility Adjustments of Unidentified Private Utility Lines on a unit price basis as follows: (1) up to 4000 linear feet of water lines 2" of nominal diameter or less installed at $_____ per foot [to be inserted from Line 21 of Proposal Form O-1]; (2) up to 11,000 linear feet of water lines greater than 2" in nominal diameter installed at $_____ per foot [to be inserted from Line 22 of Proposal Form O-1]; and (3) up to seven (7) fire hydrants at $_____ each [to be inserted from Line 23 of Proposal Form O-1]. Payment will be based on measured installation (not removal) of the Unidentified Private Utility Lines. No Change Order is required for invoicing such quantities. The unit pricing includes all labor, materials, equipment and incidentals (including casings, fittings, valves, reducers, anti-syphon devices, elbows, tees and all other items associated with performing the Utility Adjustment work) necessary to perform the Utility Adjustment work associated with an Unidentified Private Utility Line, including removal of abandoned lines. If Developer

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
			requires quantities greater than those listed herein for Utility Adjustments of Unidentified Private Utility Lines, Developer shall be compensated for the costs of such quantities through a Change Order, with pricing based upon the unit prices included in Form O-1 of the Proposer's Proposal; provided, however, that if the aggregate of items 1-3 above has not yet been exhausted, TxDOT, in its discretion, may allocate among such items and pay Developer, using the unit prices, without a Change Order (in which case, to the extent provided for under this Section 6.8.1.3, Developer shall be entitled to a Change Order, using the unit prices, for quantities once the aggregate sum of items 1-3 is exhausted). 6.8.1.3.2 Developer shall keep detailed records of the quantities required for Utility Adjustments of Unidentified Private Utility Lines, and shall submit supporting documentation of the use of such quantities with its payment requests. Quantities shall be determined and verified in the manner described in Section 13.6.7. 6.8.1.3.3 If Developer requires less than the quantities set forth herein, the "not to exceed" portion of the Price relating to Unidentified Private Utility Lines shall be adjusted as of the date that it can first be determined, but not later than Substantial Completion, pursuant to a Change Order, to account for the reduction in quantities. TxDOT shall be credited with the amount of the reduction, which shall be the product of the unit price and the difference in quantities." *[CDA 6.8.1.3 pp.29]*
		"Unidentified Utility shall mean any Utility impacted by the Project (other than a Service Line) which is neither an Identified Utility nor a New Utility, including any Utility which would be a New Utility but for the fact that it is an extension of an Identified Utility." *[EDA Ex-A, pp. 39]*	"Unidentified Private Utility Line shall mean one or more of the property owner's water lines located on the property identified as Parcel Numbers 702, 703, 704, 705 and 706 (including easements on all of the foregoing) in TP Attachment 6, other than an Identified Utility."

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
			[CDA Ex-A, pp. 34] "Unidentified Utility shall mean any Utility impacted by the Project (other than a Service Line or an Unidentified Private Utility Line), which is neither an Identified Utility nor a New Utility." *[CDA Ex-A, pp. 34]*
Comments: Notable differences between CDA and traditional contracting are: (i) presence of Developer non-compensable deductible and deductible cumulative cap for unidentified utilities and, (ii) SH 45 SE applies bid unit prices on relocation costs for unidentified and private utility lines.			
[Utility Adjustments] Inaccuracies in Existing Utility Information – New Utilities	*Not Addressed*	"Except as otherwise provided in Section 14.10 [see Force Majeure Events]with regard to New Utilities, no time extension will be allowed on account of any delays attributable to any inaccuracy(ies) in the Existing Utility Information." *[EDA 14.12.1.2 pp. 91]*	"Developer shall be entitled to a Change Order (i) increasing the Price to compensate Developer for any increase in Developer's costs incurred in performing the Utility Adjustment Work (excluding delay and disruption damages) that is directly attributable to a New Utility (including reimbursements owed to Utility Owners but excluding delay and disruption damages), and (ii) extending the applicable Completion Deadline as a result of any delay in the Critical Path directly attributable to performing the Utility Adjustment Work directly attributable to a New Utility. Subject to the foregoing, the amount of such Change Order shall be determined in accordance with Section 13." *[CDA 6.8.1.1 pp. 28]*
Comments: Notable difference between the two CDA contracts is that in the SH 45 SE, cost and schedule risk of new utility relocation transferred both to TxDOT.			

Table B.10 Analysis of Contract Clauses Pertaining to Maintenance Option

Provision	Traditional	SH 130 EDA	SH 45 SE CDA
Maintenance			
Maintenance Option	*Not Addressed*	"2.1.1 The TTA shall have the option, exercisable in its sole and absolute discretion as described below, without liability to Maintenance Contractor, to either (i) make this Agreement effective between the Parties and to require Maintenance Contractor to provide the Maintenance Services, or (ii) terminate this Agreement. 2.1.2 On or before 270 days after Final Acceptance of the first Segment of the Project to be constructed in accordance with the EDA, the TTA shall either issue Maintenance NTP1 to Maintenance Contractor or terminate this Agreement. Failure by the TTA to issue Maintenance NTP1 on or before such date shall be deemed a termination ….under Section 2.1.1(ii)." [CMA *2.1.1 pp. 4*] "2.2.2.3 From and after the commencement of tolling operations of each Segment of the Turnpike following Substantial Completion thereof, the TTA shall have the right to carry out certain operations activities, including: …(c) Administering this Agreement and, if the maintenance option is exercised, the Maintenance Agreement; ..:" [*EDA 2.2.2.3 pp. 8*] "The Development Work includes maintenance of each Segment of the Project constructed by the Developer throughout the entire period from NTP2 until Substantial Completion thereof and maintenance of all other portions of the Project until Project Final Acceptance." [*EDA 11.2 pp. 46*] "12.4 Effect of the TTA or Maintenance Contractor Activities on Warranties - Developer acknowledges and agrees that the TTA, TxDOT, the Maintenance Contractor and their respective agents may perform certain maintenance work during the period in which the Warranties are in effect and agrees that the Warranties shall apply notwithstanding such activities; provided that, the foregoing shall not be deemed to require Developer to repair, replace or correct problems to the extent caused by defective maintenance." [*EDA 12.4 pp. 52]* "14.4.5 Maintenance Changes - Each Change Order form shall be signed by the Maintenance Contractor as well as by Developer, and shall state whether a change order is also required under the Maintenance Agreement." [*EDA 14.4.5 pp. 79]* "29.20 Entire Agreement - The Contract Documents and, if the maintenance option is exercised, the Maintenance Agreement constitute the entire and exclusive agreement between the Parties (including the limited liability company related to the Developer that executed the Maintenance Agreement) relating to the specific matters covered herein and therein. All prior or contemporaneous oral or written agreements, understandings, representations and/or practices relative to the foregoing are hereby superseded, revoked and rendered ineffective for any purpose." [*EDA 29.20 pp. 159]*	"8.7 Maintenance During Work - Developer shall be responsible for maintenance and repairs to any portion of the Work until Substantial Completion is issued …" [C*DA 8.7 pp. 54*] "8.8 Housekeeping and Maintenance of the Final ROW - Throughout all phases of construction, including suspension of Work, and until Final Acceptance, Developer shall keep the Final ROW and the site clean and free from rubbish and debris. Developer shall also abate dust nuisance by cleaning, sweeping, and sprinkling with water or other means as necessary for abatement. … " [C*DA 8.8 pp. 54-55*]
Comments: Differently from the SH 45 SE contract that is a pure Design–build, the SH 130 contract includes an optional Capital Maintenance Agreement (CMA). Therefore, the contract includes clauses that connect it with that external document. On the other hand, the SH 45 SE contract mentions only the responsibility of the Developer to maintain the work until completion date.			

Appendix C:

Lessons Learned Pertaining to Contract Clauses

Table C.1 Lessons Learned Pertaining to Contract Clauses

Item(s)	Category	Sub-Category	Context / Lessons learned
3.2	ROW	Sequencing Activities	*Context:* Developer adopted a sequencing of activities that does not allow a smooth approval process by TTA staff. That process uses the following sequence: parcel plats-description-ROW map; consequently, submission of documentation for approval was done before having a ROW map. *Lesson Learned:* Contract documentation should address the desired review process directly. Include legal language in contract documentation in order to achieve an agreement between the submittal process and TxDOT review process. *Comment:* SH 45 SE CDA will include legal language in order to address this point; it will facilitate the following sequence: ROW map – description – parcel plats.
3.4	ROW	Proposal Requirement	*Context:* In SH 130 proposal phase, proposers were required to identify (at least) one ROW acquisition firm. *Lesson Learned:* Mega projects need more resources on the ground. Increase number of required ROW acquisition firms commensurate with the scale of the project (SH 130 scale = at least two firms). *Comment:* This change will expedite schedule and improve quality by providing additional resources and creating competition. Competition between firms will come in a way that those firms will compete for the next section.
3.6	ROW	Contract Accuracy	*Context:* SH 130 contract presented many minor interpretation issues. Especially, the scope of work did not include a chart for responsibility for minor costs. It created many minor issues like "who pays for the court report?" *Lesson Learned:* Minor interpretation issues can slow down the process by activating a question-answer loop between contract parties. Be accurate in defining repetitive pecuniary responsibilities even though of minor concern. *Comment:* SH 45 SE CDA will be more accurate in defining developer responsibilities.

Item(s)	Category	Sub-Category	Context / Lessons learned
4.1	ROW	Contract Interpretation Issue	*Context:* EDA presented several interpretation issues between contract parties. Project members were able to solve those issues at project level (internal consultants -HDR- and Developer - LSI) except for a situation that needed the intervention of the ROW turnpike manager. "What is an identified versus an unidentified utility", or "what is utility versus a business", or "which is a Developer cost versus a TTA cost", or "what is the needed level of detail for surveying" are examples of misinterpretation needed to be solved. *Lesson Learned:* Unclear contract clauses create interpretation issues that can degenerate into conflicts and claims. "Be more specific" in the Scope of Work and in the Agreement itself. *Comment:* Efforts in simplifying complex legal concepts and accuracy in drawing contract clauses will avoid that relationships degenerate into adversarial approaches.
4.2	ROW Design Environmental Construction	Communication	*Context:* Some turnpike personnel noticed that fragmentation within the Developer organization made it more difficult to communicate between different teams. *Lesson Learned:* Selection criteria are critical in evaluating different proposers. Expertise of the team leader in addressing communication issues should constitute a component of the best value analysis because Developer key personnel are critical in achieving a partnering environment. "Be more specific on qualification of key personnel", "Something has to be developed in the partnering sense" {this issue needs further investigation. An interpretation is to facilitate a partnering process within LSI groups versus improving the existing partnering process between LSI and TTA} *Comment:* Including "best team-players" evaluation in selection process will facilitate communication in project team.

Item(s)	Category	Sub-Category	Context / Lessons learned
5.1	Utility Adjustments	Contract Interpretation Issues, Utility Strip Maps, Pre-RFP activities	*Context:* SH 130 EDA allows Developer to ask a Change Order for unidentified utilities; however, the contract documentation defines an unidentified utility for exclusion from identified and new utilities. (***Unidentified Utility*** *shall mean any Utility impacted by the Project [other than a Service Line] which is neither an Identified Utility nor a New Utility, including any Utility which would be a New Utility but for the fact that it is an extension of an Identified Utility.*) Furthermore, the definition of "identified" utilities is confusing because clauses (d) and (e) define some utilities as "identified" when common sense classify those as "unidentified". (***Identified Utility*** *shall mean any Utility impacted by the Project to which any one or more of the following applies:* ***(a)*** *Its owner is accurately stated on the Existing Utility Information, and, as determined by the TTA, the location and extent of such Utility as shown on the Existing Utility Information (whether as existing or proposed) is a reasonable representation of the location and extent of such Utility, given the quality level of investigation performed in developing the Existing Utility Information (as described in Scope of Work Section 5.12);* ***(b)*** *Its type (e.g., gas, water, electric) is accurately stated on the Existing Utility Information (differences in material, e.g., clay vs. plastic, shall not be considered a difference in type), and, as determined by the TTA, the location and extent of such Utility as shown on the Existing Utility Information (whether as existing or proposed) is a reasonable representation of the location and extent of such Utility, given the quality level of investigation performed in developing the Existing Utility Information (as described in Scope of Work Section 5.12);* ***(c)*** *It is an overhead Utility existing as of the Proposal Date or which commenced installation prior to the Proposal Date;* ***(d)*** *A surface inspection of the area in which the Utility is located on the Proposal Date would have shown the Utility's existence or the likelihood of its existence by reason of above-ground facilities such as buildings, meters, manholes or markers; provided, however, that if Developer has not been granted access to the parcel on which a Utility is located prior to the Proposal Date, then for purposes of determining whether a surface inspection would have shown the Utility's existence or likelihood of its existence, such surface inspection shall be deemed to have been made from the nearest parcel to which Developer has been granted access prior to the Proposal Date, or from the nearest public right of way, whichever is closer; or* ***(e)*** *It is located in the same trench as an Identified Utility, and is of the same type or ownership as the Identified Utility.*) This uncertainty has created some interpretation issues between Developer and turnpike team. *Lesson Learned:* Existing utility documentation with a better level of definition allows contract clarity which will avoid contract parties from adopting an adversarial approach. TxDOT should better identify existing utilities; spend more money upfront in identifying the utilities; give more maps on what is out there; do some subsurface engineering work; eliminate distinction on identified/unidentified utilities. *Comments:* This strategy will avoid discussion between contract parties on which utility is identified and which is not.
5.4	Utility Adjustments, Design	Design Review Milestones	*Context:* Coordination of priorities between design and utility adjustment activities is critical in expediting the process of facilitating acquisition of new easements by utility owners. Late design review milestones hurt the utility adjustment process. *Lesson Learned:* Design review milestones should be set in order to facilitate communication of information to utility owners. Expedite highway design, specifically the features in conflict with Utility Adjustments; Set design review milestones earlier in the process(No longer 65% or 80% PS&E) *Comments:* Expediting design features in conflict with utility adjustment and improving communication will facilitate search for easement by utility owners.

Item(s)	Category	Sub-Category	Context / Lessons learned
6.1	Utility Adjustments	Contract interpretation issue, Level of Detail of RFP documents	*Context:* In the SH 130 proposal phase, TxDOT gave to the proposers a set of Utility Strip Maps developed by external engineering firms, which identified utilities, their typology, the utility owner, and the jurisdiction. The amount of surveying, subsurface utility engineering activities and map scale were inadequate to represent all the utilities clearly. As a consequence, some lines often represented more than one utility, or some utilities were missing (total number to date= 11). Although, definition of identified utilities addressed those issues in clauses (d) and (e), the contract parties differed in interpreting the contract. (***Identified Utility*** *shall mean any Utility impacted by the Project to which any one or more of the following applies: [….]. **(d)** A surface inspection of the area in which the Utility is located on the Proposal Date would have shown the Utility's existence or the likelihood of its existence by reason of above-ground facilities such as buildings, meters, manholes or markers; provided, however, that if Developer has not been granted access to the parcel on which a Utility is located prior to the Proposal Date, then for purposes of determining whether a surface inspection would have shown the Utility's existence or likelihood of its existence, such surface inspection shall be deemed to have been made from the nearest parcel to which Developer has been granted access prior to the Proposal Date, or from the nearest public right of way, whichever is closer; or **(e)** It is located in the same trench as an Identified Utility, and is of the same type or ownership as the Identified Utility.*) The Developer claimed (without filing a claim or change order request) that those 11 utilities as unidentified, but TTA officers refused this classification according clauses (d) and (e). *Lesson Learned:* Evaluation of utility relocation cost by proposers based on the uncertainty in utility proposal documentation delays the procurement phase and increases the amount of utility costs. Better identify existing utilities (more SUE, level B of utility strip maps with higher scale of detail); simplify contract definition by taking off the identified versus unidentified difference; *Comments:* Higher certainty in proposal documentation should decrease bid amount for utility relocation and shorten the procurement phase by eliminating the proposers surveying phase (to verify given utility strip maps accuracy). Clarity in contract clauses will avoid adversarial approach between contract parties.

Item(s)	Category	Sub-Category	Context / Lessons learned
6.3	Utility Adjustments	Definition	*Context:* The SH 130 definition of utility has created some issues. The Developer interpreted some adjustments as "business" activity while turnpike team staff identified the same as "utility". With the current SH 130 contract, this issue is critical because it affects cost allocation. Relocation of "businesses" goes in ROW competence, and TxDOT pays for that relocation, while relocation of "utilities" is included in the total lump sum. Adjustments affected by this misinterpretation were a telecommunication tower owned by a company that "rent" it for antenna positioning, and few water towers owned by private water companies. *Lesson Learned:* Contract definitions are one of the elements that affect contract management, and need to be evaluated carefully against the risk of ambiguity and/or the generality. Eliminate ambiguity in interpreting what a utility is by a more prescriptive definition. *Comments:* TTA staff has included in the SH 45 SE CDA a broader, more inclusive definition of utility.
6.4	Utility Adjustments	Coordination between developer, utility owner, and TxDOT	*Context:* The SH 130 contract defined "New utility", as any utility impacted by the project within the schematic ROW commenced installation after the Proposal Date and is not an "Identified Utility". The first phase of the project has shown that every request for permit for new utilities hurts the project schedule. Furthermore, keeping good relationship with utility owners is fundamental to TxDOT in order to manage other outgoing projects. The initial process did not address specifically these issues; it did not minimize negative effects of Developer interaction with utility owners and did not have a specific process for new utilities. *Lesson Learned:* In design–build projects, new utilities should be addressed directly in order to keep good relationships with utility owners and coordinate actions of Developer. Develop a specific process to manage request of permits for new utilities. *Comments:* Turnpike team has developed a process detailing how handle to new utility issues. This process will be included in SH 45 SE CDA.

Item(s)	Category	Sub-Category	Context / Lessons learned
6.5	Utility Adjustments	Coordination between developer, utility owner, and TxDOT	*Context:* Major utilities hurt the project schedule. Major utilities definition will be included in the SH 45 SE CDA as "everything that is outside TxDOT control". Examples are permits for crossing county roads (utility owner does not need TxDOT permit), and existing private easement (TxDOT cannot control private owner to give easement on affected parcels). *Lesson Learned:* The turnpike team developed a process detailing how to handle major utilities issues and coordinate with Developer. The latter must "be responsive, meet with the utility owners, and be entitled of the coordination process". Some turnpike staff member suggested paying the Developer (out the lump sum?) for these major utilities in order to address good relationship issues. *Comments:*
6.7	Utility Adjustments	Information Management	*Context:* In the SH 130 project, ArcGIS was chosen as the software for managing utility documentation. This choice created some interoperability issues with the design department that uses Microstation like all TxDOT departments. *Lesson Learned:* Facilitate interoperability in document management by using standard software and by assessing software currently in use before writing standards. *Comments:* The problem will be eliminated in the SH 45 SE CDA by adopting Microstation for Utility Adjustment documentation.
6.8	Utility Adjustments	Information Management	*Context:* In the SH 130 project, ROW and Utility Adjustment Activities are tracked using eManager, a web-based software package developed by HDR. Turnpike staff receives information from the Developer and loads it into the system. *Lesson Learned:* Automation of information management process can facilitate project tracking and decrease chances of misleading information. Make the source (person) of the information responsible for loading it into the system; make the system open to oversight activities by TTA. *Comments:* In the SH 45 SE CDA, Developer is going to use this software package, and input information. Turnpike staff can log in and extract information necessary to oversight schedule advancement.

Item(s)	Category	Sub-Category	Context / Lessons learned
9.3	Procurement	RFDP	*Context:* Developing RFDP clauses includes a concurrence of legal and preliminary engineering jobs. However, most of the information from the preliminary engineering affects contract clauses. *Lesson Learned:* Have interactive sessions between lawyers, engineering consultants, and the client early in the development of all the documents, so the lawyers, for example, understand what is entailed in the technical provisions and scope of work, and the documents will be integrated. These sessions will help decrease the risk of overlapping or missing information by identifying what needs to go in the contract, what needs to go in the technical provisions.