REQUEST FOR PROPOSALS

SR-201 DESIGN-BUILD PROJECT

Project No. SP-0201(5)13

Draft Issued for Industry Review
October 27, 2003

PROCUREMENT SCHEDULE		
ACTION	**TIME**	**DATE**
Department Issues RFP		
Mandatory Informational Meeting		
Mandatory Informational Meeting		
Requests for Clarifications Due		
Department Holds Discussions with Proposers		
Department Issues Final Addenda		
Price and Technical Proposals Due, and Escrow Docs		
Oral Presentations		
Department Evaluates Proposals		
Announce Selected team		
Award Contract		
Department Issues NTP		
Notice to Proceed		

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CHAPTER 1
INTRODUCTION

1.1 DESCRIPTION OF WORK

1.1.1 PROJECT PROCUREMENT

The Department is contracting the SR 201 Design-Build Project through a single design-build contract (the Contract). This Request for Proposals (RFP) is being issued to design-builders that were prequalified (short-listed) by the Department after submitting Statements of Qualifications (SOQs). This RFP constitutes the terms and conditions of the design-build procurement in their entirety.

1.1.2 RESPONSIBILITY OF PROPOSER

The RFP was developed to organize and consolidate the performance specifications and design and construction criteria for all Project components. However, the technical requirements do not specifically describe every detail of the Work. It is the Proposer's responsibility to review all pertinent Project requirements and criteria, as contained in the entirety of the RFP, and the selected Design-Builder must perform the Work in accordance with these Contract requirements.

1.1.3 SCOPE OF SERVICES

Under the oversight of the Department, the Design-Builder shall perform the Work in accordance with the requirements of the RFP, as supplemented by the Design-Builder's Proposal. Generally, the scope of services includes project management, design and construction quality control and quality assurance, scheduling, staffing, design, construction, maintenance during construction, warranties, Right-of-Way, and coordinating with the public, governmental agencies, and utilities on Project issues. Refer to Chapter 3 for a detailed description of the scope of services and work.

1.1.4 SCOPE OF WORK

Scope components of the Work for the Project include roadway, geotechnical investigations and design, structures, drainage, pavement, maintenance of traffic (MOT), lighting, signing, advanced traffic management system (ATMS), traffic signals, landscape and aesthetic improvements, coordination and relocation of utilities and canals, right-of-way and survey services, public information program, environmental compliance and mitigation, quality management, warranties, and maintenance during construction. The Project will also require coordination with State agencies, various municipalities, stakeholder advisory committees, and the general public. Refer to Chapter 3 for a detailed description of the scope of services and work.

1.1.5 ENGINEER'S ESTIMATE

The Engineer's Estimate for this contract is approximately $55,000,000.00

1.1.6 RFP ORGANIZATION

This Request for Proposals (RFP) specifies the qualification and selection requirements for the Design-Builder, the Contract terms, the scope of services, and all other relevant information needed to propose on and complete the Project.

1.1.7 RFP MEDIA AND ELECTRONIC FORMATS

The RFP is provided to each Proposer as defined in Table 1-1. Proposers may reproduce all or any part of the RFP, as needed.

Table 1-1
RFP Organization, Media, and Electronic Formats

Electronic File NAME	RFP Document	Hard-Copy Printout	Electronic File(s) on CD
	RFP Chapters 1, 2, and 3	X	PDF
	Appendix A - Standard Specifications (DB)	X	PDF
	Appendix B - Standard Drawings	X	PDF
	Appendix C - Materials Sampling and Testing Manual	X	PDF
	Appendix D - Draft Quality Management Plan	X	MS Word
	Appendix E - Environmental Assessment		
	Appendix F - ATMS requirements		
	Appendix G - Geotechnical Information		
	Appendix H - Landscaping Report		
	Appendix I - Boundary Survey		
	Appendix J - Conceptual Plans & Survey Information		
	Appendix K - Interchange Modification Report		
	Appendix L - Hydrology Report		
	Appendix M - Bridge As-Builts		
	Appendix N - Phasing Report		
	Appendix O Utilities & Third Party Agreements		
	Appendix P - Forms	X	PDF
	Appendix Q - Not Used		
	Appendix R - Not Used		
	Appendix S - Not Used		
	Appendix T - Not Used		
	Appendix U - Not Used		
	Appendix V - Not Used		
	Appendix W - Not Used		
	Appendix X - Not Used		
	Appendix Y - Not Used		
	Appendix Z - Not Used		

1.2 POINT OF CONTACT

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Utah Department of Transportation
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Salt Lake City, UT 84104
Fax Number 801-887-8770

CHAPTER 2
GENERAL CONDITIONS

2.1 ABBREVIATIONS

Wherever the following abbreviations are used in the Contract, they mean:

AADT	annual average daily traffic
AAP	AASHTO Accreditation Program
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials.
AC	asphalt concrete; alternating current
ACHP	Advisory Council on Historic Preservation
ACI	American Concrete Institute
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADT	average daily traffic
AGC	Associated General Contractors
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMRL	AASHTO Materials Reference Laboratory
ANSI	American National Standards Institute
AO	Approval Order (issued by UDAQ)
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASTM	American Society for Testing and Materials
ATC	alternative technical concept; Applied Technology Council
ATMS	Advanced Traffic Management System
AWPA	American Wood Preservers' Association
AWWA	American Water Works Association
AWS	American Welding Society
BAFO	Best and Final Offer
BER	bit error rate
BERT	bit error rate test
BLSF	bordering land subject to flooding
BMP	best management practice
CADD	computer-assisted drafting and design
CAPWAP	Case Pile Wave Analysis Program
CCTV	closed circuit television
CD	compact disc
CFR	Code of Federal Regulations
CIP	cast-in-place
COE	(U.S.) Army Corps of Engineers
CPM	critical-path method
CPOC	Construction Proof of Compliance
CPOCM	Construction Proof of Compliance Manager
CQM	Construction Quality Manager
CQO	Construction Quality Organization
CSI	Construction Specifications Institute
D-B	Design-Builder
DBE	disadvantaged business enterprise

DI	distress index
DPOC	Design Proof of Compliance
DPOCM	Design Proof of Compliance Manager
DQM	Design Quality Manager
DQO	Design Quality Organization
DRB	Disputes Review Board
DTM	digital terrain model
EA	Environmental Assessment
EC	electrical conductivity
ECM	Environmental Compliance Manager
ECP	Emissions Control Plan
ECS	Environmental Control Supervisor
EEO	Equal Employment Opportunity
EFB	Electronic Field Book
EIA	Electronic Industries Alliance
EIP	Environmental Investigation Plan
EMI	Environmental Monitoring Inspector
EMR	Environmental Monitoring Report
EPA	(U.S.) Environmental Protection Agency
EPD	Escrowed Proposal Documents
EUSERC	Electric Utility Service Equipment Requirements Committee
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FOA	Final Owner Acceptance
FONSI	Finding of No Significant Impact
FSS	Federal Specifications and Standards
GPO	(U.S.) Government Printing Office
GSA	General Services Administration
HASP	Health and Safety Plan
IDF	intensity-duration frequency (data)
IES	Illumination Engineering Society
IMSA	International Municipal Signal Association
IPOC	Inspection Proof of Compliance
IPOCM	Inspection Proof of Compliance Manager
IRI	International Roughness Index
ISA	Initial Site Assessment
ISDN	integrated services digital network
ISO	International Standards Organization
ITE	Institute of Traffic Engineers
ITS	intelligent transportation systems
LED	light-emitting diode
LOS	level of service
MIL	Military Specifications
MOA	memorandum of agreement
MOT	maintenance of traffic
MOU	memorandum of understanding
MP	Mile Post
MPH	Miles per Hour
MSE	mechanically stabilized earth

MUTCD	Manual on Uniform Traffic Control Devices
NAD	North American Datum
NAVD	North American Vertical Datum
NBIS	National Bridge Inspection Standards
NCHRP	National Cooperative Highway Research Program
NCR	Nonconformance Report
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Prevention Association
NHS	National Highway System
NICET	National Institute for Certification in Engineering Technologies
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NRC	National Research Committee
NTP	Notice To Proceed
NVLAP	National Verification Laboratory Acceptance Program (Bureau of Standards)
OHMMP	Oil and Hazardous Material Management Plan
O&M	operation and maintenance
OSHA	Occupational Safety and Health Administration
OVI	owner verification inspection
OVT	owner verification testing
PCC	Portland cement concrete
PCA	Portland Cement Association
PCO	Potential Change Order
PCS	Project Coding Structure
PDA	pile-driving analyzer
PG	performance grade
PM	Project Manager
POC	Proof of Compliance
PQCI	process quality control inspection
PQCT	process quality control testing
PRI	pavement rutting index
PSI	pavement serviceability index
PSR	pavement service rating
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QCP	quality checkpoint
QM	Quality Manager
QMP	Quality Management Plan
QO	Quality Organization
RCRA	Resource Conservation and Recovery Act
RFP	Request For Proposals
RFQ	Request for Qualifications
ROW	right of way
SAE	Society of Automotive Engineers
SHPO	(Utah) State Historic Preservation Officer
SHRP	Strategic Highway Research Program

SI&A	structural inventory and appraisal
SMP	Stormwater Management Plan
SMS	stormwater management standards
SOQ	Statement of Qualifications (submitted in response to RFQ)
SPC	seismic performance category
SPCS	State Plane Coordinate System
SPUI	single-point urban interchange
SSPC	Steel Structures Painting Council
SWPPP	Stormwater Pollution Prevention Plan
TL	testing level
TCC	(UDOT) Traffic Communications Center
TIC	(UDOT) Transportation Information Center
TOC	(UDOT) Traffic Operations Center
TMS	Traffic Monitoring Station
TPOC	Testing Proof of Compliance
TPOCM	Testing Proof of Compliance Manager
TRB	Transportation Research Board
TSS	total suspended solids
TTQP	Transporatation Technician Quality Program (UDOT)
UDAQ	Utah Division of Air Quality
UDEQ	Utah Department of Environmental Quality
UDERR	Utah Division of Environmental Response and Remediation
UDNR	Utah Department of Natural Resources
UDOT	Utah Department of Transportation
UDWQ	Utah Division of Water Quality
UDWR	Utah Division of Wildlife Resources
UHP	Utah Highway Patrol
U.L.	Underwriter's Laboratory
UPDES	Utah Pollution Discharge Elimination System
UPRR	Union Pacific Railroad
USASI	United States of American Standard Institute
USC	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UTA	Utah Transit Authority
VE	value engineering
VECP	Value Engineering Change Proposal
VMS	variable-message sign
WAN	wide area network
WAQTC	Western Alliance for Quality Transportation Construction
WBS	Work Breakdown Structure
WEAP	Wave Equation Analysis of Piles
WWPA	Western Wood Products Association

2.2 DEFINITIONS

Wherever the following terms are used in the Contract, they mean:

Acceleration Costs: Those fully documented increased costs reasonably incurred by the Design-Builder (i.e., costs over and above what the Design-Builder would otherwise have incurred) that are directly attributable to Department directed changes which increase the performance level of the Work in an attempt to complete necessary segments of the Work earlier than otherwise required, such as for additional equipment, additional crews, lost productivity, overtime and shift premiums, increased supervision, and any unexpected movement of materials, equipment, or crews necessary for resequencing in connection with acceleration efforts. (Profit, overhead, and indirect costs in connection with acceleration efforts shall not exceed the limits set forth in the Section 2.5.4 (Changes)

Acquisition File: The definition in the Draft UDOT Right of Way Process and Procedures Manual.

Acquisition Package: As defined in Section 3.14.3.3.2.

Activity: A clearly defined element of the Work (finished product) or functional processes to be performed as part of design or construction or other requirement of the RFP (e.g., drainage design), as defined by the Design-Builder.

Act of God: Earthquake, tidal wave, tornado, hurricane, or any other cataclysmic phenomenon of nature beyond the Design-Builder's control that causes loss, damage, or injury to the work. Erosion caused by rainfall classified as less than a 100 year event will not be considered an Act of God.

Addendum: Clarification of, correction of, or change to the RFP or documents incorporated by reference, after the issuance of the RFP but prior to the opening of Proposals.

Addition Betterment: The construction of an additional facility for a Utility Owner or other Third Party, or upgrading of a facility not being relocated or rearranged for the Project, that is not attributable to construction of the Project or is made solely for the benefit of and at the election of the Third Party requesting the same.

Affiliate: (a) Any Person that directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, [1] the Design-Builder or [2] any Major Participant; and (b) any Person for which 10 percent or more of the equity interest in such Person is held directly or indirectly, beneficially, or of record by [1] the Design-Builder, [2] any Major Participant, or [3] any Affiliate of the Design-Builder under Part (a) of this definition. For purposes of this definition, the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, through family relationship, or otherwise.

Appendix: Each of the documents contained in the Appendices.

As-Built Documents: The documents to be provided by Design-Builder that are described in Section 3.1.4.3.2.

Award: The acceptance of Design-Builder's Proposal by the Department (with the understanding that the order of priority of the various Contract Documents shall be as set forth in the Section 2.6.5 (Order of Precedence of Documents), and that the Department shall have the right to require compliance with Contract requirements, even though it may necessitate performance of Work by Design-Builder not contemplated in the Proposal).

Authorized Representative: The person authorized by written assignment order by the Department Deputy Director to enter into and administer the Contract on behalf of the Department. The Authorized Representative has authority to make findings, determinations, and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract.

Backfill: Material used to replace, or the act of replacing, material removed during construction.

Base Course: One or more layers of specified material and thickness placed on a subbase or a subgrade to support a surface course.
Baseline Schedule: Design-Builder's proposed work schedule for the Work, submitted with the Proposal. Upon the Department's approval of the Baseline Schedule, or a subsequent revision thereof, such schedule will become the Project Schedule.
Basic Configuration: The set of plans provided by the Department and included in the RFP that provide the basic vertical and horizontal alignments and structures for the project. May also be referred to as Conceptual Plans**.**
Betterment: An Upgrade Betterment or an Addition Betterment.
Blue Book: The meaning set forth in the Section 2.5.4.8
Bridge: A structure, including supports, erected over a depression or an obstruction such as water, a highway, or a railway, and having (a) a track or passageway for carrying traffic or other moving loads, and (b) a length measured along the center of roadway of more than 20 feet between undercopings of abutments or extreme ends of openings for multiple boxes.
Bridge Length: The overall length of a bridge measured along the line of survey stationing back to back of backwalls of abutments, if present, otherwise, end to end of the bridge floor; but in no case less than the total clear opening of the structure.
Bridge Roadway Width: The clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs or, in the case of multiple height of curbs, between the bottoms of the lower risers, or, if curbs are not used, between inner faces of parapet or railing.
Calendar Day: Every day shown on the calendar, beginning and ending at midnight.
Certificate of Compliance: A document containing a certified statement from the manufacturer or supplier concerning the quality and quantity of material delivered.
Change Order: The meaning set forth in the Section 2.5.4
Claim: A separate demand by the Design-Builder for (a) a time extension that is disputed by the Department, or (b) payment of money or damages arising from work done by or on behalf of the Design-Builder in connection with this Contract that is disputed by the Department. A claim will cease to be a Claim upon resolution thereof, including resolution by delivery of a Change Order or Contract amendment signed by all parties.
Colonial Nesting Site: An area where numerous active nests of the same species of bird are concentrated.
Commercial Plant: A plant that sells material to the general public before the Department's advertisement of the Contract, and possesses, in the State in which it resides, the required retail sales tax license and business license.
Commission: The Utah Transportation Commission.
Completion Deadline: The deadlines, calculated from the calendar days provided in the contract, for achieving the following contract milestones: Substantial Completion, Final Owner Acceptance, and Final Completion.
Conceptual Plan: The set of plans provided by the Department and included in the RFP that provide the basic vertical and horizontal alignments and structures for the project. May also be called basic configuration.
Conduit: Any conduit, casing, sleeve, hanger, attachment, or blockout for installation or protection of Utilities attached to or installed through structures, or installed under rail or roadway crossings, and any associated pull-ropes for Utility cables.
Concrete—Small Structure: Concrete placed in structures that contain 8 Cubic Yards or less of concrete.
Conformity: Compliance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified. Where working tolerances are specified, conformity means compliance with such tolerances.

Construction Documents: All shop drawings, working drawings, and samples necessary for construction of the Project in accordance with the Contract Documents.
Construction Quality Organization: The persons on the Design-Builder's Team who are involved in Construction Quality Control and Construction Proof of Compliance activities.
Constructive: (When used in connection with the terms "change in the Work," "delay," "suspension," or "acceleration,") the change in the Work, delay, suspension, or acceleration that, but for the express terms of the Contract Documents, could be inferred or implied at law.
Consultant Engineer: An Engineer or an Engineering Firm hired by the Department to perform engineering work exclusively for the benefit of the Department.
Contract: Depending on the context, (a) the Design-Build Contract or (b) collectively, the Contract Documents that establish the respective rights and obligations of the Department and the Design-Builder.
Contract Bid Item: A specific unit of work for which a price is provided in the contract. For projects which include P+LR bidding, Lane Rental is a bid item.
Contract Pay Item: A specific unit of work for which a price is provided in the contract. An exception to this is the item "Lane Rental", which is not a pay item. No payment will be made for bid item titled Lane Rental.
Contract Documents: The Contract, including the RFP and all attachments, exhibits, appendices, Design-Builder Proposal, and the documents referenced in the RFP, including all amendments to the foregoing and all Change Orders issued.
Contract Officer: The person authorized by the Department Deputy Director to enter into and administer the Contract on behalf of the Department. The Contract Officer has authority to make findings, determinations, and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract.
Contract Payment Bond: The security executed by the Design-Builder and furnished to the Department to guarantee payment of all legal debts of the Design-Builder pertaining to the construction of the Contract.
Contract Performance Bond: The security executed by the Design-Builder and furnished to the Department to guarantee completion of the work under the Contract.
Contract Price: The amount stated in the Contract in the Price Proposal as it may be adjusted from time to time to account for Change Orders.
Contract Time: The number of Calendar Days allowed for completion of the Contract, including authorized time extensions. Calendar Day contracts are to be completed on or before the day indicated, even when that date is a Saturday, Sunday, or holiday.
Contract Warranty Bond: The security executed by the Design-Builder and furnished to the Department to guarantee performance during the Warranty Period.
Cooperative Agreement: A Third Party Agreement with a Local Agency.
Cost-Plus Change Order: A Change Order issued under Contract Section 2.5.4.8
County: The county in Utah in which the contracted Work is located.
Critical Path: Each critical path on the Project Schedule that ends on a Completion Deadline (i.e., the term shall apply only following consumption of all available Float). The lowercase term "critical path" shall mean the activities and durations associated with the longest path(s) through the Project Schedule.
Debarment: Action taken by the Department or Federal Government pursuant to a regulation that prohibits a person or company from performing work on a public project.
Department: The State of Utah, acting by and through the Department of Transportation or its authorized representative(s).
Department-Caused Delay: A delay, to the extent that it affects a Critical Path, arising from any of the following matters and no others:

- A suspension order pursuant to the Contract Section 2.5.5;

- A Department-Directed Change;
- Failure or inability of the Department to provide the Design-Builder with access to property within the Planned Right-of-Way Limits on or before the deadline for such access set forth in the Final Right-of-Way Acquisition Schedule. Excluded if acquiring of Right-of-Way is included as a part of the Design-Build Contract as a responsibility of the Design-Builder.
- Failure or inability of the Department to respond to a proposed schedule, plan, Design Document, or any other submittal or matter for which response by the Department is required, within the time periods indicated in the Contract Documents;
- Any lawsuit seeking to restrain, enjoin, challenge, or delay construction of the Project or the granting or renewal of any Governmental Approval of the Project, except to the extent that the lawsuit is based on improper action by the Design-Builder and except for any lawsuits for which the Design-Builder has accepted the risk under the Contract Documents;
- Uncovering, removing, and restoring Work, to the extent provided in the Contract Documents; and
- Any improper action by the Department's designated representative with binding authority, as specified in Section 2.5, or improper failure to act by the Department within a reasonable time after delivery of notice by the Design-Builder to the Department requesting such action.

Department-Directed Change: Any change in the Work (including a change in the standards applicable to the Work) that the Department has directed the Design-Builder to perform in accordance with the Section 2.5.4.3. The following are not considered Department-Directed Changes:

- A change in other standards (e.g., national standards)
- Direction by the Department to stop Work pending provision of evidence of compliance with applicable requirements of the Contract Documents.
- Direction to modify construction means and methods, provided that such direction is an appropriate means of assuring compliance with applicable requirements of the Contract Documents.

The fact that a Directive Letter was issued by the Department shall not be considered evidence that in fact a Department-Directed Change occurred.

Design-Build Contract: That certain Design-Build Contract executed by the Department and the Design-Builder, and any and all amendments thereto.

Design-Builder: The entity identified as the "Design-Builder" in the Contract .

Design-Builder Affiliate: Any person associated therewith in the capacity of owner, partner, director, officer, principal investigator, project director, manager, or auditor, or other like position.

Design Document: Any drawing (including any plan, elevation, section, detail, or diagram), specification, report, calculation, record, estimated quantity, or submittal prepared by the Design-Builder necessary for the design of the Project in accordance with the Contract Documents, excluding Construction Documents.

Design Quality Organization: The persons on the Design-Builder's Team who are involved in Design Quality Control and Design Proof of Compliance activities.

Differing Site Conditions: The meaning set forth in Section 2.5.3.

Directive Letter: A written communication to the Design-Builder from the Department enforcing or interpreting a Contract requirement or ordering commencement or suspension of an item of work already established in the Contract.

Dispute Resolution Board: The meaning set forth in Section 2.9.

Dispute Resolution Board Agreement: The agreement among the Department, the Design-Builder, and the members of the Dispute Resolution Board, as described in the Contract, Section 2.9.

Disturbance; Disturbed: With respect to wildlife, evidence that a bird is irritated, such as fly-bys, leaving the nest or roost, dive-bombing, or other behavior determined to be disturbance by a qualified wildlife biologist.

Electronic Communication: A communication transmitted through facsimile (fax) transmission, e-mail, or other electronic means where a hard copy printout can be produced.

Effective Date of Contract: The date of execution of the Contract by the Department.

Engineer: The Department Deputy Director, acting directly or through a duly authorized representative (usually the Project Engineer or Consultant Engineer). A Consultant Engineer who is hired by the Department for Construction Project Management is considered an extension of the Department and has the same responsibility and authority as a Project Engineer.

Environmental Approval: A Governmental Approval under the National Environmental Protection Act (NEPA) and the U.S. Army Corps of Engineers (COE) Section 404 permit for the Project.

Environmental Law: Any Governmental Rule now or hereafter in effect relating to the environment or to the emission, discharge, release, or threatened release of any Hazardous Substance into the environment (including into the air, surface water, and groundwater and onto land) or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of any Hazardous Substance or otherwise relating to the protection of public health, public welfare, or the natural environmental (including protection of nonhuman forms of life, air, surface water, groundwater, and land). Environmental Laws include but are not limited to the statutes listed in the definition of Hazardous Substances; the National Environmental Policy Act, as amended, 42 U.S.C. §§ 4321 et seq.; the Occupational Safety and Health Act, as amended, 29 U.S.C. §§ 651 et seq.; the Hazardous Materials Transportation Act, as amended, 49 App. U.S.C. §§ 1801; the Endangered Species Act, as amended, 16 U.S.C. §§ 1531 et seq.; the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 et seq.; and the Eagle Protection Act, 16 U.S.C. § 668.

Escrowed Proposal Documents (EPD): The meaning set forth in Section 2.3.1.15 (Escrowed Proposal Documents)

Equipment: Any machinery, tool, apparatus, or supply necessary for the upkeep, maintenance, construction, and completion of the Contract.

Event of Default: A default as described in the Section 2.8.11, following notice and opportunity to cure to the extent permitted by the Section 2.8.11 and issuance by the Department of notice that an Event of Default has occurred.

Federal Requirements: The provisions required to be included in any contract assisted by the Federal Highway Administration (FHWA), including the provisions set forth in the Contract Documents.

Final Acceptance Deadline: The deadline for achievement of Final Owner Acceptance (FOA) as set forth in the Section 2.6.18 or as it may be extended pursuant to Contract Section 2.8.9 (Extending Contract Time).

Final Design Documents: The Design Documents following approval thereof by the Department as described in the Contract Documents. These documents become contract requirements when they have been approved.

Final Owner Acceptance (FOA): The meaning set forth in Section 2.6.18.

Final Right-of-Way Acquisition Schedule: A schedule provided by the Department for Contracts where the Department acquires the Right-of-Way or a schedule provided by the Design-Builder for Design-Builder acquired Right-of-Way.

Float: The difference between early completion time and late completion time for any activity as shown on the Baseline Schedule and approved Schedule Updates, and any float contained within an activity as well as any period containing an artificial activity (i.e., one which is not encompassed with in the meaning of the word "Work").

Final Warranty Acceptance: The date that defines the completion of the two-year warranty period, and the date upon which the warranty bond shall be released by the Department. Acceptance will occur as soon as the Department has determined that the Contract requirements have been met for the warranted work.

Force Majeure: Any event beyond control of the Design-Builder and not due to an act or omission of the Design-Builder or any Subcontractor or other Person for whom the Design-Builder may be contractually or legally responsible, which materially and adversely affects the Design-Builder's obligations hereunder and which event (or the effects of which event) could not have been avoided by due diligence and use of reasonable efforts by the Design-Builder, as more fully defined in Section 2.5.4, Changes.

Geotextile: Any permeable textile material used with foundation, soil, rock, earth, or any other geotechnical engineering related material, as an integral part of a man-made project, structure, or system. Geotextile generally refers to knitted, woven, and nonwoven fabrics.

Governmental Approval: Any approval, authorization, certification, consent, decision, exemption, filing, lease, license, permit, registration or ruling, required by or with any Governmental Person in order to design and construct the Project.

Governmental Person: Any federal, state, local, or foreign government and any political subdivision or any governmental, quasigovernmental, judicial, public, or statutory instrumentality, administrative agency, authority, body, or entity. The term includes the State of Utah and agencies and subdivisions thereof, other than the Department of Transportation.

Governmental Rule: All applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any Governmental Person having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

Guarantee: A guarantee of the Design-Builder's obligations under the Contract Documents, in form and substance, and provided by an entity acceptable to the Department.

Guarantor: The entity (if any) providing a Guarantee.

Hazardous Substance: Any (a) substance, product, waste, or other material of any nature whatsoever which is or becomes listed, regulated, or addressed pursuant to [1] the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); [2] the Hazardous Materials Transportation Act, 49 U.S.C. §§1801 et seq.; [3] the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); [4] the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; [5] the Clean Water Act, 33 U.S.C. §§1251 et seq.; [6] the Clean Air Act, 42 U.S.C. §§7401 et seq.; and [vii] any other federal, state, or local statute, law, ordinance, resolution, code, rule, regulation, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material, as of now or at any time hereafter in effect; (b) substance, product, waste, or other material of any nature whatsoever which may give rise to liability under any of the above statutes or under any statutory or common law theory based on negligence, trespass, intentional tort, nuisance, or strict liability or under any reported decisions of a state or federal court, (c) petroleum or crude oil excluding de minimus amounts and excluding petroleum and petroleum products contained within regularly operated motor vehicles; and (d) asbestos or asbestos-containing materials in structures and or other improvements on or in the Site (other than mineral asbestos naturally occurring in the ground).

Highway, Street, or Road: A general term denoting a public way for purposes of travel, including the entire area within the right-of-way.

Incremental Costs: Those costs, if any, which the Design-Builder incurs as a result of a particular circumstance which the Design-Builder would not have incurred but for the circumstance. In determining such costs, one would determine the total cost which the Design-Builder would have incurred had the circumstance not occurred, and subtract such amount from the costs actually incurred; the difference is the "increment." (For example, if the Design-Builder originally has to relocate three water lines, and a fourth water line is discovered in the same area which can be relocated by the same crew, the Department will be charged with only the costs of keeping the crew working the additional time to relocate the fourth water line, and will not be charged any portion of the expense of moving the crew to the site in the first place.)

Indemnified Parties: The meaning set forth in Section 2.12 for Design Builder provided Insurance.

Independent Assurance: An independent assessment (by a party not responsible for production, Quality Control, Proof of Compliance, or acceptance) of the reliability of the test results and inspection processes obtained in the Proof of Compliance and Owner Verification activities. The results of IA tests are not to be used as a basis of acceptance of materials.

Inspection: The act of viewing or looking carefully at construction, manufacturing, design, and maintenance practices, processes, and products, including document control and shop drawing review, to ensure that the practices, processes, and products comply with the quality requirements contained in the Contract Documents.

Inspector: The Department's or the Design-Builder's authorized representative assigned to perform, respectively, inspection oversight or inspection of contract performance.

Laboratory: The testing laboratory of the Design-Builder or the Department or any other certified testing laboratory.

Lane Rental Cost (LANE RENTAL component) A lump sum bid item for which there is no pay. The sum of the product of the hourly costs of impacts to the traveling public for the Design-Builder taking lanes and shoulders, multiplied by the corresponding number of hours estimated by the Design-Builder needed to close lanes and shoulders.

Lien: Any pledge, lien, security interest, mortgage, deed of trust or other charge or encumbrance of any kind, or any other type of preferential arrangement (including any agreement to give any of the foregoing, any conditional sale or other title retention agreement, any lease in the nature of a security instrument, and the filing of or agreement to file any financing statement or other instrument intended to perfect a security interest).

Limits of Construction: An area with established boundaries, identified within the highway right-of-way or construction easements, where the Design-Builder's use for construction purposes is permitted. The limits of construction may also be referred to as the roadway.

Liquidated Damages: A predetermined sum to be assessed the Design-Builder. This sum is not considered as a penalty, but as liquidated damages due the Department by reason of inconvenience to the public, added cost of engineering and supervision, and other items for extra expenditures of public funds for the Design-Builder's failure as specified.

Local Agency: The Cities of Salt Lake and West Valley City, the County of Salt Lake, and any other local agency owning property (other than Utility facilities) within the Project Right-of-Way Limits or with jurisdiction over any such property.

Major Participant: Any of the following Persons:

Each general partner or joint venture member of the Design-Builder;

Each Person holding (directly or indirectly) a 15 percent or greater interest in the Design-Builder;

The lead engineering/design firm(s) (individual firms, partnerships, or joint venture members), as well as each engineering/design subconsultant that will perform 20 percent or more of the design Work

Major Subcontract: Any Subcontract with a Major Subcontractor.

Major Subcontractor: Any Subcontractor (excluding suppliers) who will perform work on a separate, individual Subcontract valued at $3 million or more or on multiple Subcontracts totaling $3 million or more.
Materials: Any substances specified for incorporation into the completed Project.
Monthly Plan Update: The Initial Monthly Update, the Design-Builder's revision to the Initial Schedule Update and subsequent monthly revisions to plans as described in the Contract.
New Environmental Approval: Shall mean any of the following:
A new Governmental Approval under NEPA or new COE Section 404 permit; and
A revision, modification or amendment to one or more of the Environmental Approvals.
Nonconforming Work: Work performed that does not meet requirements of the Contract Documents.
Notice of Final Acceptance: The notice delivered to the Design-Builder pursuant to Contract Section 2.6.18, stating that Final Owner Acceptance has occurred.
Notice of Termination: A notice issued by the Department to terminate this Contract and the performance of the Work by the Design-Builder, either in whole or in part, pursuant to Contract Section 2.8.12.1.
Notice to Proceed: Written notice to the Design-Builder to begin the Contract; when applicable, the notice will include the starting date of contract time.
Owner Independent Assurance: Owner independent assurance comprises split sampling and testing performed by the Department's Laboratory at the minimum frequencies outlined in the Department's Material Sampling and Testing Frequency Manual. These tests and observations of both the CPOQ and the Owner Verification Inspection (OVI) sampling and testing procedures are performed to:

- Confirm that all testers are qualified and certified.
- Confirm that all test methods and procedures are performed accurately.

Owner Verification Inspection (OVI): Owner verification inspection is the oversight inspection of the Design-Builder's Work by the Department that includes:

- Department checks to see if design and construction meets the requirements of the contract.
- The Department's participation in the QCP meetings.
- Audits of all documentation to confirm that the Design-Builder is achieving the Contract obligations and commitments.
- The Department's oversight verification inspection of items fabricated off-site, including but not limited to structural steel, and precast and prestressed concrete structures.

Owner Verification Testing (OVT): Owner verification testing is the sampling and testing performed by the Department to check for contract compliance.
Owner Quality Assurance: The Owner's plan(s) and activities associated with Quality Assurance.
Overburden: Any material that overlays material designated for road or bridge construction.
Pavement Structure: The combination of subbase, base course, and surface course placed on a subgrade to support and distribute the traffic load to the roadbed.

- Surface Course: One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate. The top layer is sometimes called the "Wearing Course."
- Base Course: One or more layers of specified material and thickness placed on a subbase or a subgrade to support a surface course.
- Subbase: Layer(s) of specified material thickness placed on a subgrade to support a base course.

- Subgrade: The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.
- Subgrade Treatment: Modification of roadbed material by stabilization.

Performance Specifications: Requirements applicable to the Work set forth in the Contract Documents, which are expressed in terms of design criteria and end results to be achieved by the constructed product satisfying design criteria and meeting specified construction requirements will be measures for determining acceptability of the Work.

Person: Any individual, corporation, company, voluntary association, partnership, trust, unincorporated organization, or Governmental Person, including the Department.

Planned Right-of-Way Limits: Right-of-Way limits established by the Department and included in the Conceptual Plans. If the Right-of-Way limits are not included in the Conceptual Plans they will be included in the Contract to be provided by the Design-Builder and will not be a cause for delays.

Plans: The Design-Builder's drawings, profiles, typical cross sections, Standard Drawings, working drawings and supplemental drawings, or reproductions thereof, which show the location, character, dimensions, and details of the work to be done. See "Final Design Documents."

- Standard Plans: Detailed drawings approved for repetitive use.
- Working Drawings: Supplemental design sheets or similar data that the Design-Builder is required to submit to the Engineer or DQF such as shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, and bending diagrams for reinforcing steel.

Potential Change Order Notice: The notice required to be provided under Section 2.5.4 as a condition to the right to obtain certain Change Orders.

Preconstruction Conference: A meeting between the Design-Builder and the Engineer to discuss the Project before the Design-Builder begins work.

Preliminary Design or Preliminary Design Plans: The designs, plans, and design data provided in the Conceptual Plans or plans prepared by the Design-Builder for Department preliminary review

Price Elements: The list of priced items on Proposal Forms required in the Price Proposal.

Profile Grade: The trace of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.

Progress Meetings: The meetings set forth in the Contract Section 2.8.

Project: The specific section of the highway or other specific property on which construction is to be performed under the Contract. The SR-201 Design-Build job, and all work product to be provided by the Design-Builder as a condition to Final Owner Acceptance in accordance with the Contract Documents.

Project Engineer: The person authorized by the Department Deputy Director to enter into and administer the Contract on behalf of the Department. The Project Engineer has authority to make findings, determinations, and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract.

Project Schedule: As defined in Section 2.8.

Project Vicinity: The area adjacent to and outside of the Planned Right-of-Way Limits defined by the Conceptual Plans

Proof of Compliance: The sum of the efforts performed by the Design-Builder to demonstrate that the work complies with the requirements of the contract. Includes Design Proof of Compliance (DPOC) and Construction Proof of Compliance (CPOC). Includes inspection, tests, audits, documentation, etc.

Proposal or Proposal Documents: Those documents constituting the Design-Builder's proposal in response to the RFP, including any best and final offers and supplements to proposals as may have been requested by the Department.
Proposal Date: The date the Proposal was due as specified on the cover page of the RFP.
Proposal Form: The prescribed form on which the Proposal's offer is submitted.
Proposal Guaranty: The security furnished with the Design-Builder's Proposal to assure that the Design-Builder will enter into the Contract if the Proposal is accepted.
Proposal Price: The total price for the Work as set forth in the Design-Builder's Proposal Documents.
Proposer: An individual, firm, partnership, corporation, joint venture, or combination thereof that submits a Statement of Qualifications and Proposal for the Project.
Punch List: The list of Work items with respect to the Project which remain to be completed after achievement of Substantial Completion of the Project, generally limited to minor incidental items of Work necessary to correct imperfections which have no adverse effect on the safety or operability of the Project; limited to Work which can be performed without shutting down a traffic lane.
Quality Check Point (QCP): A Quality Checkpoint is a point in time when construction has proceeded to a defined stage at which representatives of the Design-Builder and the CQO, and the Department's oversight representative determine the progress to date by reviewing the following:

- All daily inspection reports
- CQO and OVT reports
- Settlement data
- Pile driving records
- String line measurements
- Audits and other pertinent data

The parties then judge whether to accept or reject the completed Work. No additional Work shall take place past the QCP until all parties mutually agree that the Work up to that point is acceptable.
Quality Assurance (QA): All those planned and systematic actions necessary to provide confidence that the Design-Build Work complies with the Contract and that all elements of the Design-Build Work will perform satisfactorily for the purpose(s) intended. Quality Assurance includes Quality Control, Proof of Compliance, Oversight, Owner Verification, and Independent Assurance.
Quality Control (QC): The activities performed by the Design-Builder, designer, producer, or manufacturer to assess design, production and construction processes so as to control the level of quality being produced in the end product. Components may include checking, materials handling and construction procedures, calibrations and maintenance of equipment, shop drawing review, document control, production process control, and any sampling, testing, and inspection done for these purposes.
Quality Management Plan (QMP): The plan described in Section 3.18 and Appendix D. The plan included in Appendix D is in a draft form, the format of which is acceptable to the Department. The Proposer shall complete this plan and augment it to match their approach to quality management. The final plan is subject to review and approval by the Department.
Quality Organization: The Design Quality Organization (DQO) is the Design-Builder's organization designated in the Proposal to manage and implement the Design Quality Management Plan (DQMP). The Construction Quality Organization (CQO) is the organization designated in the Proposal to manage and implement the Construction Quality Management Plan (CQMP).

Reference Documents: The RFP Documents and the documents designated as showing Basic Configuration, to the extent that they include non-Basic Configuration elements; the Reference Documents are not considered Contract Documents and are provided to the Design-Builder for informational purposes.
Relocation Permit: All appropriate approvals, exemptions, filings, licenses, permits, and registrations required by or with any Governmental Person or Utility Owner necessary for any Relocation.
Responsible Proposer: A Proposer determined by the Department to possess the ability to perform the Contract work.
Responsive Proposal: A proposal that meets all requirements of the RFP.
Request for Proposals: The Request for Proposals (RFP) for the Design-Build Project issued by the Department including all addenda thereto.
Retainage: Shall have the meaning set forth in Section 2.10.5.1.
Right-of-Way: The real property (which term is inclusive of all estates and interests in real property) which is necessary for ownership and operation of the Corridor by the Department; the term specifically excludes (a) the Utility Easements, and (b) any temporary easements or other real property interests which the Design-Builder deems necessary or advisable in connection with construction of the Project and/or Relocation of Utility facilities.
Roadbed: The graded portion of highway within top and side slopes, prepared as a foundation for the pavement structure and shoulders.
Roadbed Material: Material in cuts, embankments, and in embankment foundations from the subgrade down that supports the pavement structure.
Roadside: The areas between the outside edges of the shoulders and the right-of-way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.
Roadside Development: Those items necessary for the preservation or replacement of landscape materials and features that may include suitable plantings and other improvements or ground cover to preserve and enhance the appearance and stability of the highway right-of-way or acquired easements for scenic improvements.
Roadway: The portion of a highway within limits of construction.
Routine Maintenance Activity: The type of work performed on a routine (e.g., daily or weekly) basis to maintain the highway surfaces, shoulders, roadsides, facilities, and structures; such as litter pickup, graffiti removal, and vegetation control.
Safety Plan: The safety plan established by the Design-Builder as specified in Section 2.8.13.
Schedule of Values: A list of the Baseline schedule activities that has been cost-loaded such that the sum of the values equals the contract price and the value for each activity represents the proportionate cost of performing the activity. Progress payments will be developed by the Design-Builder based on a percent complete of the items listed on the schedule of values and in accordance with Section 2.10. The Schedule of Values shall correlate with the information submitted with the Proposal Price.
Service Line: A utility line whose function is to connect an individual service location (e.g., a single-family residence or industrial warehouse) to another utility line, which connects more than one, such individual line to a larger system.
Shoulder: The portion of the roadway adjacent to the traveled way for accommodation of stopped vehicles for emergency use, and for lateral support of base and surface courses.
Sidewalk: That portion of the roadway constructed for pedestrian use.
Site: The area(s) designated in writing by the Department for performance of the Work and such additional area(s) as may, from time to time, be designated in writing by the Department for the Design-Builder's use in performance of the Work, initially limited to the area within the Planned Right-of-Way Limits. For purposes of indemnification, safety, and security requirements and for

payment for use of equipment, the term also includes any area(s) in the Project Vicinity being temporarily used by the Design-Builder for construction Work and/or storage of equipment.
Special Provisions: Those adjustments to the UDOT Standard and Supplemental Specifications.
Specialty Item: Work requiring highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organization such as the Design-Builder, and generally limited to minor components of the overall Contract.
Specified Completion Date: The date on which the Contract work is specified to be complete.
Stabilization: Modification of soils or aggregates by incorporating materials that increases load-bearing capacity, firmness, and resistance to weathering or displacement.
Stakeholder: An individual or group whose interests may be impacted similarly (whether real or perceived) by the construction of the SR-201 Design-Build Project and associated improvements
Standard Drawings: Plans issued by the Department for general application and repetitive use in connection with the Department projects; the Standard Drawings will not apply to the Work except in connection with any design furnished by the Design-Builder which references the Standard Drawings.
Standard Specifications (DB): The "UDOT Standard Specifications for Road and Bridge Construction - Design-Build", which are found in their entirety in Appendix A of this RFP.
State: The State of Utah acting through its authorized representative.
Statement of Qualifications (SOQ): The response submitted by the Design-Builder in response to the Request for Qualifications.
Structures: Bridges, viaducts, culverts, catch basins, drop inlets, retaining walls, noise walls, cribbing, manholes, end-walls, buildings, overhead sign supports, and other such features that may be encountered in the Work.
Subcontract: Any subcontract to perform any part of the Work (including design and management services) or provide any materials, equipment, or supplies for any part of the Work between the Design-Builder and a Subcontractor, or between any Subcontractor and its lower-tier Subcontractor, at any tier.
Subcontractor: Any Person with whom the Design-Builder has entered into any Subcontract to perform any part of the Work or provide any materials, equipment or supplies on behalf of the Design-Builder (and any other such Person with whom any Subcontractor has further subcontracted any part of the Work
Subcontracting Plan: The plan included in the Proposal Documents as specified in Section 2.3 (Instructions to Proposers) following any modifications thereto required by the Department as specified in Section 2.8.3 (Subletting of Contracts)
Substantial Completion: The meaning set forth in Section 2.6.17.
Substantial Completion Deadline: The deadline for achievement of Substantial completion as set forth in Section 2.6.17 (Substantial Completion), as it may be extended pursuant to Section 2.5.4 (Changes).
Substructure: All of the structure below the bearings of simple and continuous spans, skewbacks of arches and tops of footings or rigid frames; including backwalls, wingwalls and wing protection railings.
Superintendent: The Design-Builder's authorized representative in responsible charge of the work, who shall receive and execute orders and directions of the Engineer.
Supplemental Agreement: An addendum agreement to an original Utility Agreement or 3rd Party agreement that provides detailed information particular to each utility relocation, removal, abandonment, and/or protection-in-place (if required pursuant to Section 3.13 (Utility and Third Party Agreements), as the same may be amended from time to time.
Supplier: Any Person other than employees of the Design-Builder not performing work at the Site that supplies machinery, equipment, materials or systems to the Design-Builder or any

Subcontractor in connection with the performance of the Work; Persons who merely transport, pick up, deliver, or carry materials, personnel, parts, or equipment or any other items or persons to or from the Site shall not be deemed to be performing Work at the Site.

Surety: Each properly licensed surety company approved by the Department, which has issued one or more of the Contract Bonds, or the Warranty Bond.

Surface Courses: One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate; the top layer is sometimes called the "Wearing Course.

Temporary Relocation: Any interim relocation of a Utility (i.e. the installation, removal and disposal of the interim facility) pending installation of the permanent facility in the same or a new location, or: Any removal and reinstallation of a Utility in the same place without an interim relocation.

Test based acceptance: Acceptance based on each test meeting minimum requirements.

Third Party: A Utility Owner or other third party that is a party to a Third-Party Agreement with the Department.

Time and Material Change Order: A Change Order issued under Contract Section 2.5.4.8 (Time and Materials Change Orders).

Titles (Or Headings): The titles or headings of the Divisions, Sections, and paragraphs herein are intended for convenience of reference and so do not have any bearing on their interpretation.

Town, City or District: A subdivision of the county used to designate or identify the location of the Contract.

Traveled Way: The portion of the roadway designated for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

Unrestricted Continuous Traffic: No lane closures for any operations necessary to complete the project, and the traffic following in the final lane arrangement as proposed for the finished surface of the roadway with line striping, delineation, and permanent safety features complete. Engineer will determine unrestricted continuous traffic.

Utility Betterment: The upgrading of a Third Party's facility being relocated for the Project, which upgrade is not attributable to construction of the Project or is made solely for the benefit of and at the election of the Third Party (not including technological improvements which are able to achieve greater usefulness, efficiency, durability, or capacity at costs equal to or less than the costs of a "like-for-like" replacement or relocation).

Utility or utility:

A privately, publicly, or cooperatively owned line, facility, and/or system for producing, transmitting, or distributing communications, power, cable television, electricity, light, heat, gas, oil, crude products, water, steam, waste, stormwater not connected with the highway drainage, signal systems, and other products that directly or indirectly serve the public, and/or

A privately owned irrigation facility. The term is also sometimes used to refer to the owner or operator of any such line, facility, and/or system; it specifically excludes stormwater facilities connected with drainage of the roadway. The necessary appurtenances to each Utility facility shall also be considered part of such Utility

Utility Agreement: An Agreement made between the Department and a Utility Owner that provides detailed provisions for addressing utility conflicts associated with the Project.

Utility Appurtenance Adjustment: The adjustment of Utility appurtenances (e.g., manholes and vaults) for line and grade upon completion of roadway work.

Utility Delay: Any failure by a Utility Owner to meet any time parameters for performance by such Utility Owner which are set forth in the applicable Supplemental Agreement, which failure by the Utility Owner delays the Critical Path so as to impair the Design-Builder's ability to achieve Substantial Completion of the Project by the Guaranteed Completion Date; in determining whether a Utility Delay has occurred based upon time parameters set forth in a

Supplemental Agreement, the parties shall not take into consideration any exoneration of the Utility Owner pursuant to any "force Majeure" provisions in the applicable Utility Agreement or in the Supplemental Agreement. Any time parameters set forth in a Utility Agreement shall not be the basis for calculating a Utility Delay

Utility Design Data: Information regarding the design of Utility facilities supplied by Utility Owners.

Utility Easements: All replacement easements and/or other permanent interests in real property outside of the Right-of-Way required in connection with relocations of Utility facilities, which interests are to be acquired by the Department and conveyed to utilities or other appropriate persons.

Utility Owner: The owner or operator of any Utility, which includes privately held entities, publicly held entities, and Governmental Persons.

Utility Owner Identification Number: The number that has been assigned to each Utility Owner in Appendix (Appendix O).

Utility Relocation Plans: The design plans for Relocation of a Utility impacted by the Project to be prepared by the Design-Builder or the Utility Owner, as determined pursuant to, Section 3.13, Utilities and Third Party Agreements.

Utility Work: The Work associated with the Relocation of Utilities, including the Work described in Section 3.13.

Value Engineering Change Proposals: The meaning set forth in Section 2.5.14.

Value Engineering Changes: The Value Engineering Change Proposals made by the Design-Builder and approved by the Department in accordance Section 2.5.14.

Warranty: Any warranty, including manufacture's warranty for equipment, as made by the Design-Builder.

Warranty Bond: The bond described in Section 2.4.7.4.

Warranty Work: Corrective action taken to bring the warranted work into compliance with the Contract for release of the warranty bond.

Watercourse or watercourse: Any earthen canal, lined canal, earthen ditch, lined ditch, or natural waterway within the Planned Right-of-Way Limits or affected by the Project

Work: The furnishing of all labor, materials, equipment, and other incidentals necessary to complete the Contract. This includes all alterations, amendments or extensions hereto made by change order or other written orders of the Engineer. All of the design-build services to be provided by the Design-Builder under the Contract Documents, including all administrative, design, engineering, Utility Relocation, procurement, legal, professional, manufacturing, supply, installation, construction, supervision, management, testing, verification, labor, materials, equipment, documentation, and other duties and services to be furnished and provided by the Design-Builder, including all actions necessary or appropriate to achieve Final Owner Acceptance of the Project, except for those actions which the Contract Documents specify will be performed by the Department or other Persons, and specifically including all maintenance work to be performed prior to Substantial Completion of the Project; in certain cases, the term is also used to mean the products of the Work.

Working Drawings: Supplemental design sheets or similar data, such as stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, and bending diagrams for reinforcing steel.

Worksheet: The worksheet of information to be developed by the Design-Builder and provided to the Department respecting each Relocation for which a Supplemental Agreement must be prepared

Written permission of the Department: A letter signed by the authorized representative of the Department granting specific permission and outlining limitations of the permission.

2.3 INSTRUCTIONS TO PROPOSERS

The successful Proposal will become a part of the Contract Documents, subject to the order of precedence of documents in Section 2.6.5. The Design-Builder will be obligated to perform in accordance with the requirements of this RFP and with all statements in its Proposal that exceed the requirements of the RFP.

2.3.1 GENERAL

2.3.1.1 Interpretation Of Contract Documents

A. In these Specifications, the terms and definitions in Section 2.2 shall apply. Terms not definedin Section 2.2 shall have their standard, accepted meaning as is appropriate to the context in which they are used. Words that have a well-known technical or trade meaning shall be interpreted in accordance with such meaning.

B. The titles and headings of sections, subsections and subparts herein are intended for convenience of reference and shall not be considered to have bearing on their interpretation. Working titles that have a masculine gender, such as “workman” and “flagman” and the pronouns and adjectives “he”, “his” and “him” are utilized in the Contract documents for the sake of brevity and are intended to refer to persons of either sex.

C. When a publication is specified, it refers to the most recent date of issue prior to the date of advertisement for the project, unless a specific date or edition is specified.

D. References to the Standard Specifications (DB) refer to the "UDOT Standard Specifications for Road and Bridge Construction - Design-Build", which are found in their entirety in Appendix A.

E. Replace all references to Bid, Bidder, with Proposal, Proposer, respectively.

F. Replace all references to Contractor with Design-Builder.

G. In order to avoid cumbersome and confusing repetition of expressions in these Specifications, it is provided that whenever anything is, or is to be, done, if, as, or, when, or where “contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, submitted, approved, disapproved, acceptable, unacceptable, suitable, unsuitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected, or condemned” it shall be understood as if the expression were followed by the words “by the Engineer” or “to the Engineer”. Some specifications are written in an abbreviated format, incomplete sentences, or active voice grammar. Omission of words or phrases such as “a”, “an”, “the”, “the Design-Builder shall”, “unless otherwise specified”, or “unless otherwise directed” is intentional. These Specifications are written to the Design-Builder. All actions required, unless otherwise noted, are to be performed by the Design-Builder or his agent.

2.3.1.2 Request for Proposals

A. The Department will furnish the pre-qualified Proposers with one hard copy and one electronic copy of the Department-prepared Request for Proposals (RFP).

B. The Department declares Proposals non-responsive if the Design-Builder’s “Status of Work Under Contract” form:

1. Is not included in the proposal,
2. Does not show the sum of the amount of uncompleted work, both in and outside the state of Utah
3. Shows that the estimate of the amount of work to propose on exceeds the amount for which the Design-Builder is prequalified.

2.3.1.3 Joint Venture

A. Joint Ventures will be approved as a part of the evaluation of the Proposals, and the Proposers' Statement of Qualifications.

2.3.1.4 Contents of Proposal

A. The RFP describes the detailed Proposal requirements and instructions for submission. In addition, the RFP contains, as a minimum, the following:

1. The location and description of the contemplated construction
2. The time in which the Work must be completed
3. The amount of the Proposal guarantee
4. The date, time, and place of the Proposal submittal

2.3.1.5 Issuance of Request for Proposals

A. The Department reserves the right to refuse to issue an RFP, accept a Proposal, or award a Contract to a Proposer for any or all of the following reasons:

1. Lack of Pre-qualification
2. Uncompleted work under contract that the Department determines will hinder or prevent the prompt completion of additional work, if awarded
3. Failure to pay or settle claims
4. Failure to comply with any qualification regulations
5. Default under previous Contracts
6. Unsatisfactory performance on previous or current Contract(s)
7. Debarment by the Department
8. Serious misconduct that adversely affect the ability to perform future work
9. Failure to reimburse for monies owed on any previously awarded Department contracts, including contracts where the prospective Proposer was a party in a joint venture that failed to reimburse the Department.

B. If the Department refuses to issue an RFP, accept a Proposal, or award a Contract for any of the foregoing reasons, the Proposer may appeal in writing to the UDOT Deputy Director.

1. Specify the basis for the appeal in the written request.
2. The Deputy Director may schedule either an informal or formal hearing.

2.3.1.6 Examination of Plans, Specifications, Special Provisions and Worksite

A. Examine proposed work site and all documents before submitting a Proposal.

1. The Proposer is responsible for all site conditions of which it has been informed, of which it has actual knowledge, or that should have been discovered had a reasonable site investigation been performed.
2. The Department considers submitting a Proposal to be conclusive evidence the Proposer knows the conditions to be encountered in

performing the work and the requirements of the proposed Contract.

B. The Department is bound only by written statements or representations and descriptions of conditions and work. No oral explanations or instructions are binding.

C. To request clarifications or explanations of the Contract Documents during the proposal process, the Proposer shall submit written requests to the address listed for the UDOT Project Manager.

1. To permit the issuance of addenda, if necessary, written requests shall be submitted at least 14 days prior to the Proposal due dates.
2. The Department's final answers to the written requests posed during the Proposal process shall not be deemed part of the Contract Documents, and shall not be relevant in interpreting the Contract Documents except as they may clarify provisions otherwise considered ambiguous.
3. Only request answered by formal written addenda will be binding.

D. The Design-Builder shall not take advantage of any apparent or discovered error or omission in the Contract Documents. Should it appear that the Work to be done or any matter relative thereto is not sufficiently detailed or explained in the Contract Documents, the Design-Builder shall apply to the Department in writing for such further written explanations as may be necessary and shall conform to the explanation provided. The Design-Builder shall promptly notify the Department of all errors, omissions, inconsistencies, and/or other defects (including inaccuracies) which it may discover in the Contract Documents, and shall obtain specific instruction in writing regarding any such error, omission, inconsistency, or defect before preceding with the Work affected thereby. The fact that the Contract Documents omit any details of any Work that are necessary to carry out the intent of the Contract Documents or that are customarily performed shall not relieve the Design-Builder from performing such omitted Work. The details shall be performed as if fully and correctly set forth and described in the Contract Documents, without entitlement to a Change Order hereunder except as specifically permitted under Section 2.5.4 (Changes).

E. The Proposer acknowledges that he has investigated the nature and location of the Work and knows the general and local conditions that can affect the Work and/or its cost, including but not limited to:

1. Conditions bearing upon transportation, disposal, handling, and storage of materials
2. The availability of labor, water, electric power, and roads
3. Uncertainties of weather, river stages, irrigation channel flow, lake and reservoir levels, and similar physical conditions of the ground
4. The type of equipment and facilities needed before and during work performance
5. The character, quality, and quantity of surface and subsurface materials and/or obstacles to be encountered, insofar as this information is ascertainable from an inspection of the site as well as from the drawings and specifications and all exploratory work made available by the Department in the RFP.

F. Failure to take the actions described and acknowledged in this Section does not relieve the Design-Builder (Proposer) of the responsibility to estimate the difficulty and cost of successfully performing the work or from successfully performing the Work without additional cost to the Department.

2.3.1.7 Addenda

A. The Department reserves the right to revise the RFP during the proposal process, at any time before the proposal due date, by issuing addenda. The addenda will be sent, without additional charge, to the address of each individual or company to whom RFP documents were issued.

B. The Department's response to written requests that require interpretation, changes, or additions to the RFP will be in the form of written addenda. Only responses issued in formal, written addenda will be binding.

C. All addenda shall be acknowledged in the Proposal or by telefacsimile prior to the scheduled time for submitting the Proposal. If no addenda are received by the Proposer, the word "None" should be entered in the appropriate location on the Proposal Form.

2.3.1.8 Irregular Proposals

A. The Department will consider a Proposal to be irregular and may reject the Proposal as non-responsive if

1. The Proposal is in an organization and/or format other than that specified in this Section 2.3, or if the Proposal is altered, or if any part is detached or incomplete.
2. The Proposal contains unauthorized additions, conditional or alternate proposals, or irregularities that make the Proposal incomplete, indefinite, or ambiguous.
3. The Proposal contains added provisions reserving the right to accept or reject an award or to enter into a contract pursuant to an award.
4. The Proposal is not signed in ink by a representative of the Proposer who is authorized to execute the Contract.
5. Name, title and address of the individual signing the Proposal as well as the following names and address are not included, as applicable:
   a. For an individual, the individual's name and U.S. Post Office address.
   b. For a partnership, the name of each member of the partnership and each partner's U.S. Post Office address.
   c. For a joint venture, the name of each member or officer of the firms represented, and each member or officer's U.S. Post Office address.
   d. For a corporation, the corporation's name and U.S. Post Office address.
6. Proposal Guarantee is:
   a. Submitted on a form not furnished by the Department
   b. Not properly signed
   c. Not included in the Proposal
7. The Proposal does not acknowledge the receipt of addenda.

B. By signing the Proposal, the Proposer certifies that it understands and is in compliance with all provisions of Section 2.3.1.13 "Non-Collusive Proposal Certification", and Section 2.3.1.14 "Debarment."

2.3.1.9 Proposal Guarantee

A. *Proposal Guarantee Required:* The Department will not consider a Proposal unless it is accompanied by a Proposal Guarantee in the form of a certified check, cashier's check, or guarantee bond in the amount specified in Section 2.3.1.9 paragraph C below.

B. *Form:* Use the Proposal Guarantee form included in the RFP.

C. *5% of Proposal Price:* As a Guarantee that the Proposer shall, if its Proposal is accepted, execute the Design-Build Contract and comply with the RFP, the Proposer shall submit with its Proposal a proposal guarantee meeting the requirements of paragraph A and in the amount of five percent of the Price Proposal. The Proposal Guarantee will be held by the Department until returned to the Proposers or forfeited by a successful Proposer. Within fourteen calendar days of receipt from the successful Proposer of the executed Contract and all other documents required for Contract Award, the Department will return the Proposal Guarantees.

D. *Forfeiture of Guarantee:* If the selected Proposer fails to execute the Contract or to provide all bonds, insurance, and other items required for award within seven calendar days after the Department delivers the executed form of the Contract to the Design-Builder, then its Proposal Guarantee funds shall be released to, and become the property of, the Department. Delivery of the Proposal Guarantee constitutes the agreement of the Proposer and the issuer of the Proposal Guarantee to such forfeit. Such forfeiture shall constitute liquidated damages and shall not be a penalty.

E. *Proposal Bond:* The Proposer may provide a bond as a Proposal Guarantee, using Form H (Proposal Bond) in Appendix P (Proposal Forms). The bond must be issued by a surety licensed to issue such a bond in the State of Utah and acceptable to the Department. Certified or cashier's checks shall be drawn on a State or national bank, rated "A" by at least two nationally recognized rating agencies.

2.3.1.10 Withdrawal or Revision of Proposals

A. A Proposer may withdraw or revise its Proposal after it has been deposited with the Department, without forfeiture of the Proposal Guarantee, provided that all of the following occur:

1. The request for such withdrawal or revision is received by the Department's designated office indicated in Section 2.3.2.15 (Delivery Address for Proposals),
2. The request is received by the Department before the time set for receiving proposals.
3. The request is in writing signed by the Proposer or its properly authorized representative.

B. No Proposal may be withdrawn on or after the time set for submitting Proposals.

2.3.1.11 Public Opening of Proposals

A. All Proposals, including any amendment or withdrawal, must be received by the Department prior to the scheduled time of the Proposal Submittal in order to be considered.

B. The Technical and Price Proposals will be opened and evaluated by the Department in accordance with the selection process outlined in the RFP.

C. The winning Proposer will be announced publicly at the time and place indicated in the advertisement.

2.3.1.12 Disqualification of Proposers

A. The Department will disqualify a Proposer and reject a Proposal for one or both of the following reasons:

1. The submission of more than one Proposal for the same work from an individual, firm, or corporation under the same or different names.
2. Evidence of collusion among Proposers. Collusion participants are not recognized as bidders/Proposers for future work until they are reinstated as a qualified bidder/Proposer.

2.3.1.13 Non-Collusive Proposal Certification

A. By submitting a Proposal, each Proposer and each Person signing on behalf of any Proposer certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief:

1. The prices in the Proposal have been arrived at independently, without collusion, consultation, communication, or agreement with any other Proposer or with any competitor for the purpose of restricting competition;
2. Unless required by law, the prices quoted in the Proposal have not been and will not be knowingly disclosed by the Proposer, directly or indirectly, to any other Proposer or competitor prior to the Proposal Due Date;
3. No attempt has been made or will be made by the Proposer, for the purpose of restricting competition, to induce any other individual, partnership, joint venture, or corporation to submit or not to submit a Proposal; and
4. The signers of the Proposal will tender to the Department a sworn statement that the named Design-Builder(s) has not, whether directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action to restrain free competitive pricing in connection with this Proposal.

B. The Department will consider no Proposal for award nor will make-any award where there has not been compliance with 2.3.1.13, paragraph A, except as follows:

1. If the Proposer cannot make the foregoing certification, the Proposer must furnish with the Proposal a signed statement that describes in detail the reasons why the certification cannot be made.
2. The Executive Director or designee determines that such disclosure was not made for the purpose of restricting competition.

C. Any of the following does not constitute a disclosure within the meaning of 2.3.1.13, paragraph A, line 1:

1. A Proposer has published price lists, rates, or tariffs covering items being procured.
2. A Proposer has informed prospective customers of proposed or pending publication of new or revised price lists for such items.
3. A Proposer has sold the same items to other customers at the same prices being proposed.

D. A Proposal made by a corporation is considered authorized by the corporation's board of directors. Authorization is defined as signing and submitting the Proposal, and includes the declaration of non-collusion on the part of the corporation

E. UTAH DEPARTMENT OF TRANSPORTATION NON-COLLUSIVE BIDDING CERTIFICATION

"I declare under penalty of perjury under the laws of the United States and the State of Utah that neither I, nor to the best of my knowledge any member or members of my firm or company have either directly or indirectly restrained free and competitive bidding on this project by entering into any agreement, participating in any collusion, or otherwise taking any action unauthorized by the Utah Department of Transportation, with regard to this Contract."

F. Signing the Proposal certifies compliance with all provisions of this Non-Collusive Bidding Certification

2.3.1.14 Debarment

A. The Department may debar a Design-Builder from performing any work on Department or Department-administered projects if:

1. The Design-Builder or an affiliate (an owner, director, manager, officer or fiscal agent of the Design-Builder) has been convicted of or entered a plea of guilty or *nolo contendere* to a bid or contract-related crime in any Court of competent jurisdiction;
2. The Design-Builder or an affiliate has made a public admission of any bid- or contract-related crime;
3. The Design-Builder or an affiliate has falsified information or submitted deceptive or fraudulent statements in connection with prequalification, bidding, or performance of a Contract;
4. The Design-Builder or an affiliate has violated relevant antitrust laws covering bid rigging, collusion, or restraint of free competition among contractors (Violations covered by the Sherman Antitrust Act, 15 U.S.C. 1, *et seq.* and Title 76, Chapter 10, Section 911, *et seq.,* U.C.A. 1953, as amended);
5. The Design-Builder or an affiliate has demonstrated willful wrongdoing reflecting a lack of integrity in bidding or performing public projects;
6. The Design-Builder, member of a joint venture, stockholder of 5 percent or more of the Contract, an affiliate, or any immediate relatives of the aforementioned has been debarred, or affiliated with another debarred person or contractors, by the Federal Government or by another state government;

7. The UDOT Deputy Director has reasonable grounds to believe or finds that the Design-Builder has acted in collusion with others to perform work on a project that supposedly satisfies DBE goals or requirements through other than *bona fide* disadvantaged business entities in any combination of individuals, firms, or corporations;
8. The Design-Builder or an affiliate has defaulted under previous Contracts;
9. The Design-Builder or an affiliate has had unsatisfactory performance on previous work or current Contract(s) consisting of, but not limited to:
   a. Noncompliance with Contract
   b. Failure to complete work on time
   c. Instances of substantial corrective work before acceptance
   d. Instances of completed work that requires acceptance at reduced pay
   e. Production of nonspecification work or materials, and when applicable, required price reductions or corrective work
   f. Failure to provide adequate safety measures and appropriate traffic control that endangered the safety of the work force and/or public
10. The Design-Builder or an affiliate has questionable moral integrity as determined by the Department, the Attorney General of Utah, or the Attorney General of the United States;
11. Failure to reimburse the State for monies owed on any previously awarded contract, including those where the prospective bidder is a party to a joint venture and the joint venture has failed to reimburse the State for monies owed; or
12. The UDOT Deputy Director has reasonable grounds to believe or finds that public health, welfare, or safety imperatively requires such action.

B. The Department also reserves the right to declare a debarred Design-Builder in default on any existing Contracts for adequate cause as provided in such Contracts.

2.3.1.14.1 Status Pending Debarment

A. A Design-Builder notified of proposed debarment as provided above is not permitted to contract with the Department nor act as a subcontractor unless a request for either an information or formal hearing is pending.

B. The proposed debarment period does not commence until the Department decision has been issued following the said hearing or hearings.

C. Debarment in no way affects the obligation of a Design-Builder to the Department to perform under existing contracts.

2.3.1.14.2 Length of Debarment

A. Debarment is for a term of not less than six (6) months and up to three (3) years, as determined by the UDOT Deputy Director.

B. The Department may adjust the period of debarment for mitigating circumstances including but not limited to:

1. Degree of culpability;
2. Restitution of damages to the State;
3. Cooperation in the investigation of other bidding crimes;

4. Disassociation with those involved in bidding crimes;
5. Protection of the State that may be required; or
6. If such action would have unintended adverse consequences on competition.

2.3.1.14.3 Debarment Procedures

A. The procedure described in this Section, paragraph "Debarment" applies if it is found that a Design-Builder or an affiliate thereof is violating the prohibited activities.

B. The Engineer for Construction notifies the Design-Builder in writing and by certified mail of the Department's intention to debar. Written notice specifies:

1. The grounds for such intended debarment
2. The date debarment becomes effective and the intended period of debarment
3. The procedure to follow if the Design-Builder desires to challenge the debarment or to offer information to the Department in mitigation of its alleged actions

C. Within 15 calendar days of receiving-the notice of intended debarment, the Design-Builder may request either:

1. An informal hearing before the Engineer for Construction, or
2. A formal hearing before the UDOT Deputy Director.

D. The Design-Builder who elects an informal hearing has the opportunity to schedule the hearing for a mutually agreed-upon time and location.

1. Design-Builder may supply information in support of its position.
2. The Design-Builder has the opportunity to review the Department's evidence, to present evidence, and to discuss matters informally.
3. No legal counsel is permitted for either party at an informal hearing.

E. The UDOT Deputy Director or designee conducts a formal hearing with assistance from the State Attorney General's Office. The Design-Builder who appears may be represented by counsel and has the opportunity to review the Department's evidence and to present evidence in rebuttal either by sworn affidavit or by sworn testimony.

F. No later than 30 calendar days following either a formal or informal hearing, the Department representative conducting the hearing issues a written decision.

G. If the Design-Builder wishes to appeal the decision of the Engineer for Construction, the Design-Builder files notice in writing with the UDOT Deputy Director within 20 calendar days after receiving the decision from the Engineer for Construction.

H. The Deputy Director then schedules a formal hearing as specified above. The decision of the UDOT Deputy Director following a formal hearing is administratively final and specifies the facts justifying the Department's actions and conclusion.

2.3.1.15 Escrowed Proposal Documents

A. Procedure:

1. On the Proposal Due Date, the Design-Builder shall deliver to the Escrowed Documents Holder specified on the form "Escrowed Proposal Documents Agreement" in Appendix P, one copy of all documentary information used in preparation of its Proposal for the Project (the Escrowed Proposal Documents or EPD) but excluding documents relating to other projects which may have been referenced by the Design-Builder in determining the Proposal Price. Concurrently with execution of this Contract, the EPD shall be transferred to a locked fireproof cabinet in the Department's offices, supplied by the Design-Builder, with the key held by the Design-Builder.
2. Notwithstanding the foregoing, at the Design-Builder's option and sole expense, the EPD may remain with the depository named above or another depository reasonably acceptable to the Department located in the County, pursuant to instructions incorporating the provisions of this Section.
3. The EPD will be held in such cabinet or otherwise maintained until all of the following have occurred:
   a. 180 days have elapsed after expiration or earlier termination of the Warranty period, as it may be extended in accordance with the contract.
   b. All disputes regarding this Contract have been settled, and
   c. Final payment on this Contract has been made by the Department and accepted by the Design-Builder.

B. Review:

1. The EPD shall be available during business hours for joint review by the Design-Builder and the Department, in connection with review of the Baseline Schedule and Monthly Updates, approval of changes in the Project Schedule, negotiations of price adjustments and Change Orders, in the resolution of disputes and as described in this Section 2.3 (Instruction to Proposers).
2. The Department shall be entitled to review all or any part of the EPD in order to satisfy itself regarding the applicability of the individual documents to the matter at issue.
3. The Department shall be entitled to make and retain copies of such documents as it deems appropriate in connection with any such matters, provided that the Department has executed and delivered to the Design-Builder a confidentiality agreement specifying that:
   a. All proprietary information contained in such documents will be kept confidential;
   b. Copies of such documents will not be distributed to any third parties other than the Department's agents, attorneys and experts, the Dispute Resolution Board, and other dispute resolvers hereunder; and
   c. All copies of such documents other than those delivered to dispute resolvers will be either destroyed or returned to the depository, or to the Design-Builder if the EPD have been returned to it, upon final resolution of the negotiations or disputes.

The foregoing shall in no way be deemed a limitation on the Department's

discovery rights with respect to such documents.

C. Not Used

D. Concurrently with approval of each Change Order, if appropriate, one copy of all documentary information used in preparation of the Change Order shall be added to the EPD.

E. The EPD are, and shall always remain, the property of the Design-Builder, subject to the Department's right to review the EPD as provided herein. The Department acknowledges that the Design-Builder considers that the EPD constitute trade secrets or proprietary information. This acknowledgment is based upon the Department's understanding that the information contained in the EPD is not known outside the Design-Builder's business; is known only to a limited extent and by a limited number of employees of the Design-Builder; is safeguarded while in the Design-Builder's possession; and may be valuable to the Design-Builder's business strategies, assumptions, and intended means, methods and techniques. The Department further acknowledges that the Design-Builder expended money in developing the information included in the EPD and that it would be difficult for a competitor to replicate the information contained therein. The Department acknowledges that the EPD and the information contained therein are being provided to the Department only because it is an express prerequisite to Award of this Contract.

F. The Design-Builder represents and warrants that the EPD provided with the Proposal constitute all of the information used in the preparation of its Proposal, and agrees that no other Proposal preparation information will be considered in resolving Disputes. The Design-Builder also agrees that the EPD are not part of the Contract and that nothing in the EPD shall change or modify the Contract.

G. The Design-Builder shall submit the EPD in the format actually used by the Design-Builder in preparing its Proposal. The EPD shall, *inter alia*, clearly itemize the estimated costs of performing the Work required by the Contract Documents as follows:

1. All Work shall be separated into sub-items as required to present a complete and detailed estimate of all costs.
2. Crews, equipment, quantities, and rates of production shall be detailed.
3. Estimates of costs shall be further divided into the Design-Builder's usual cost categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials, and Subcontract costs as appropriate.
3. Plant and equipment and indirect costs shall also be detailed in the Design-Builder's usual format.
4. The Design-Builder's allocation of plant and equipment, indirect costs, contingencies, markup, and other items to each direct cost item shall be clearly identified.
6. The EPD shall include all assumptions, quantity takeoffs, rates of production, Design-Builder internal equipment rental rates and progress calculations, quotes from Subcontractors (including Suppliers), memoranda, narratives, and all other information used by the Design-Builder to arrive at the Proposal Price or Change Order price, as applicable.

H. The Design-Builder represents and warrants that the EPD related to the Proposal have been personally examined prior to delivery to escrow by an authorized officer of the Design-Builder and that they meet the requirements of this Section 2.3 (Instruction to Proposers) and are adequate to enable a complete understanding and interpretation of how the Design-Builder arrived at its Proposal Price. The Design-Builder further represents, warrants, and covenants that the EPD related to each Change Order will be personally examined prior to delivery to escrow by an authorized officer of the Design-Builder and that they meet the requirements of this Section 2.3 (Instruction to Proposers) and will be adequate to enable a complete understanding and interpretation of how the Design-Builder arrived at its Change Order price.

I. Within 14 calendar days after the Initial Notice to Proceed, representatives of the Department and the Design-Builder shall: review the EPD to determine whether it is complete, and shall organize the EPD and label each page so that it is obvious that the page is a part of the EPD and so as to enable a person reviewing the page to determine where it can be found within the EPD. The representatives shall also compile an index listing each document included in the EPD and briefly describing the document and its location in the EPD. The Department shall have the right to retain a copy of the index. In the event that, following the initial organization, the Department determines that the EPD is incomplete, the Department may request the Design-Builder to supply data to make the EPD complete. The Design-Builder shall provide all such data within five (5) calendar days of the request, and at that time the data will be date stamped, labeled to identify it as supplementary EPD information, and added to the EPD. The Design-Builder shall have no right to add documents to the EPD except upon the Department's request.

J. The EPD shall at all times be treated as proprietary and confidential information and shall be used only for purposes described in this Section 2.3 (Instruction to Proposers). At the Design-Builder's request, confidentiality agreements shall be executed and delivered to the Design-Builder by the Department's employees or agents who review or have access to the EPD.

K. The Design-Builder shall require the lead engineering/design firm (if distinct from Design-Builder), any engineering/design subconsultant that will perform 20 percent or more of the design work, and each Major Subcontractor to submit to the Design-Builder immediately prior to executing the Subcontract a copy of all documentary information used in preparing its sub-bid or subproposal, to be held by the same escrow depository which is holding the EPD and which shall be accessible by the Design-Builder and its successors and assigns, the Department, and the Dispute Resolution Board and other dispute resolvers, on terms substantially similar to those contained herein.

1. Each such Subcontract shall include a representation and warranty from the Subcontractor stating that its EPD constitute all the documentary information used in preparation of its sub-bid.
2. Each Subcontract with a Subcontractor who is not a Major Subcontractor shall require the Subcontractor to preserve all documentary information used in preparing its sub-bid and to provide such documentation to the Design-Builder and/or the Department in connection with any Claim exceeding $250,000 made by such Subcontractor.

2.3.1.16 Maintenance and Disclosure of Records

A. The following provisions describe the requirements for maintaining, auditing and inspection, Change Order Pricing Data, and Claims Audit of the Project Records.

1. The Design-Builder shall maintain at its project manager's office a complete set of all books, records, and documents prepared or employed by the Design-Builder with respect to the Project.
2. The Design-Builder shall grant to the Department such audit and inspection rights and allow the Department such access to (at reasonable times) and the right to copy such books and records (at no expense to the Design-Builder) as the Department may request in connection with the issuance of Change Orders, the resolution of disputes, and such other matters as the Department reasonably deems necessary for purposes of verifying compliance with this Contract and applicable law.
3. Where the payment method for any Work is on a time and materials basis, such examination and audit rights shall include all books, records, documents, and other evidence, and accounting principles and practices sufficient to reflect properly all direct and indirect costs of whatever nature Claimed to have been incurred, and anticipated to be incurred, for the performance of such Work. If an audit indicates that the Design-Builder has been over-credited under a previous progress report or progress payment, the over-credit will be credited against current progress reports or payments.
4. For cost and pricing data submitted in connection with pricing Change Orders, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, the Department and its representatives have the right to examine all books, records, documents, and other data of the Design-Builder related to the negotiation of or performance of Work under such Change Orders for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data submitted. The right of examination shall extend to all documents deemed necessary by such Persons to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.
5. All Claims filed against the Department shall be subject to audit at any time following the filing of the Claim. The audit may be performed by employees of the Department or by an auditor under contract with the Department. No notice is required before commencing any audit before 60 days after FOA. Thereafter, the Department shall provide 20 days' notice to the Design-Builder, any Subcontractors, or its respective agents before commencing an audit. The Design-Builder, Subcontractors, or agents shall provide adequate facilities, acceptable to the Department, for the audit during normal business hours. The Design-Builder, Subcontractors, and agents shall cooperate with the auditor. Failure of the Design-Builder, Subcontractors, or agents to maintain and retain sufficient records to allow the auditors to verify all or a portion of the Claim or to permit the auditor access to the books and records of the Design-Builder, Subcontractors, or agents shall constitute a waiver of the Claim and shall bar any recovery there under. At a minimum, the auditors shall have

available to them the following documents:

a. Daily time sheets and supervisor's daily reports;
b. Union agreements;
c. Insurance, welfare, and benefits records;
d. Payroll registers;
e. Earnings records;
f. Payroll tax forms;
g. Material invoices and requisitions;
h. Material cost distribution worksheet;
i. Equipment records (list of company equipment, rates, etc.)
j. Vendor's, rental agencies', Subcontractor's, and agent's invoices;
k. Subcontractors' and agents' payment certificates;
l. Canceled checks (payroll and vendors);
m. Job cost report;
n. Job payroll ledger;
o. General ledger;
p. Cash disbursements journal;
q. All documents that relate to each and every Claim, together with all documents that support the amount of damages as to each Claim;
r. Work sheets used to prepare the Claim establishing the cost components for items of the Claim, including labor, benefits and insurance, materials, equipment, Subcontractors, all documents that establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals.

6. Full compliance by the Design-Builder with the provisions of this Section is a contractual condition precedent to the Design-Builder's right to seek judicial relief.

B. The Design-Builder shall maintain all records and documents relating to this Contract, including copies of all original documents delivered to the Department, until five (5) years after the date FOA is achieved or the termination date (if prior to FOA), as applicable.

1. If approved by the Department, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents. The Design-Builder shall notify the Department where such records and documents are kept.
2. Notwithstanding the foregoing, all records which relate to Claims being processed or actions brought under the dispute resolution provisions hereof shall be retained and made available until such actions and Claims have been finally resolved. Records to be retained include all books and other evidence bearing on the Design-Builder's costs and expenses under the Contract Documents. The Design-Builder shall make these records and documents available to the Department for audit and inspection, at the Design-Builder's office, at all reasonable times, without charge, and shall allow such Persons to make copies of such documents (at no expense to the Design-Builder).

C. The following describes the applicability of the Utah Public Records Act, labeling material as confidential, and disclosure requests.

1. The Design-Builder acknowledges and agrees that all records, documents, drawings, plans, specifications, and other materials in the Department's possession, including materials submitted by the Design-Builder, are subject to the provisions of the Utah Government Records Access and Management Act (Utah Code Sections 63-2-101 *et seq*.). The Design-Builder shall be solely responsible for all determinations made by it under the Act and for clearly and prominently marking each and every page or sheet of its materials with "Trade Secret" or "Confidential" as it determines to be appropriate. The Design-Builder is advised to consult legal counsel concerning the Act and its application to the Design-Builder.
2. If any of the materials submitted by the Design-Builder to the Department are clearly and prominently labeled "Trade Secret" or "Confidential" by the Design-Builder, the Department will endeavor to advise the Design-Builder of any request for the disclosure of such materials prior to making any such disclosure. Under no circumstances, however, will the Department be responsible or liable to the Design-Builder or any other Person for the disclosure of any such labeled materials, whether the disclosure is required by law or court order or occurs through inadvertence, mistake, or negligence on the part of the Department, except for any disclosure of trade secrets or proprietary information in violation of the confidentiality agreement described in this Section 2.3.
3. In the event of litigation concerning the disclosure of any material submitted by the Design-Builder to the Department, the Department's sole involvement will be as a stakeholder retaining the material until otherwise ordered by a court and the Design-Builder shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole expense and risk.

2.3.2 PROPOSAL EVALUATION AND SELECTION PROCESS

2.3.2.1 Confidentiality of Proposer Information

The Department will take measures to protect the confidentiality of all submitted Proposals during the entire evaluation and selection process. All deliberations of the Department will be held in confidence, and all information provided by the Proposers or generated by the evaluation will be safeguarded.

Up to Contract award, no information contained in the Proposals will be made available to the public, or to anyone in the Department not having a need to know. During the evaluation and selection process, only the Region Director may approve the release of any information. However, after award of the Contract, the successful Proposal and final Contract terms will become public information.

2.3.2.1.1 Release of Information

The table below describes when and to whom information provided in Proposals will be released to other teams and the public.

ITEM	Belonging to:	Release to	When released
Price proposal document	Winning Team	Public	Contract award
Price proposal document	Non-winning teams paid stipend	Public	Contract award
Price proposal document	Non-winning teams not paid stipend	No one	Never
Price proposal Score	All Teams	Public	Contract award

Technical proposal document	Winning Team	Public	Contract award
Technical proposal document	Non-winning teams paid stipend	Public	Contract award
Technical proposal document	Non-winning teams not paid stipend	No one	Never
Technical proposal scores	All Teams	Public	Award
Rater names	N/A	No one	Never
Rater positions (i.e., RE, PM, Etc.)	N/A	No one	Never
Combined Price & Tech Score	Winning Team & Team A	POC for Team A	Award
Scores	Only Team A	POC for Team A	Upon request
Scores - high, low, average	All teams	POC for any Team	After publishing shortlist
Scoring comments	Team A	POC for Team A	Upon request
Scoring comments	All teams	No one	
Shortlist - Teams on	Teams submitting SOQ's	Public	Shortlist is Finalized
Shortlist - Teams not on		Teams not on shortlist	Shortlist is Finalized

2.3.2.2 Notification of Selection:

Notification of the successful Proposer and the unsuccessful Proposer(s) will be accomplished by either the Department's Region Director or a specifically designated representative. Debriefings of unsuccessful Proposers will be held upon written request only, and the discussion will be confined to the Proposer's Proposal.

2.3.2.3 RFP Review by Proposers.

Each Proposer is responsible for reviewing the RFP Documents and any Addenda, and for requesting clarification or interpretation of any material discrepancy, deficiency, ambiguity, error, or omission contained therein, or of any provision that the Proposer otherwise fails to understand. Any such request must be in writing, and may be submitted at any time up to the deadline for clarification requests, as shown on the Cover Page of the RFP. The request shall be addressed and delivered as specified in Section 2.3.2.15 (Delivery Address for Proposals).

2.3.2.4 RFP Communications.

Telephone, facsimile, and e-mail communications will not be accepted as official communication. If the Department determines, in its sole and absolute discretion, that a change in the RFP Documents is necessary, the Department will prepare an Addendum and issue it to all Proposers. The Department will not be bound by, and the Proposer shall not rely on, any oral communication regarding the RFP Documents; the Proposer shall rely only on written communications from the Department. If the Proposer receives information about the Project from any agency or entity other than the Department during the procurement phase, the Proposer shall be responsible for verifying any such information with the Department before relying upon it.

2.3.2.5 Changes Recommended by Proposer.

The Proposer may submit recommendations for changes in required Contract provisions or RFP document requirements at any time up until the Requests for Clarifications Due date specified in the Procurement Schedule on the title page of the RFP. The Proposer shall fully explain the recommended change and its benefits to the Department.

2.3.2.6 Clarifications.

The Department will send Clarification Notices to all Proposers, listing questions received from Proposers and the answers given by the Department. The clarifications will not become an RFP requirement unless incorporated into the Contract by addenda. Any clarification information that will modify the Contract will be published as an Addendum to the RFP.

2.3.2.7 RFP Addenda

The Department reserves the right to revise the RFP Documents at any time up to fourteen calendar days before the Proposal Due Date. Such revisions, if any, will be announced by an Addendum to the RFP or a Supplement to an Addendum. Copies of Addenda will be furnished to all Proposers at no cost.

If any Addendum significantly changes this RFP, as determined in the Department's sole and absolute discretion, a new Proposal Due Date may be set. The announcement of such new date will be included in the Addendum.

2.3.2.8 Acknowledgment:

Each Proposer shall acknowledge receipt of all Clarification Notices, Addenda, and Supplements to Addenda. If a Proposer fails to acknowledge receipt of any of these items, the Department may deem the Proposal nonresponsive and reject it.

2.3.2.9 Vacant

2.3.2.10 Vacant

2.3.2.11 Discussions with Proposers Relating to Proposals

2.3.2.11.1 Purpose of Discussions

During the procurement process, the Department will enter into discussions with Proposers regarding the Proposals to:

- Discuss a Proposer's requested clarifications concerning the technical concepts and any other terms of the RFP.
- Resolve confusion or correct any suspected errors in the RFP by identifying them as specifically as possible, without disclosing any information concerning competing Proposals or the Department's ongoing evaluation process.

2.3.2.11.2 Discussion Guidelines

Apply the following specific procedures to all discussions with Proposers relating to the Proposals:

- Discussions may be written and/or oral.
- Discussions relating to Price Proposals (if necessary) will be conducted separately from Technical Proposal discussions.

The Department will not indicate to any Proposer that a certain price must be met to obtain further consideration. However, the Department has a fixed budget for the Project; and consequently may revise the scope and request a second (best-and-final-offer) Proposal.

The Department will not indicate to any Proposer the evaluation status of any other Proposal.

During discussions, the following activities will be specifically prohibited:

- Technical leveling
- Technical transfusion
- Auctioning for better prices

Any discussions under this Section are in addition to, and are not a substitute for, the Questions and Answers and Addenda procedures set forth below.

2.3.2.12 Department Right to Request Best and Final Offers (BAFO)

The Department does not expect at this time that best and final offers will be requested. However, the Department reserves the right to do so if it is deemed to be in the best interest of the State.

2.3.2.13 Stipulated Proposal and Project Cancellation Fees

Each unsuccessful responsive Proposer that receives a technical evaluation score of 700 or more will be paid a stipulated proposal fee of $150,000 within 60 days of award of the Contract. If no Contract award is made, each responsive Proposer receiving a technical evaluation score of 700 or more will be paid the $150,000 stipend. If, during the preparation of the Proposals, the project is withdrawn or the Department requests that the Proposers cease preparing the Proposals, each Proposer will be compensated on a pro-rated basis to a maximum of $150,000, beginning at the issuance of the RFP.

If a Proposer is determined to be nonresponsive and the Department decides that there are technical concepts that it wants to use on the project, it can use the concepts if they pay a stipend to the nonresponsive Proposer and the nonresponsive Proposer accepts the stipend.

If only one Responsive Proposal is received by the Department, and the one Responsive Proposal is excessive in cost, and the Department elects not to award a contract, the stipend will not be awarded.

No Proposer shall be entitled to reimbursement of any of its costs in connection with this RFP, except as specified in this Section.

By accepting the stipend, each unsuccessful Proposer agrees not to contest the Department's award of the Contract; a Proposer that contests the award will not be eligible to receive the stipend.

In consideration for its agreement to pay said stipend, the Department reserves the right to use any ideas or information contained in the unsuccessful Proposal in connection with any contract awarded for the Project, or in connection with a subsequent procurement, without any obligation to pay any additional compensation to the Proposer.

If a Proposer that is eligible to receive the stipend elects to waive the stipend, the Department will not use any of the ideas or information contained in that Proposer's Proposal. Upon the request of the Department, a Proposer that waived a stipend may withdraw the waiver, in which case the Department will pay the stipend to the Proposer and thereafter may use ideas and information in the Proposer's Proposal.

2.3.2.14 Procurement Schedule

The Title Page gives the deadlines for each procurement milestone. All submittal deadlines are 5:00 P.M., Mountain Daylight Savings Time, unless otherwise specified. This schedule is subject to revision by the Department via issuance of Addenda to this RFP.

The Department may request final proposals to clarify fatal flaws with the Technical Proposals and adjust scope, if necessary.

2.3.2.15 Delivery Address for Proposals

All Proposals, and other communications, as well as any forms, requests for clarification, or any other related information, must be addressed and submitted to the Department as follows:

Lisa Wilson
Utah Department of Transportation
2010 South 2760 West
Salt Lake City, UT 84104
Fax Number 801-887-8770

2.3.3 PROPOSAL FORMAT

2.3.3.1 General

Package Labeling: Submit Proposal components clearly labeled in sealed containers as a Technical Proposal, a Price Proposal, a Technical Proposal Amendment, or a Price Proposal Amendment for Project No. SP-0201(5)13. Failure to use a sealed container or to properly identify the Proposal may result in an inadvertent opening of the Proposal before the specified time. The Proposer shall be entirely responsible for any such consequences, including disqualification of the Proposal.
Submittal Place and Date: Submit the Proposal to the person and address specified in Section 2.3.2.15 and by the time and date specified on the Title Page of the RFP. It is the Proposer's sole responsibility to see that its Proposal is received as specified. Proposals received after the deadline will be rejected without consideration or evaluation and returned to the Proposer, unless there are extenuating circumstances acceptable to the Department.
Full and Complete Response: Provide all information requested in this RFP for both the Technical and Price Proposals. Failure to provide requested information may result in the Department, at its sole discretion, determining that a Proposal is nonresponsive.

2.3.3.2 Format and Presentation

Quantity. 20 copies of the Proposal shall be submitted.
Language. All information shall be in English.
Medium. The Proposal shall be printed in hard-copy form, except as follows: the CPM cost-loaded schedule shall be in hard copy and electronic format.
Type Font. All narrative text shall be a regular Times Roman style, a minimum of eleven points in size, and single-spaced. All table text shall be in a sans serif font (such as Arial or Arial Narrow), a minimum of ten points in size. The type style and size of headings and figures are not prescribed.
Pages. Pages shall be 8-1/2-by-11-inch or 11 x 17 inch paper.
Page Margins. No text, tables, figures, or other substantive content generated by the Proposer may be printed within 0.5 inch of any page edge.
Page Numbering. Every page shall be numbered consecutively, 1, 2, 3, , ... 23, 24, 25, ... The first piece of paper inside the binder shall be page one. Dividers shall get page numbered. Do not restart numbering within each section, i.e., DO NOT use 1-1, 1-2...; 2-1, 2-2...; etc..
Dividers. Section and appendix dividers shall contain only the section number or appendix letter, plus title, and no other text or graphic design.
Binding. The entire Technical Proposal, excluding 11X17 plan sheets, shall be bound in one three inch or smaller three-ring binder. The unfolded 11X17 plan sheets shall be bound in a

separate binder. The contents of each binder shall be clearly identified on the front cover and spine by Proposer name, Project Number and Name, and Volume.

Color and Reproducibility. All Proposal text and materials, excluding cover and spine, developed in response to this RFP shall be printed in black-and-white to avoid the extra cost of color reproduction, and shall be easily reproducible by an office copier.

Presentation of Contents. Proposers shall present information clearly and concisely. Where appropriate, bulleted lists, tables, and graphic figures are much preferred to extensive and wordy narrative text. Documentation that is difficult to read and understand or is poorly organized may be rejected and may lead to disqualification of the Proposal.

Proposal Commitments: Language in the proposal that is of a nature other than of a solid commitment by the Design-Builder, such as use of the phrases "We will consider...", or "We might...", or "We are investigating the possibility of..." will be considered by the Review Team to be a non-commitment, and as such will be given little or no weight in the evaluation scoring.

2.3.4 PROPOSAL CONTENTS

General Content: As used in this procurement, the term "Proposal" includes the Proposer's complete response to this RFP (with the properly completed Proposal forms and all required supporting documentation) and may, depending on the context, refer to either the Technical Proposal or the Price Proposal, or both. To assist the Proposer in preparing its Proposal, the required contents are summarized below. Each item in the Proposal shall be clearly titled and identified, as well as identified in a table of contents.

The Proposal shall be made up of two parts: the Technical Proposal as described in 2.3.4.1 through 2.3.4.4, and the Price Proposal as described in 2.3.4.5

All forms to be submitted in the Proposal are in Appendix P (Proposal Forms).

Provide in the Technical Proposal all the information called for in this section of the RFP. Prepare the various parts of the Technical Proposals, guided not only by this RFP section but also by the specific technical scope, guideline requirements, and criteria requirements set forth in Chapter 3 (Work Requirements), so that the Proposer demonstrates a complete understanding of all the issues that are of special interest to the Department. Technical proposals not including all information requested or as specified below may be deemed non-responsive. Organize the Technical Proposal into five sections: (1) General, (2) What Will Be Built, (3) How It Will Be Built, (4) Customer Impacts During Construction, and (5) Alternate Technical Proposals, as described below.

Regardless of the content of the Technical Proposal, the successful Proposer shall remain responsible for ensuring that the Project meets the performance requirements of the RFP Documents. Acceptance of a Proposal will not constitute waiver of any mandatory requirement.

2.3.4.1 Technical Proposal - Part 1 - General

Include the following in Part 1 of the Technical Proposal.

2.3.4.1.1 Acknowledgements

A. Furnish a statement guaranteeing that the Design-Builder has evaluated the feasibility of performing the Work within the time specified herein and for the Contract Price, and has reasonable grounds for believing and does believe that such performance (including achievement of Full Integration and FOA of the

Project by the applicable Completion Deadline, for the Contract Price) is feasible and practicable.

B. Furnish a statement guaranteeing that the Design-Builder has, prior to submitting its Proposal, in accordance with generally accepted engineering and construction practices, reviewed the reports provided by the Department, inspected and examined the Site and surrounding locations, and undertaken other appropriate activities sufficient to familiarize itself with surface conditions and subsurface conditions that are discernible from the surface and affect the Project, to the extent the Design-Builder deemed necessary or advisable for submittal of a Proposal. As a result of such review, inspection, examination, and other activities, the Design-Builder is familiar with and accepts the physical requirements of the Work. Before commencing any Work on a particular aspect of the Project, the Design-Builder shall verify all governing dimensions and conditions at the Site and shall examine all adjoining work that may have an impact on such Work. The Design-Builder shall be responsible for ensuring that the Design Documents and Construction Documents accurately depict all governing and adjoining dimensions and conditions.

2.3.4.1.2 Proposal Guaranty

Include with the Proposal the Proposal Guaranty as described in Section 2.3.1.9.

2.3.4.1.3 Executive Summary

Five-Page Summary: Submit with the Technical Proposal an Executive Summary. Write the Executive Summary in a nontechnical style with sufficient information to familiarize any nontechnical reviewers with the Proposer's Project approach and its ability to satisfy the financial and technical requirements of the Project. Limit the Executive Summary to five pages of text, with any selected photographs and other graphic or illustrative images included in the five pages.
Specific Contents. At a minimum, include in the Executive Summary the following:

- A description of the major components of the Project
- A summary of the Proposer’s work plan and schedule
- A summary of the Proposer’s technical concepts for the Project
- An updated summary from the SOQ of the Proposer's team, identifying all Major Participants and describing the role of each in the Project, including a discussion of the proposed subcontracting plan
- The Proposer’s approach to provide the highest-quality end product

2.3.4.1.4 Legal and Financial Information

2.3.4.1.4.1 Legal Information

Organizational Documents. Provide true, correct and complete copies of the Proposer’s and Guarantor’s organizational documents. If the Proposer provided copies of any such documents in its SOQ, simply reference the SOQ. In such event, include a statement that such documents remain in full force and effect and have not been modified, which statement shall be signed by the Proposer.

2.3.4.1.4.2 Surety Commitments

Include letter(s) of commitment from surety (ies) meeting the requirements to provide the performance bond, payment bond, and warranty bond, as required in Section 2.4.7, "Contract Bonds".

2.3.4.2 Technical Proposal - Part 2 - What Will Be Built

Organize Part 2 of the technical section into the following major sections and provide the information indicated herein.

2.3.4.2.1 Roadway

Submit a Preliminary Roadway Plan, including SR-201 mainline, collector ramp, Redwood Road (SPUI layout, ramps, Redwood Road), Bangerter Highway (structure, ramps, and frontage road widening), 3200 West (ramps and frontage road relocations). Submit the following to support all proposed designs:

- Roadway plans and profiles showing the proposed design (at a scale of 1"=100' or larger, i.e. 1"=50') and the limits of construction
- A description of the proposed changes from the Conceptual Plan (Appendix J) and/or the Environmental Assessment (Appendix E). Describe the comparative advantages and disadvantages of each, including effects on safety, traffic operations, desired appearance, maintenance operations, and compliance with the Project design criteria
- A brief analysis of each proposed change, indicating benefits and/or savings
- A statement detailing the effect the proposed change(s) will have on construction staging, maintenance of traffic, and the overall schedule for completing the Project

The Department will not consider any change that would require a change in the specifications in the Contract Documents, or excessive time or costs for review, evaluation, or investigation. The Department will not accept any change unless it results in increased benefits or savings to the Department.

2.3.4.2.2 Geotechnical Design

Submit a Geotechnical Design Plan that addresses the following issues, to establish the Design-Builder's intended approach in meting the geotechnical design and construction requirements (see Section 3.3), and to demonstrate understanding of their relevance to the construction of the Project:

- *Embankment Settlements*- Describe methods of analyses to predict total, differential and secondary settlements; mitigation measures (including acceleration methods) together with any special criteria employed to meet or exceed RFP requirements; and monitoring program.
- *Retaining Walls*- Provide intended wall types (including conditions where systems other than MSE walls may be considered), approach to address foundation preparation and stabilization, range of estimated settlements, threshold of estimated settlement where 2-stage MSE walls will be used, seismic design approach, reinforcement corrosion protection measures (where appropriate), and proposed aesthetic treatments of all walls.
- *Bridge Foundations*- Describe methods of analyses to determine capacities of foundation systems including lateral and uplift capacity under seismic conditions, downdrag, and scour.

- *Liquefaction/Lateral Spreading*- At bridge and wall sites, describe additional subsurface explorations to be performed, methods of analyses, and approach to considering possible mitigation measures.
- *Instrumentation Plan*- Describe overall plan to monitor embankment and wall settlements, stability (including pore pressures), and construction-induced vibrations.
- *Preconstruction Surveys of Adjacent Structures*- Describe approach of conducting surveys prior to, during and following construction activities to assess potential effect from construction-induced settlement and vibrations.
- *Protection of Existing Utilities*- Describe approach
- *Ground Dewatering*- Describe approach and extent (including depth) of dewatering measures for foundation construction, embankment construction, and excavations.

2.3.4.2.3 Structures

2.3.4.2.3.1 General

Include the following in the Structures technical proposal:

- Describe all structure types proposed for the project. Include a maximum one-page description of structure type, materials, seismic strategy, and service life considerations for each proposed structure type.
- Describe how the proposed bridge types, materials and details meet project requirements for durability, maintenance, corrosion resistance, deck replaceability, seismic performance, etc. to achieve the 75-year service life.
- Identify the design codes, guide specifications, design manuals and method(s) of analysis proposed for each structure type.
- Describe the seismic strategy for each structure type.
- Describe any creative or innovative ways in which the design, construction, and/or choice of structure type will benefit and/or enhance the time, quality, and cost aspects of the Project.
- List assumptions used in development of the structures technical proposal.
- Indicate how aesthetic considerations will be incorporated into structural types.
- Describe the strategy for widening Structure F-522, Bangerter Highway over SR-201.
- Identify the proposed structure type for each structure on the project.
- Identify project elements that exceed project requirements.

2.3.4.2.3.2 Life Cycle Cost Analysis

Provide a 75-year life cycle cost analysis for each proposed structure type.

- Clearly state and justify (using historical data) the assumptions used in determining life-cycle costs.
- Include construction costs, and costs for scheduled maintenance and repair. Do not include routine maintenance costs (sweeping, cleaning, graffiti removal, etc.) or demolition and salvage costs at the end of the 75 years.
- Include in maintenance and repair costs material and labor plus an additional 12 percent for traffic control if required for the Work. Include costs for steel painting, concrete staining (if proposed), decks, overlays, joints, bearings, drainage systems, and any additional costs associated with the proposed structure types.
- Use a four-percent discount rate and user costs of $9.00 per vehicle-hour of delay at Year One. Use the net present worth method to develop a present total bridge cost.
- Summarize results.

2.3.4.2.3.3 Concept Plans

Provide concept plans for all structure crossings with spans greater than 20 feet.

- Include a plan view of the Project that identifies the location and type of all major structures.
- Provide a concept plan for each bridge and structure crossing with a span greater than 20 feet. Include in each concept plan a Plan, Elevation, and appropriate typical sections.
- Description of conceptual solutions for complex structural problems identified by the Proposer.

2.3.4.2.3.4 Alternate Bridge Types Not Traditionally Used by the Department

Identify bridge types proposed for the project other than those specified in Section 3.4.3.4.2. The Department reserves the right to accept or reject proposed alternate bridge types. In addition to the bridge concept plans, provide the following:

- Justification for using the proposed alternate bridge type using no more than one page per bridge type. (See Section 3.4.3.4.2.)
- List the transportation agencies that have used the proposed bridge type(s) (including the actual projects and references for each).
- Describe the structure seismic strategy.
- Describe deck replacement feasibility, scope, strategies and processes.

2.3.4.2.3.5 Retaining Walls

Provide the following for each wall proposed for the project.

- Location
- Type (for non-cast-in place walls, identify the name of the system and proprietary name
- Describe the rationale for wall type selection.
- Describe any proposed wall types not traditionally used by the Department. (See Section 3.3.3.2.1) List the transportation agencies that have used the proposed wall type(s) (including the actual projects and references).
- Describe methods of accommodating settlement.
- Describe the foundation for each wall type.
- Describe proposed aesthetic treatments of all walls.

2.3.4.2.3.6 Sound Walls

Provide the following:

- Identify and describe the wall types proposed for the project.
- Describe the proposed aesthetic treatment of all sound walls.

2.3.4.2.4 Drainage

2.3.4.2.4.1 Drainage Concept Plan

Submit a drainage concept plan that includes the methods of addressing the following issues:

- Water quality and treatment requirements associated with roadway drainage.
- Other environmental constraints identified by UDOT, the Design-Builder, permitting agencies and environmental documentation.

- Requirements and restrictions placed on drainage system by the Department, stakeholders and impacted agencies including, in part, discharge flow restrictions and detention time requirements.
- Groundwater and surface water discharge restrictions during construction.
- Pipe material and types

Emphasis in the drainage concept plan should be placed on procedures, assumptions, data sources and software that the design-builder will use for this project.

2.3.4.2.4.2 Stormwater Management Facilities

Describe how the design and construction of the new facilities will satisfy the requirements of the Utah State Engineer's Stream Alterations Permit, the Utah Division of Water Quality (UDWQ) Construction Permit for new storm drains, the Utah Pollution Discharge Elimination System (UPDES) Stormwater Permit for Construction and other local, state and federal requirements.

2.3.4.2.4.3 Preliminary Plans

Submit preliminary drainage plans including proposed general locations, approximate pipe lengths, pipe sizes, and pipe materials. Provide an estimated number of catch basins, cleanouts and other appurtenances. Preliminary plans do not need to show the locations of cleanouts or catch basins. Pipe alignments will be subject to utilities investigations after contract award.

2.3.4.2.5 Pavement

2.3.4.2.5.1 Pavement Type(s)

Chapter 3 specifies where asphalt pavement and portland cement concrete pavement are required.

Submit plans to accommodate the following information about the proposed pavement type(s):

- Advantages to the Department of the Design-Builder's pavement design
- Basis for the selection of the pavement design
- Plans to address the performance parameters of ride quality, skid resistance, durability, and structural integrity
- Maintainability of pavements
- Life-cycle cost analysis
- Describe proposed methods to handle surface and subsurface drainage effects on the pavement section. The Proposal evaluation will be based on the responses to meet the criteria in Section 3.5 (Drainage) regarding providing a well-drained corridor, and safety.

2.3.4.2.5.2 Other Pavement Information

Submit proposed methods to mitigate corrosion of load transfer devices during the design life of the pavements.

2.3.4.2.6 Landscape and Aesthetics

The Proposer shall submit a landscape and aesthetics approach and conceptual plan that addresses the requirements set forth in Section 3.12 (Landscape and Aesthetics). The proposer shall submit illustrative plans, sections, elevations, and sketches as required to communicate the Proposal, including:

- A landscape design plan that contains a master list of all plant materials, by classification, planting size, and source; the location and names of all trees, shrubs, and other plant materials; seeding by type and limits; and mulch limits
- Address the restoration of disturbed vegetation outside the Right of Way
- An irrigation master plan, including water sources, point of connection, lists of proposed equipment and suppliers, mainline pipe sizes, and coverage
- Plans, elevations, and architectural concept sketches of proposed aesthetic treatments of all walls, bridge elements, light and signal poles, and paving
- Light poles and lighting plan.
- Aesthetic design for detention ponds
- Landscape plan for the SR-201 and Redwood Road Interchange as defined in Section 3.12 (Landscape and Aesthetics).

2.3.4.2.7 ATMS

The proposal shall address the following:

- Understanding and extent of ATMS Work
- Approach to accomplishing the ATMS Work
- How disruption to communication with the Traffic Operations Center (TOC) will be minimized.
- A firm commitment on what and how long the disruptions will be.

2.3.4.3 Technical Proposal - Part 3 - How It Will Be Built

2.3.4.3.1 Utilities and Third Parties

Submit an approach and concepts to accommodate Utilities that:

- Describes the impacts of the Utility construction and coordination on the Project Schedule, addressing the construction and protection of all Utilities within and adjacent to the Project
- Addresses how the preconstruction condition of Utilities and the facilities of other third parties that are within the Project area will be documented.
- Describes the interaction of the Design-Builder with each utility or third party and how this interaction will effect the utility agreements as well as the agreement schedules.
- Addresses potential utility relocations and the process for relocation.
- Addresses potential impacts on third parties and mitigation of those impacts
- Identifies a Utility/Third Party Coordinator.

2.3.4.3.2 Right-of-Way and Survey

Submit a Plan that addresses the acquisition of all required right-of-way (ROW), including right-of-way plans, legal instruments and documents, title search, appraisals, acquisition, relocations, coordination of condemnations, and transfer of title to the Department. Include in the plan a ROW acquisition schedule.

Include a draft schedule in an electronic format acceptable to the Department (using Microsoft Excel per the UDOT Draft Right of Way Process and Procedures Manual) for the acquisition and delivery of final ROW to the Department.
Provide a plan and schedule for construction staking and surveying related to Right of Way procurement. Include the following:

- Schedule of the ROW survey work
- Accuracy requirements for each type of survey
- How ROW will be coordinated with the Department
- ROW Plan
- R/W Schedule
- R/W Resource Plan (including required items as listed below):
    - Strength/Experience of the R/W Manager
    - Adequate Resources to complete all Right of Way Engineering as Required
    - Adequate Resources for Appraisals
    - Adequate Resources for Appraisal Reviews
    - Adequate Resources for Acquisitions
    - Adequate Resources for Residential Relocations
    - Adequate Resources for Non-Residential Relocations
    - Adequate Resources to Complete all required Title Work
    - Adequate Resources for Condemnation Prep. Work required.
    - Adequate Resources for Property Management as required .

2.3.4.3.3 Environmental Program

Submit a plan for the environmental protection program in accordance with the requirements and criteria of Section 3.17 (Environmental Commitments) and Standard Specification (DB) 1355 (Environmental Protection) that addresses, at a minimum:

- The Proposer's plan to structure its team to meet the needs of the State in completing the Project with the least overall environmental impact
- Identify key environmental personnel and their qualifications
- Environmental Compliance Manager
- Environmental Monitoring Inspectors
- Cultural Resource Specialist
- Wildlife biologist
- Wetlands specialist
- Hazmat Manager
- Identify responsibilities of key environmental personnel
- Identify reporting methods of key environmental personnel
- Line of authority
- Level of project responsibility
- Whom to report violations to.

Submit a training plan that addresses Project personnel and documentation of their actions to manage:

- The methods for providing training and increasing environmental awareness throughout the team
- The methods for meeting the water quality goals and commitments for the Project
- Methods for training and assuring quality of environmental inspectors

2.3.4.3.4 Quality Program

Describe the relationships among (1) the Design Quality Organization (DQO), the Design-Builder, and the Department, and (2) the Construction Quality Organization (CQO), the Design-Builder, and the Department. Describe the authority of the DQO and CQO to control the quality

of the Work. Describe plans for mobilizing the quality organization to be responsive to the baseline schedule. List the key staff positions, their responsibilities, qualifications, and how they relate to the Design Builder's organization.
List Certification levels (e.g. UDOT TTQP (or WAQTC), UDOT TTQP, ACI, NICET, AWS) and describe how technicians will obtain and retain these certifications. Describe how design and construction activities performed by different firms will be coordinated to ensure consistency and quality.

Submit a Quality Management Plan (QMP) that complies with Section 3.18. Referenced in Section 3.18 is Appendix D, which contains a draft Quality Management Plan with a format acceptable to the Department. Finalize this plan augmenting it and changing it to address the Proposer's approach to Quality Management. As a minimum, address the following:

1. The quality procedures for the Project Work
2. How the Proposer will ensure that:
    - All disciplines, aspects, and elements of the Work will comply with the requirements of the Contract Documents.
    - All materials incorporated into the Work will perform satisfactorily for the purpose intended.
    - Documentation procedures are followed
    - Reports are prepared and distributed
    - Fair and reasonable payment is made and certified
    - Design Reviews with Utilities and Third Parties are coordinated
3. Describe quality checkpoints (QCPs), how they are incorporated into the Work Plan and schedule, and how they will be used to assure quality of the work.

2.3.4.3.5 Management

Provide information substantiating the capability of accomplishing the Work described in this RFP. In the management section, explain the approach to program management and procurement management, as well as the capabilities of providing the personnel, facilities, and equipment to complete the Project.

2.3.4.3.5.1 Management Capabilities

Clearly illustrate the process to successfully:

- Control and coordinate the various team members and other resources.
- Interface with the Department.
- Control the costs and schedules of the Project.
- Comply with federal, State, and local laws and requirements.
- Control the quality of the Project.
- Interface with municipalities, stakeholders, and the public.

Describe the Proposer's organizational structure and management methodology for completing the Work, including all of the items specified below.

2.3.4.3.5.2 Organization Narrative and Charts

Include an updated organization chart indicating the basic structure of the Proposer's organization and the roles and responsibilities of each sub-organization. Include the interrelationships of Project management, design, construction, maintenance, and quality functions, as well as those of the team members, suppliers, and sub-consultants. **Do not replace any person identified in the Statement of Qualifications without the express permission of the Department before submittal of the Proposal.**

2.3.4.3.5.3 Management Controls

Describe the management system and Project control approach to be used throughout the Contract duration (design, construction, and warranty) to control and coordinate the cost and schedule, including the following:

- The system for preparing and updating the schedule and calculating progress performance
- The plan to integrate subcontract activities into the Proposer's scheduling and reporting system
- Approaches to rescheduling the Proposer's own and subcontractors' activities to achieve schedule recovery, and how the Proposer plans to enforce these objectives with its Work force and its subcontractors
- The plan to share updated scheduling and Project control information with the Department

2.3.4.3.5.4 Management of Design Services

Describe the following:

1. A brief plan for furnishing the design Work for the Project, including at least the following items:
    a. The proposed location of the design office(s)
    b. Interface of design personnel with the construction organization
    c. Permits for Utility work
2. The plan for coordination of civil and structural engineering, coordination with Utilities, maintenance of traffic, constructability, and community relations
3. How the design management will capitalize on the unique opportunities of the design-build process
4. The design organization interface with the Department's oversight team
5. The design organization's interface with the DQO
6. The design team's approach to managing design work and design changes through the construction phase
7. Documentation of Design Services

2.3.4.3.5.5 Management of Construction Services

1. Describe the construction management organization and how it interrelates with the other elements of the Project organization, with emphasis on the opportunities to achieve high quality through the design-build process.
2. Provide a brief narrative description of the plan for constructing the Project, including at least a description of those categories of Work that the Proposer anticipates will be performed by the Proposer's own direct labor force and those categories that will be performed by other team members.
3. Describe the Documentation of Construction.
4. Describe coordination procedures with the Department and CQO and how the Proposer will keep the Department and CQO informed of approaching work.
5. Describe the coordination and documentation process between the Design Builder, the Design, the CQO, and the Department.
6. Describe the role the Design-Build Construction Manager has in providing quality to the project.

2.3.4.3.5.6 Environmental Compliance Manager

Describe how the Environmental Compliance Manager will manage and follow the environmental commitments of the Project. Provide a narrative describing the plan to incorporate the following:

- Track, manage, and incorporate into the Project all environmental commitments in the Contract Documents.
- Monitor the Project to ensure compliance with the environmental requirements
- Report violations of governmental rules to the Department within 24 hours.
- Train project staff in environmental awareness.
- Monitor staging and maintenance areas.

2.3.4.3.6 Safety

Submit a Project Safety Plan that meets the requirements of the UDOT Construction Safety and Health Manual; in the plan:

- Address all the Work.
- Describe how the Safety Plan will be implemented and coordinated among the Design-Builder's team, the public, the Department, and Project truck traffic.
- Describe the safety organization and key people, and their authority to cease unsafe operations.

2.3.4.4 Technical Proposal - Part 4 - Customer Impacts During Construction

2.3.4.4.1 Maintenance of Traffic

2.3.4.4.1.1 Traffic Control and Maintenance of Traffic Plan

Refer to Section 3.7.3.4 (Maintenance of Traffic, Limitations) for limitations of operations. Submit a detailed Traffic Control and Maintenance of Traffic Plan that demonstrates how traffic will be maintained on the project. Identify the percentage of time and availability of the traffic engineer specified in Section 3.7.3.2 (Traffic Engineer).

Section 3.7.3.1 (Traffic Through Construction Zones) describes the requirements for maintenance of traffic. Provide the approach to minimizing the impact on the motoring public, both on SR-201 and the arterial streets, including Redwood Road, Bangerter Highway, 3200 West, maintaining traffic for private residences, public facilities, and businesses throughout the corridor, and safely and effectively managing and maintaining traffic control during construction of the SR-201 Roadway Improvements.

2.3.4.4.1.2 Construction Zones

Specify the methods and standards to be used for designing, implementing, and monitoring construction zone traffic control, and discuss construction signing standards and requirements.

2.3.4.4.1.3 Project Schedule

Clearly identify the proposed traffic control concept within the Project Schedule.

2.3.4.4.2 Public Involvement

Provide a layout of the Public Involvement Plan that meets the public Involvement requirements of Section 3.16 (Public Involvement). Describe the approach to positively affect community relations, including impacts on commuter travel, neighborhood traffic impacts, and specific aspects such as fugitive dust, noise impacts, fugitive light, and construction traffic. Describe plans to deal with public Involvement activities in terms of Key Personnel and interaction with

the Department in a team relationship; address all elements of the proposed Public Involvement Plan, as specified in Section 3.16 (Public Involvement). Describe plans to meet the objectives according to the strategies presented as set forth in Section 3.16, (with special emphasis on stakeholder concerns) and/or according to strategies recommended by the Proposer.

2.3.4.4.3 Work Plan and Schedule

2.3.4.4.3.1 Project Coding Structure

Submit a Project Coding Structure (PCS) identifying and describing the Proposer's Work segments, Project phases, and major Project activities. The PCS shall be consistent with the Proposer's organization and approach to management, as well as its approach to technical challenges presented within the project, and shall meet the requirements of Section 2.8 (Prosecution and Progress). Break the activities down sufficiently to show construction sequencing, significant Project interrelationships, and the Proposer's approach to building the project.

2.3.4.4.3.2 Baseline Schedule

Submit a Baseline Schedule that specifies the Work required to complete the Project. The Baseline Schedule elements relating to Utility Work, ROW acquisition, and geotechnical considerations will be factors of the Technical Proposal evaluation. Include in the Baseline Schedule:

- Proposed dates for Substantial Completion, Final Owner Acceptance, and Final Completion.
- Show activities, activity durations, logical relationships between activities for engineering, construction, and maintenance during construction.
- Accommodate all schedule constraints noted in this RFP.
- Provide a narrative description of the proposed Baseline Schedule.

To facilitate the Department's review of the Proposer's proposed Baseline Schedule, use the software specified in Section 2.8 (Prosecution and Progress) for the Work plan and schedule. The Department may deem unresponsive any Proposal that does not specify a Proposal Substantial Completion date.

2.3.4.5 Technical Proposal - Part 5 - Alternate Technical Proposals

The Department is soliciting, as part of the Technical Proposals, Alternate Technical Proposals that fall into either of the following categories:

1. **Options outside of the existing scope of this RFP -** Changes to the existing defined scope of work that provide enhancements and/or cost savings to the project. Teams must provide a detailed description of the work and associated costs, and a detailed explanation as to how each concept benefits the project.

2. **Enhancements to future phases**: Items of work that, if added to the contract, improve and enhance future phases to be constructed. Teams must provide a detailed description of the work and associated costs, and a detailed explanation as to how each concept benefits the project.

Cost - Do not include the price of the Alternate Technical Proposals in the Proposal price. Clearly identify the cost effect that each Alternate Technical Proposal has on the overall cost of

the project to the Department. Alternate Technical Proposals and their associated prices should not be included or mentioned any place in the Propopsal other than in this "Part 5" of the Proposal. It is mutually agreed that the price associated with each Alternate Technical Proposal is binding on the Design-Builder if the Department elects to implement a offer

Submit Part 5 of the Technical Proposal in a sealed envelope or box clearly labeled with the Team name and "Technical Proposal Part 5: Alternate Technical Proposals". Include all documents describing the concept and the associated costs in the sealed container. Include 3 copies of the documentation in the sealed container. Teams are reminded that the Alternate Technical Proposals become the property of the Department, and that the Department has the right to use the Alternate Technical Proposals without regard to which Team, if any, the Project is awarded.

2.3.4.6 Price Proposal Requirements

2.3.4.6.1 Price Data and Forms

Place all data and information required to be included in the Price Proposal in a sealed package, separate from any other Proposal information and clearly marked “Price Proposal.” If the Proposer does not provide all requested information, the Department may consider the Proposer nonresponsive.

The Proposer shall submit Form F in Appendix P (Proposal Form), which will be consistent with the Price Proposal. No price element shall be blank.

2.3.4.6.2 Cost Loaded Schedule

The Proposer shall submit as part of the Price Proposal a cost-loaded baseline schedule as described in Section 2.8.4.

2.3.4.6.3 Contract Price - Plus Lane Rental

This contract contains Price + Lane Rental Bidding, which (1) provides for determination of the Adjusted Proposal Price to be based on the price of construction, plus the cost to the public associated with lane and shoulder closures; and (2) provides an incentive/disincentive to the Design-Builder for minimizing the duration of lane and shoulder closures based on durations established by the Design-Builder at the time of submitting the Proposal.

This section describes how Lane Rental is to be priced, and how Lane Rental is used to provide an incentive/disincentive to the Design-Builder for minimizing the duration of lane and shoulder closures. See Section 2.3.5.10 and 2.3.5.11 regarding how Lane Rental affects evaluation of the Price Proposal.

There is no physical work to be accomplished under this item. Lane Rental is a bid item, but it is not a pay item. No payment will be made under the bid item Lane Rental. For explanation of how payments or credits will be made for the incentive/disincentive associated with Lane Rental, refer to Section 2.11.2.

2.3.4.6.3.1 Definitions

A. **Rental hour** – Any continuous 60 minute period or fraction thereof rounded up to the nearest 1/4 hour, beginning when a lane and or shoulder is closed or obstructed, and ending when the lane and or shoulder is open or the obstruction removed. It includes traffic control setup and takedown.

B. **Lane closure** - For the purpose of assessing rental charges, lane closure means

denying any lane or any portion of a lane to traffic. A lane reduced to less than 11 feet is considered a lane closure.

C. **Shoulder Closure** - For the purpose of assessing lane rental charges, shoulder closure means preventing vehicles from using a shoulder or any portion of a shoulder for its intended legal use.

D. **Hourly Rental Rates** - The amount, as shown in the specifications, which represents the hourly cost of interference and inconvenience to the road user for each lane and/or shoulder closure.

2.3.4.6.3.2 Pricing "Lane Rental"

To allow application of Lane Rental to more than one roadway requiring different restrictions in the performance of the work and having different rental charges and timing requirements, the following requirements apply:

A. Determine the lump sum price for Lane Rental as follows.
   1. Determine the number of Lane Rental Hours required to perform the work for each roadway, direction, closure, day of week, and time of day as indicated in the table below. When determining the number of Lane Rental hours, consider all requirements of the contract.
   2. Multiply the Lane Rental cost-rate in column I by the corresponding number of closure hours determined by the Design-Builder in column J, and record the product in column K.
   3. Repeat step 2 for all CODES (column A) listed in the tables.
   4. The sum of all Lane Rental Costs in column K is the lump sum amount to be bid for "Lane Rental".

B. If the Design-Builder does not submit a bid Lane Rental, the Department will consider the Proposal non-responsive.

C. Negative amounts are not permitted for the Lane Rental item. Design-Builders are advised not to spread anticipated lane rental costs within other items of the contract, as unbalancing occurs and the proposal may be rejected.

D. Lane rental is not a pay item. It is a bid item, which is used by the Department to determine an incentive/disincentive amount to encourage the Design-Builder to efficiently use lane closures to minimize delay to the traveling public.

E. The Design-Builder shall maintain the minimum number of lanes open as specified in the contract.

F. The Lane Rental item has been included in the contract to allow Proposers to account for the lane rental charges that will be made in accordance with this specification. Therefore, the amount bid for this item should be based on the Proposer's estimate of rental hours and the amount charged for each rental hour specified in this Specification.

2.3.4.6.3.3 Table of Cost Rates for Use of Lane Rental

The following tables shall be used by the Design-Builder to calculate the bid price for the item "Lane Rental", and will be used in calculation of accrual of Lane Rental Costs.

Key:
NB = northbound SB = southbound EB = eastbound WB = westbound
LCNA = Lane closure not allowed

TABLE LR1 - Ramp 2100 S to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	**CLOSURE**	**START TIME**		**FINISH TIME**		**RENTAL RATE**	**TOTAL DURATION**	**LANE RENTAL COST**
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
1	*Lane 1*	Mon	6am	Mon	10pm	$200	_____hrs	$_____
2	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
3	*Lane 1*	Tues	6am	Tues	10pm	$200	_____hrs	$_____
4	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
5	*Lane 1*	Wed	6am	Wed	10pm	$200	_____hrs	$_____
6	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
7	*Lane 1*	Thurs	6am	Thurs	10pm	$200	_____hrs	$_____
8	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
9	*Lane 1*	Fri	6am	Fri	10pm	$200	_____hrs	$_____
10	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
11	*Lane 1*	Sat	6am	Sat	10pm	$100	_____hrs	$_____
12	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
13	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
14	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR2 - Ramp 900 West to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
15	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
16	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
17	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
18	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
19	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
20	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
21	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
22	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
23	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
24	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
25	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
26	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
27	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
28	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR3 - Ramp SR-201 EB to 900 West

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
29	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
30	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
31	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
32	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
33	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
34	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
35	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
36	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
37	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
38	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
39	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
40	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
41	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
42	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR4 - Ramp 900 West to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
43	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
44	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
45	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
46	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
47	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
48	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
49	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
50	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
51	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
52	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
53	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
54	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
55	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
56	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR5 - Ramp SR-201 WB to Redwood Road

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
57	*Lane 1*	Mon	6am	Mon	10pm	$250	_____hrs	$_____
58	*Lane 1*	Mon	10pm	Tues	6am	$75	_____hrs	$_____
59	*Lane 1*	Tues	6am	Tues	10pm	$250	_____hrs	$_____
60	*Lane 1*	Tues	10pm	Wed	6am	$75	_____hrs	$_____
61	*Lane 1*	Wed	6am	Wed	10pm	$250	_____hrs	$_____
62	*Lane 1*	Wed	10pm	Thurs	6am	$75	_____hrs	$_____
63	*Lane 1*	Thurs	6am	Thurs	10pm	$250	_____hrs	$_____
64	*Lane 1*	Thurs	10pm	Fri	6am	$75	_____hrs	$_____
65	*Lane 1*	Fri	6am	Fri	10pm	$250	_____hrs	$_____
66	*Lane 1*	Fri	10pm	Sat	6am	$75	_____hrs	$_____
67	*Lane 1*	Sat	6am	Sat	10pm	$125	_____hrs	$_____
68	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
69	*Lane 1*	Sun	6am	Sun	10pm	$75	_____hrs	$_____
70	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR6 - Ramp Redwood Road to SR 201 WB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
71	*Lane 1*	Mon	6am	Mon	10pm	$300	_____hrs	$_____
72	*Lane 1*	Mon	10pm	Tues	6am	$100	_____hrs	$_____
73	*Lane 1*	Tues	6am	Tues	10pm	$300	_____hrs	$_____
74	*Lane 1*	Tues	10pm	Wed	6am	$100	_____hrs	$_____
75	*Lane 1*	Wed	6am	Wed	10pm	$300	_____hrs	$_____
76	*Lane 1*	Wed	10pm	Thurs	6am	$100	_____hrs	$_____
77	*Lane 1*	Thurs	6am	Thurs	10pm	$300	_____hrs	$_____
78	*Lane 1*	Thurs	10pm	Fri	6am	$100	_____hrs	$_____
79	*Lane 1*	Fri	6am	Fri	10pm	$300	_____hrs	$_____
80	*Lane 1*	Fri	10pm	Sat	6am	$100	_____hrs	$_____
81	*Lane 1*	Sat	6am	Sat	10pm	$150	_____hrs	$_____
82	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
83	*Lane 1*	Sun	6am	Sun	10pm	$75	_____hrs	$_____
84	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR7 - Ramp SR-201 EB to Redwood Road

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
85	*Lane 1*	Mon	6am	Mon	10pm	$300	_____hrs	$_____
86	*Lane 1*	Mon	10pm	Tues	6am	$100	_____hrs	$_____
87	*Lane 1*	Tues	6am	Tues	10pm	$300	_____hrs	$_____
88	*Lane 1*	Tues	10pm	Wed	6am	$100	_____hrs	$_____
89	*Lane 1*	Wed	6am	Wed	10pm	$300	_____hrs	$_____
90	*Lane 1*	Wed	10pm	Thurs	6am	$100	_____hrs	$_____
91	*Lane 1*	Thurs	6am	Thurs	10pm	$300	_____hrs	$_____
92	*Lane 1*	Thurs	10pm	Fri	6am	$100	_____hrs	$_____
93	*Lane 1*	Fri	6am	Fri	10pm	$300	_____hrs	$_____
94	*Lane 1*	Fri	10pm	Sat	6am	$100	_____hrs	$_____
95	*Lane 1*	Sat	6am	Sat	10pm	$150	_____hrs	$_____
96	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
97	*Lane 1*	Sun	6am	Sun	10pm	$75	_____hrs	$_____
98	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR8 - Ramp Redwood Road SB to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
99	*Lane 1*	Mon	6am	Mon	10pm	$70	_____hrs	$_____
100	*Lane 1*	Mon	10pm	Tues	6am	$20	_____hrs	$_____
101	*Lane 1*	Tues	6am	Tues	10pm	$70	_____hrs	$_____
102	*Lane 1*	Tues	10pm	Wed	6am	$20	_____hrs	$_____
103	*Lane 1*	Wed	6am	Wed	10pm	$70	_____hrs	$_____
104	*Lane 1*	Wed	10pm	Thurs	6am	$20	_____hrs	$_____
105	*Lane 1*	Thurs	6am	Thurs	10pm	$70	_____hrs	$_____
106	*Lane 1*	Thurs	10pm	Fri	6am	$20	_____hrs	$_____
107	*Lane 1*	Fri	6am	Fri	10pm	$70	_____hrs	$_____
108	*Lane 1*	Fri	10pm	Sat	6am	$20	_____hrs	$_____
109	*Lane 1*	Sat	6am	Sat	10pm	$35	_____hrs	$_____
110	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
111	*Lane 1*	Sun	6am	Sun	10pm	0	_____hrs	$_____
112	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR9 - Ramp Redwood Road NB to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
113	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
114	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
115	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
116	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
117	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
118	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
119	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
120	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
121	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
122	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
123	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
124	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
125	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
126	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR10 - Ramp SR-201 WB to I-215 NB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
127	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
128	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
129	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
130	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
131	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
132	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
133	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
134	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
135	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
136	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
137	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
138	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
139	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
140	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR11 - Ramp I-215 NB to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
141	*Lane 1*	Mon	6am	Mon	10pm	$500	_____hrs	$_____
142	*Lane 1*	Mon	10pm	Tues	6am	$150	_____hrs	$_____
143	*Lane 1*	Tues	6am	Tues	10pm	$500	_____hrs	$_____
144	*Lane 1*	Tues	10pm	Wed	6am	$150	_____hrs	$_____
145	*Lane 1*	Wed	6am	Wed	10pm	$500	_____hrs	$_____
146	*Lane 1*	Wed	10pm	Thurs	6am	$150	_____hrs	$_____
147	*Lane 1*	Thurs	6am	Thurs	10pm	$500	_____hrs	$_____
148	*Lane 1*	Thurs	10pm	Fri	6am	$150	_____hrs	$_____
149	*Lane 1*	Fri	6am	Fri	10pm	$500	_____hrs	$_____
150	*Lane 1*	Fri	10pm	Sat	6am	$150	_____hrs	$_____
151	*Lane 1*	Sat	6am	Sat	10pm	$250	_____hrs	$_____
152	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
153	*Lane 1*	Sun	6am	Sun	10pm	$150	_____hrs	$_____
154	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR12 - Ramp SR-201 WB to I-215 SB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
155	*Lane 1*	Mon	6am	Mon	10pm	$100	_____hrs	$_____
156	*Lane 1*	Mon	10pm	Tues	6am	$25	_____hrs	$_____
157	*Lane 1*	Tues	6am	Tues	10pm	$100	_____hrs	$_____
158	*Lane 1*	Tues	10pm	Wed	6am	$25	_____hrs	$_____
159	*Lane 1*	Wed	6am	Wed	10pm	$100	_____hrs	$_____
160	*Lane 1*	Wed	10pm	Thurs	6am	$25	_____hrs	$_____
161	*Lane 1*	Thurs	6am	Thurs	10pm	$100	_____hrs	$_____
162	*Lane 1*	Thurs	10pm	Fri	6am	$25	_____hrs	$_____
163	*Lane 1*	Fri	6am	Fri	10pm	$100	_____hrs	$_____
164	*Lane 1*	Fri	10pm	Sat	6am	$25	_____hrs	$_____
165	*Lane 1*	Sat	6am	Sat	10pm	$50	_____hrs	$_____
166	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
167	*Lane 1*	Sun	6am	Sun	10pm	$25	_____hrs	$_____
168	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR13 - Ramp I-215 SB to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
169	*Lane 1*	Mon	6am	Mon	10pm	$350	_____hrs	$_____
170	*Lane 1*	Mon	10pm	Tues	6am	$100	_____hrs	$_____
171	*Lane 1*	Tues	6am	Tues	10pm	$350	_____hrs	$_____
172	*Lane 1*	Tues	10pm	Wed	6am	$100	_____hrs	$_____
173	*Lane 1*	Wed	6am	Wed	10pm	$350	_____hrs	$_____
174	*Lane 1*	Wed	10pm	Thurs	6am	$100	_____hrs	$_____
175	*Lane 1*	Thurs	6am	Thurs	10pm	$350	_____hrs	$_____
176	*Lane 1*	Thurs	10pm	Fri	6am	$100	_____hrs	$_____
177	*Lane 1*	Fri	6am	Fri	10pm	$350	_____hrs	$_____
178	*Lane 1*	Fri	10pm	Sat	6am	$100	_____hrs	$_____
179	*Lane 1*	Sat	6am	Sat	10pm	$150	_____hrs	$_____
180	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
181	*Lane 1*	Sun	6am	Sun	10pm	$75	_____hrs	$_____
182	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR14 - Ramp SR-201 EB to I-215 SB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
183	*Lane 1*	Mon	6am	Mon	10pm	$400	_____hrs	$_____
184	*Lane 1*	Mon	10pm	Tues	6am	$125	_____hrs	$_____
185	*Lane 1*	Tues	6am	Tues	10pm	$400	_____hrs	$_____
186	*Lane 1*	Tues	10pm	Wed	6am	$125	_____hrs	$_____
187	*Lane 1*	Wed	6am	Wed	10pm	$400	_____hrs	$_____
188	*Lane 1*	Wed	10pm	Thurs	6am	$125	_____hrs	$_____
189	*Lane 1*	Thurs	6am	Thurs	10pm	$400	_____hrs	$_____
190	*Lane 1*	Thurs	10pm	Fri	6am	$125	_____hrs	$_____
191	*Lane 1*	Fri	6am	Fri	10pm	$400	_____hrs	$_____
192	*Lane 1*	Fri	10pm	Sat	6am	$125	_____hrs	$_____
193	*Lane 1*	Sat	6am	Sat	10pm	$200	_____hrs	$_____
194	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
195	*Lane 1*	Sun	6am	Sun	10pm	$100	_____hrs	$_____
196	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR15 - Ramp I-215 SB to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
197	*Lane 1*	Mon	6am	Mon	10pm	$200	_____hrs	$_____
198	*Lane 1*	Mon	10pm	Tues	6am	$60	_____hrs	$_____
199	*Lane 1*	Tues	6am	Tues	10pm	$200	_____hrs	$_____
200	*Lane 1*	Tues	10pm	Wed	6am	$60	_____hrs	$_____
201	*Lane 1*	Wed	6am	Wed	10pm	$200	_____hrs	$_____
202	*Lane 1*	Wed	10pm	Thurs	6am	$60	_____hrs	$_____
203	*Lane 1*	Thurs	6am	Thurs	10pm	$200	_____hrs	$_____
204	*Lane 1*	Thurs	10pm	Fri	6am	$60	_____hrs	$_____
205	*Lane 1*	Fri	6am	Fri	10pm	$200	_____hrs	$_____
206	*Lane 1*	Fri	10pm	Sat	6am	$60	_____hrs	$_____
207	*Lane 1*	Sat	6am	Sat	10pm	$100	_____hrs	$_____
208	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
209	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
210	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR16 - Ramp SR-201 EB to I-215 NB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
211	*Lane 1*	Mon	6am	Mon	10pm	$300	_____hrs	$_____
212	*Lane 1*	Mon	10pm	Tues	6am	$100	_____hrs	$_____
213	*Lane 1*	Tues	6am	Tues	10pm	$300	_____hrs	$_____
214	*Lane 1*	Tues	10pm	Wed	6am	$100	_____hrs	$_____
215	*Lane 1*	Wed	6am	Wed	10pm	$300	_____hrs	$_____
216	*Lane 1*	Wed	10pm	Thurs	6am	$100	_____hrs	$_____
217	*Lane 1*	Thurs	6am	Thurs	10pm	$300	_____hrs	$_____
218	*Lane 1*	Thurs	10pm	Fri	6am	$100	_____hrs	$_____
219	*Lane 1*	Fri	6am	Fri	10pm	$300	_____hrs	$_____
220	*Lane 1*	Fri	10pm	Sat	6am	$100	_____hrs	$_____
221	*Lane 1*	Sat	6am	Sat	10pm	$150	_____hrs	$_____
222	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
223	*Lane 1*	Sun	6am	Sun	10pm	$75	_____hrs	$_____
224	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR17 - Ramp I-215 NB to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
225	*Lane 1*	Mon	6am	Mon	10pm	$400	_____hrs	$_____
226	*Lane 1*	Mon	10pm	Tues	6am	$120	_____hrs	$_____
227	*Lane 1*	Tues	6am	Tues	10pm	$400	_____hrs	$_____
228	*Lane 1*	Tues	10pm	Wed	6am	$120	_____hrs	$_____
229	*Lane 1*	Wed	6am	Wed	10pm	$400	_____hrs	$_____
230	*Lane 1*	Wed	10pm	Thurs	6am	$120	_____hrs	$_____
231	*Lane 1*	Thurs	6am	Thurs	10pm	$400	_____hrs	$_____
232	*Lane 1*	Thurs	10pm	Fri	6am	$120	_____hrs	$_____
233	*Lane 1*	Fri	6am	Fri	10pm	$400	_____hrs	$_____
234	*Lane 1*	Fri	10pm	Sat	6am	$120	_____hrs	$_____
235	*Lane 1*	Sat	6am	Sat	10pm	$200	_____hrs	$_____
236	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
237	*Lane 1*	Sun	6am	Sun	10pm	$100	_____hrs	$_____
238	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR18 - Ramp SR-201 WB to 3200 West

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
239	*Lane 1*	Mon	6am	Mon	10pm	$500	_____hrs	$_____
240	*Lane 1*	Mon	10pm	Tues	6am	$150	_____hrs	$_____
241	*Lane 1*	Tues	6am	Tues	10pm	$500	_____hrs	$_____
242	*Lane 1*	Tues	10pm	Wed	6am	$150	_____hrs	$_____
243	*Lane 1*	Wed	6am	Wed	10pm	$500	_____hrs	$_____
244	*Lane 1*	Wed	10pm	Thurs	6am	$150	_____hrs	$_____
245	*Lane 1*	Thurs	6am	Thurs	10pm	$500	_____hrs	$_____
246	*Lane 1*	Thurs	10pm	Fri	6am	$150	_____hrs	$_____
247	*Lane 1*	Fri	6am	Fri	10pm	$500	_____hrs	$_____
248	*Lane 1*	Fri	10pm	Sat	6am	$150	_____hrs	$_____
249	*Lane 1*	Sat	6am	Sat	10pm	$200	_____hrs	$_____
250	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
251	*Lane 1*	Sun	6am	Sun	10pm	$100	_____hrs	$_____
252	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR19 - Ramp 3200 West to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
253	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
254	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
255	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
256	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
257	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
258	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
259	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
260	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
261	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
262	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
263	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
264	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
265	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
266	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR20 - Ramp SR-201 EB to 3200 West

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
267	*Lane 1*	Mon	6am	Mon	10pm	$150	_____hrs	$_____
268	*Lane 1*	Mon	10pm	Tues	6am	$50	_____hrs	$_____
269	*Lane 1*	Tues	6am	Tues	10pm	$150	_____hrs	$_____
270	*Lane 1*	Tues	10pm	Wed	6am	$50	_____hrs	$_____
271	*Lane 1*	Wed	6am	Wed	10pm	$150	_____hrs	$_____
272	*Lane 1*	Wed	10pm	Thurs	6am	$50	_____hrs	$_____
273	*Lane 1*	Thurs	6am	Thurs	10pm	$150	_____hrs	$_____
274	*Lane 1*	Thurs	10pm	Fri	6am	$50	_____hrs	$_____
275	*Lane 1*	Fri	6am	Fri	10pm	$150	_____hrs	$_____
276	*Lane 1*	Fri	10pm	Sat	6am	$50	_____hrs	$_____
277	*Lane 1*	Sat	6am	Sat	10pm	$75	_____hrs	$_____
278	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
279	*Lane 1*	Sun	6am	Sun	10pm	$50	_____hrs	$_____
280	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR21 - Ramp 3200 West to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
281	*Lane 1*	Mon	6am	Mon	10pm	$500	_____hrs	$_____
282	*Lane 1*	Mon	10pm	Tues	6am	$150	_____hrs	$_____
283	*Lane 1*	Tues	6am	Tues	10pm	$500	_____hrs	$_____
284	*Lane 1*	Tues	10pm	Wed	6am	$150	_____hrs	$_____
285	*Lane 1*	Wed	6am	Wed	10pm	$500	_____hrs	$_____
286	*Lane 1*	Wed	10pm	Thurs	6am	$150	_____hrs	$_____
287	*Lane 1*	Thurs	6am	Thurs	10pm	$500	_____hrs	$_____
288	*Lane 1*	Thurs	10pm	Fri	6am	$150	_____hrs	$_____
289	*Lane 1*	Fri	6am	Fri	10pm	$500	_____hrs	$_____
290	*Lane 1*	Fri	10pm	Sat	6am	$150	_____hrs	$_____
291	*Lane 1*	Sat	6am	Sat	10pm	$200	_____hrs	$_____
292	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
293	*Lane 1*	Sun	6am	Sun	10pm	$100	_____hrs	$_____
294	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR22 - Ramp SR-201 WB to Bangerter

A	D	E	F	G	H	I	J	K
CODE	**CLOSURE**	**START TIME**		**FINISH TIME**		**RENTAL RATE**	**TOTAL DURATION**	**LANE RENTAL COST**
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
295	*Lane 1*	Mon	6am	Mon	10pm	$1000	_____hrs	$_____
296	*Lane 1*	Mon	10pm	Tues	6am	$200	_____hrs	$_____
297	*Lane 1*	Tues	6am	Tues	10pm	$1000	_____hrs	$_____
298	*Lane 1*	Tues	10pm	Wed	6am	$200	_____hrs	$_____
299	*Lane 1*	Wed	6am	Wed	10pm	$1000	_____hrs	$_____
300	*Lane 1*	Wed	10pm	Thurs	6am	$200	_____hrs	$_____
301	*Lane 1*	Thurs	6am	Thurs	10pm	$1000	_____hrs	$_____
302	*Lane 1*	Thurs	10pm	Fri	6am	$200	_____hrs	$_____
303	*Lane 1*	Fri	6am	Fri	10pm	$1000	_____hrs	$_____
304	*Lane 1*	Fri	10pm	Sat	6am	$200	_____hrs	$_____
305	*Lane 1*	Sat	6am	Sat	10pm	$400	_____hrs	$_____
306	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
307	*Lane 1*	Sun	6am	Sun	10pm	$200	_____hrs	$_____
308	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR23 - Ramp Bangerter to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	**CLOSURE**	**START TIME**		**FINISH TIME**		**RENTAL RATE**	**TOTAL DURATION**	**LANE RENTAL COST**
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
309	*Lane 1*	Mon	6am	Mon	10pm	$100	_____hrs	$_____
310	*Lane 1*	Mon	10pm	Tues	6am	$25	_____hrs	$_____
311	*Lane 1*	Tues	6am	Tues	10pm	$100	_____hrs	$_____
312	*Lane 1*	Tues	10pm	Wed	6am	$25	_____hrs	$_____
313	*Lane 1*	Wed	6am	Wed	10pm	$100	_____hrs	$_____
314	*Lane 1*	Wed	10pm	Thurs	6am	$25	_____hrs	$_____
315	*Lane 1*	Thurs	6am	Thurs	10pm	$100	_____hrs	$_____
316	*Lane 1*	Thurs	10pm	Fri	6am	$25	_____hrs	$_____
317	*Lane 1*	Fri	6am	Fri	10pm	$100	_____hrs	$_____
318	*Lane 1*	Fri	10pm	Sat	6am	$25	_____hrs	$_____
319	*Lane 1*	Sat	6am	Sat	10pm	$50	_____hrs	$_____
320	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
321	*Lane 1*	Sun	6am	Sun	10pm	$25	_____hrs	$_____
322	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR24 - Ramp SR-201 EB to Bangerter

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
323	*Lane 1*	Mon	6am	Mon	10pm	$100	_____hrs	$_____
324	*Lane 1*	Mon	10pm	Tues	6am	$25	_____hrs	$_____
325	*Lane 1*	Tues	6am	Tues	10pm	$100	_____hrs	$_____
326	*Lane 1*	Tues	10pm	Wed	6am	$25	_____hrs	$_____
327	*Lane 1*	Wed	6am	Wed	10pm	$100	_____hrs	$_____
328	*Lane 1*	Wed	10pm	Thurs	6am	$25	_____hrs	$_____
329	*Lane 1*	Thurs	6am	Thurs	10pm	$100	_____hrs	$_____
330	*Lane 1*	Thurs	10pm	Fri	6am	$25	_____hrs	$_____
331	*Lane 1*	Fri	6am	Fri	10pm	$100	_____hrs	$_____
332	*Lane 1*	Fri	10pm	Sat	6am	$25	_____hrs	$_____
333	*Lane 1*	Sat	6am	Sat	10pm	$50	_____hrs	$_____
334	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
335	*Lane 1*	Sun	6am	Sun	10pm	$25	_____hrs	$_____
336	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR25 - Ramp Bangerter to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
337	*Lane 1*	Mon	6am	Mon	10pm	$1000	_____hrs	$_____
338	*Lane 1*	Mon	10pm	Tues	6am	$200	_____hrs	$_____
339	*Lane 1*	Tues	6am	Tues	10pm	$1000	_____hrs	$_____
340	*Lane 1*	Tues	10pm	Wed	6am	$200	_____hrs	$_____
341	*Lane 1*	Wed	6am	Wed	10pm	$1000	_____hrs	$_____
342	*Lane 1*	Wed	10pm	Thurs	6am	$200	_____hrs	$_____
343	*Lane 1*	Thurs	6am	Thurs	10pm	$1000	_____hrs	$_____
344	*Lane 1*	Thurs	10pm	Fri	6am	$200	_____hrs	$_____
345	*Lane 1*	Fri	6am	Fri	10pm	$1000	_____hrs	$_____
346	*Lane 1*	Fri	10pm	Sat	6am	$200	_____hrs	$_____
347	*Lane 1*	Sat	6am	Sat	10pm	$400	_____hrs	$_____
348	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
349	*Lane 1*	Sun	6am	Sun	10pm	$200	_____hrs	$_____
350	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR26 - Ramp SR-201 WB to 5600 West

A	D	E	F	G	H	I	J	K
CODE	**CLOSURE**	**START TIME**		**FINISH TIME**		**RENTAL RATE**	**TOTAL DURATION**	**LANE RENTAL COST**
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
351	*Lane 1*	Mon	6am	Mon	10pm	$800	_____hrs	$_____
352	*Lane 1*	Mon	10pm	Tues	6am	$200	_____hrs	$_____
353	*Lane 1*	Tues	6am	Tues	10pm	$800	_____hrs	$_____
354	*Lane 1*	Tues	10pm	Wed	6am	$200	_____hrs	$_____
355	*Lane 1*	Wed	6am	Wed	10pm	$800	_____hrs	$_____
356	*Lane 1*	Wed	10pm	Thurs	6am	$200	_____hrs	$_____
357	*Lane 1*	Thurs	6am	Thurs	10pm	$800	_____hrs	$_____
358	*Lane 1*	Thurs	10pm	Fri	6am	$200	_____hrs	$_____
359	*Lane 1*	Fri	6am	Fri	10pm	$800	_____hrs	$_____
360	*Lane 1*	Fri	10pm	Sat	6am	$200	_____hrs	$_____
361	*Lane 1*	Sat	6am	Sat	10pm	$400	_____hrs	$_____
362	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
363	*Lane 1*	Sun	6am	Sun	10pm	$200	_____hrs	$_____
364	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR27 - Ramp 5600 West to SR-201 WB

A	D	E	F	G	H	I	J	K
CODE	**CLOSURE**	**START TIME**		**FINISH TIME**		**RENTAL RATE**	**TOTAL DURATION**	**LANE RENTAL COST**
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
365	*Lane 1*	Mon	6am	Mon	10pm	$100	_____hrs	$_____
366	*Lane 1*	Mon	10pm	Tues	6am	$25	_____hrs	$_____
367	*Lane 1*	Tues	6am	Tues	10pm	$100	_____hrs	$_____
368	*Lane 1*	Tues	10pm	Wed	6am	$25	_____hrs	$_____
369	*Lane 1*	Wed	6am	Wed	10pm	$100	_____hrs	$_____
370	*Lane 1*	Wed	10pm	Thurs	6am	$25	_____hrs	$_____
371	*Lane 1*	Thurs	6am	Thurs	10pm	$100	_____hrs	$_____
372	*Lane 1*	Thurs	10pm	Fri	6am	$25	_____hrs	$_____
373	*Lane 1*	Fri	6am	Fri	10pm	$100	_____hrs	$_____
374	*Lane 1*	Fri	10pm	Sat	6am	$25	_____hrs	$_____
375	*Lane 1*	Sat	6am	Sat	10pm	$50	_____hrs	$_____
376	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
377	*Lane 1*	Sun	6am	Sun	10pm	$25	_____hrs	$_____
378	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR28 - Ramp SR-201 EB to 5600 West

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
379	*Lane 1*	Mon	6am	Mon	10pm	$100	_____hrs	$_____
380	*Lane 1*	Mon	10pm	Tues	6am	$25	_____hrs	$_____
381	*Lane 1*	Tues	6am	Tues	10pm	$100	_____hrs	$_____
382	*Lane 1*	Tues	10pm	Wed	6am	$25	_____hrs	$_____
383	*Lane 1*	Wed	6am	Wed	10pm	$100	_____hrs	$_____
384	*Lane 1*	Wed	10pm	Thurs	6am	$25	_____hrs	$_____
385	*Lane 1*	Thurs	6am	Thurs	10pm	$100	_____hrs	$_____
386	*Lane 1*	Thurs	10pm	Fri	6am	$25	_____hrs	$_____
387	*Lane 1*	Fri	6am	Fri	10pm	$100	_____hrs	$_____
388	*Lane 1*	Fri	10pm	Sat	6am	$25	_____hrs	$_____
389	*Lane 1*	Sat	6am	Sat	10pm	$50	_____hrs	$_____
390	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
391	*Lane 1*	Sun	6am	Sun	10pm	$25	_____hrs	$_____
392	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

TABLE LR29 - Ramp 5600 West to SR-201 EB

A	D	E	F	G	H	I	J	K
CODE	CLOSURE	START TIME		FINISH TIME		RENTAL RATE	TOTAL DURATION	LANE RENTAL COST
		Day	Hour	Day	Hour	$ per hour	Hours	Dollars
393	*Lane 1*	Mon	6am	Mon	10pm	$800	_____hrs	$_____
394	*Lane 1*	Mon	10pm	Tues	6am	$200	_____hrs	$_____
395	*Lane 1*	Tues	6am	Tues	10pm	$800	_____hrs	$_____
396	*Lane 1*	Tues	10pm	Wed	6am	$200	_____hrs	$_____
397	*Lane 1*	Wed	6am	Wed	10pm	$800	_____hrs	$_____
398	*Lane 1*	Wed	10pm	Thurs	6am	$200	_____hrs	$_____
399	*Lane 1*	Thurs	6am	Thurs	10pm	$800	_____hrs	$_____
400	*Lane 1*	Thurs	10pm	Fri	6am	$200	_____hrs	$_____
401	*Lane 1*	Fri	6am	Fri	10pm	$800	_____hrs	$_____
402	*Lane 1*	Fri	10pm	Sat	6am	$200	_____hrs	$_____
403	*Lane 1*	Sat	6am	Sat	10pm	$400	_____hrs	$_____
404	*Lane 1*	Sat	10pm	Sun	6am	0	_____hrs	$_____
405	*Lane 1*	Sun	6am	Sun	10pm	$200	_____hrs	$_____
406	*Lane 1*	Sun	10pm	Mon	6am	0	_____hrs	$_____

2.3.4.7 Receiver of RFP Documents and Other Notices

Specify in the cover letter one contact person including that person's phone number and the address to which all Department notices and RFP Addenda are to be sent. Failure to so notify the Department may result in the Proposer failing to receive Addenda or other important communications from the Department.

2.3.5 PROPOSAL EVALUATION AND SCORING

2.3.5.1 Best Value:

The procurement process adapted for the Project has been developed with the goal of providing the best overall value for the Department and the citizens of the State. The selection process will be evaluation-based, with several factors being rated. A "best value" is defined as the Lowest Adjusted Proposal Price when considering all of the evaluation factors together, including both technical and price ratings and Lane Rental.

2.3.5.2 Technical and Price Proposals:

The procurement process includes four components:

1. A period for discussion with and clarification by each Proposer
2. Submittal of a Technical Proposal, Price Proposal, and Escrowed Documents
3. Oral Presentations
4. Proposal Evaluation

2.3.5.3 Separation of Technical and Price Evaluation

The evaluation of Technical Proposals will be totally separate from the evaluation of the Price Proposals. The evaluation of the Technical Concepts section of the Technical Proposals will be totally separate from the other factors in the Technical Proposal. The proposed prices will not be disclosed to the technical evaluators until after the technical evaluation is complete. Accordingly, the Proposer shall set forth pricing information only in the sealed Price Proposal.

2.3.5.4 Review of Evaluation Factors

All Proposal documents will be evaluated by the Department's Proposal evaluation team by carefully considering each of the technical evaluation factors.

2.3.5.5 Minimum Acceptable Requirements

The Proposals will be evaluated to determine whether the minimum acceptable requirements have been met. All Proposal documents will be evaluated by the Department's Proposal evaluation team by considering each of the technical evaluation factors. A technical evaluation score of 700 or more must be achieved in order to receive the stipend.

2.3.5.6 Raw Technical Evaluation Score

The technical evaluation factors are tabulated in the table below. Proposers will be disqualified for receiving a Fail for any evaluation factor that is scored Pass/Fail. Proposers will be disqualified for receiving a score below the minimum acceptable score for any scored evaluation factor. The technical evaluation score, T will be calculated by summing the Proposer's points in the Score column in the table below.

Technical Evaluation Scoresheet	Max Score	Min Accept Score	Score
Part 1 - General			
Acknowledgements per 2.3.4.1.1 A	P/F	P	
Acknowledgements per 2.3.4.1.1 B	P/F	P	
Proposal Guaranty per 2.3.1.9 (Appendix P, form__)	P/F	P	
Executive Summary	P/F	P	
Legal Information per 2.3.4.1.4.1	P/F	P	
Surety Commitments per 2.3.4.1.4.2	P/F	P	
Form A - Proposer Information	P/F	P	
Form B - Responsible Proposer Questionaire	P/F	P	
Form E - Non-collusion Affidavit	P/F	P	
Form I - Escrowed Proposal Document Agreement	P/F	P	
Form L - Certification Regarding Use of Contract Funds for Lobbying	P/F	P	
Form L2 - Disclosure of Lobbying Activities	P/F	P	
Part 2 - What Will Be Built			
Roadway	70	49	
Geotech	70	49	
Structures	70	49	
Drainage	30	21	
Pavement	20	14	
Landscape and Aesthetics	30	21	
ATMS	30	21	
Part 3 - How It Will Be Built			
Utilities and Third Parties	50	35	
Right of Way and Survey	50	35	
Environmental Program	30	21	
Quality	100	70	
Management Approach	30	21	
Safety	P/F	P	
Part 4 - Customer Impacts During Construction			
Maintenance of Traffic	150	105	
Public Involvement	70	49	
Work Plan and Schedule	100	70	
Part 5 - Alternate Technical Proposals			
Y & Z- Changes to defined scope & Enhancements to future phases	100	0	
GRAND TOTAL	**1000**	**700**	

2.3.5.7 Technical Rating.

The Technical Evaluation Score will be determined by summing the points from the table above. The Technical evaluation score will be a number between 700 and 1000.

2.3.5.8 Technical Rating of Part 5: Alternate Technical Proposals

A limited Department Evaluation Team will review the Alternate Technical Proposals. The points given for Alternate Technical Proposals will consider both the concept and the price for implementation. Alternate Technical Proposals which are deemed impractical, too expensive, or which for any other reason are deemed unlikely to be adopted by the Department will receive a score of Zero. Only those Alternate Technical Proposals which are deemed by the reviewers as likely to be implemented will receive points.

2.3.5.9 Price Evaluation Scores.

The Price Proposal will be reviewed after the review of the Technical Proposals. Price Proposal evaluation factors will be pass/fail for:

- Price magnitude (i.e., whether the propoosed price is within the Department's budget for the project).
- Price realism (i.e., whether the proposed prices are consistent with RFP requirements)
- Check to see if the schedule of payments exceeds the maximums per section 2.10.2.3.1
- Reasonableness of the allocation of dollars to the cost-loaded activities in the project schedule.
- If the Price Proposal passes the above criteria, the Contract Price plus Lane Rental will be the Price Evaluation Score. If the Price Proposal fails the above criteria the Proposer may be declared non-responsive.

2.3.5.10 Price + Lane Rental Bidding

This project uses a Price + Lane Rental bidding process. Price + Lane Rental bidding (1) provides for determination of the Price Proposal to be based on the price of construction, plus the cost to the public associated with lane and shoulder closures; and (2) provides an incentive/disincentive to the Design-Builder for minimizing the duration of lane and shoulder closures based on durations established by the Design-Builder at the time of bid.

The value to be used for evaluation of the Price Proposal is determined by using a Price + Lane Rental (P+LR) bidding method, as follows.

1. The Price Proposal consists of a Price component and a Lane Rental component.
2. The Price component is the sum of the products of the quantities and unit bid prices for the pay items in the contract.
3. Lane Rental is not a pay item.
4. The Lane Rental component is the lump sum dollar amount bid for the bid item titled Lane Rental.
5. The Price Proposal Amount, for purposes of bid comparisons to determine the best value, is determined by summing the Price component with the amount bid for Lane Rental, as shown in the following equation:

Price Proposal Amount = Price + Lane Rental

This summation is only used to determine the Price Proposal amount for determining best value to the State. It is not used to determine the award amount nor final payment to the Design-Builder when the project is completed.

2.3.5.11 Proposal Rating.

The Overall proposal rating will be determined using the following equation:

$$\$P_{adj}=\$P_{prop}-[T*(\$20,000)]$$

Where:

$\$P_{adj}$ = The adjusted proposal price (i.e., The Proposal Rating)
$\$P_{prop}$ = The Proposal Price from the bid form, in $ (Price + Lane Rental)
T = Technical Evaluation Score, from above
A number between 700 and 1000

2.3.6 REVIEW OF ESCROWED PROPOSAL DOCUMENTS

Submit EPD's containing all the information used in preparation of the Proposal and documenting assumptions made in calculating the Proposal Price and meet all requirements of Section 2.3.1.15 (Escrowed Proposal Documents). Submit EPD's to the Escrow Holder specified on the form "Escrowed Proposal Documents Agreement" and according to the requirement of Section 2.3 (Instruction to Proposers).

Prior to Award of Contract, the Department and the Proposer offering the apparent best value to the Department shall meet and review the EPD's to determine whether they are complete. If the Department determines that the EPD's are incomplete, the Department may require the Proposer to supply data to make the EPD's complete. Incomplete EPD's may render the Proposal non-responsive.

The EPDs of each unsuccessful Proposer will be returned unopened after the executed Contract and other required documents have been delivered by the successful Proposer or if all Proposals are rejected or withdrawn**.**

2.3.7 PROPOSAL REQUIRED FORMS

Forms required to be submitted with the proposal are in Appendix P.

2.3.8 PUBLIC RECORDS DISCLOSURE

All records, documents, drawings, plans, specifications, and other materials relating to the conduct of Department business, including materials submitted by Proposers, are subject to the provisions of Utah Code Sections 63-2-301 et seq. and any other laws and regulations applicable to the disclosure of documents submitted under this RFP. Such laws govern the Department's use and disclosure of its records.

Confidential and Proprietary Information. During the procurement process and the performance period of any Contract awarded, the Department will accept materials clearly and prominently labeled "Trade Secret or Confidential." Any such proprietary information, trade secrets, or confidential commercial and financial information, which a Proposer believes should be exempted from disclosure, shall be specifically identified and marked as such. Blanket, all-inclusive identifications by designation of whole pages or sections as containing proprietary

information, trade secrets, or confidential commercial or financial information will not be permitted and will be deemed invalid. Each specific mention of proprietary information, trade secrets, or confidential commercial and financial information shall be clearly identified as such by line, sentence, or paragraph, and shall be accompanied by a concise statement of reasons supporting the claim.

Disclosure of Information. The Department will advise the Proposer of any request it receives pursuant to the public records law and any other applicable laws to disclose any material properly labeled as proprietary, trade secret, or confidential so as to allow the Proposer the opportunity to seek a court order to protect such materials from disclosure. Under no circumstances will the Department be responsible or liable to the Proposer or to any other party as a result of disclosing any such labeled materials, whether the disclosure is deemed required by law, or by an order of court, or occurs through inadvertence, mistake, or negligence on the part of the Department or its officers, employees, or consultants.

Interpretation of Law. The Department will not advise a submitting party as to the nature or content of documents entitled to protection from disclosure under the Utah laws, as to the interpretation of the law, or as to definition of trade secret. The submitting party shall be solely responsible for all determinations made by it under applicable laws, and for clearly and prominently marking each occurrence of "Trade Secret" or "Trade Secret" material as it determines to be appropriate. Each submitting party is advised to contact its own legal counsel concerning the effect of applicable laws on the submitting party's own circumstances.

Litigation. In the event of litigation concerning the disclosure of any submitted material, the Department's sole involvement will be as a stakeholder retaining the material until otherwise ordered by a court, and the submitting party shall be responsible for otherwise prosecuting or defending any action concerning the materials at its sole expense and risk.

Confidentiality After Award. Approaches, solutions, plans, and innovations submitted specifically to address information requested by the RFP shall be held confidential during the Proposal evaluation process, but upon payment of the stipulated fee, the information provided that directly relates to the Project may be used by the Department after award of the Contract regardless of label of "Trade Secret," etc.

2.3.9 ORAL PRESENTATIONS

2.3.9.1 General

The Department requires the Proposers to make formal oral presentations of the information contained in their written proposal. The oral presentations provide the Proposers with an opportunity to:

1. Communicate their understanding of the RFP requirements.
2. Highlight the significant aspects of their proposal.
3. Respond to Department questions.

The Department will use the information gained from the oral presentations to augment its evaluation of the written technical proposals.

2.3.9.2 Ground Rules

The oral presentations shall adhere to the following ground rules:

1. One or more persons may make the oral presentation; preferably the lead personnel assigned to the project will participate in the presentation. No more than 10 representatives of the Proposer's team may attend the presentation.
2. Oral presentations will be limited to TWO hours.

3. Presenters may use visual aids to augment their presentation. One complete written copy of the presentation, including graphics, will be left with the Department at the conclusion of the presentation.
4. Proposers shall NOT reference price information in the presentation.
5. The oral presentation cannot be used to fill in incomplete or missing information required in the written proposal. The written proposals shall responds to all of the requirements of the RFP.
6. Upon conclusion of the presentation, the presenter will be asked to wait outside the room while the Department develops clarification questions. The presenters will then be asked to return to the room to respond to the Department's questions. These questions will be for clarification only. The question-and-answer session will be limited to one hour. Proposers will not be allowed to ask the Department questions except to help them understand the meaning of questions posed by the Department. No time will be allowed to research an answer.
7. The Department may record the oral presentations.

2.3.9.3 Order of Presentations

The Department will determine the order of the oral presentations by drawing lots. Oral presentations will be scheduled for the dates and times shown On the cover page of the RFP. Proposers will be notified of the time and location of the presentation at least 10 working days in advance by telephone and FAX. The scheduled time is not negotiable. A proposer forfeits its opportunity to make an oral presentation, if it fails to appear within the block of time established for its presentation. If a proposer arrives late for its presentation, but within the block of time allowed, the proposer will be allowed to make a presentation limited to the time remaining it the allowed block.

2.4 AWARD AND EXECUTION OF CONTRACT

2.4.1 CONSIDERATION OF PROPOSALS

The Department will receive the Proposals on or before the date and time, and at the place specified in the RFP. The Proposals will be separated into the Technical Proposal and Price Proposal and delivered to the Technical and Price Evaluation Teams. The Technical Proposal Team will not see the Price Proposal and the Price Proposal Team will not see the Technical Proposal. The evaluation teams will evaluate each of the proposals separately and the Technical Proposal will be evaluated before the Price Proposal is opened. The evaluation teams will submit their evaluations to the Project Manager, who will recommend a selection based on the formula in 2.3.5.10.

The Department reserves the right to reject any or all Proposals, waive technicalities, modify the RFP and advertise for new Proposals or request Best and Final Offers, or proceed to do the Work.

The Proposer may request withdrawal of a Proposal after the Proposal submittal by submitting a notarized affidavit within 24 hours after Proposal submittal deadline that declares a clerical or mathematical error in Proposal preparation and including the following:

a. Submitting accompanying declaration with original work sheets used in Proposal preparation;
b. Describing specific error(s) in detail; and
c. Verifying that error is of a significant monetary effect in the amount of 3 percent of the Lump Sum Price or greater.

Errors of judgment are not grounds for requesting Proposal withdrawal.

2.4.2 AWARD OF CONTRACT

The Contract award will be made within 30 calendar days after the Proposal submittal deadline to the Proposer the Department determines is most responsive to the RFP and has offered the best value for the State according to the formula in Section 2.3.5 (Proposal Evaluation and Scoring).

The Department may withhold award beyond the 30 days with the approval of the successful Proposer. If the award is not made within 30 calendar days, the Proposer may withdraw its Proposal without liability.

The successful Proposer will be notified by a letter mailed to the address shown in their Proposal. The letter will state that the Proposal has been accepted and that the Contract has been awarded.

If only one Proposal is submitted, or all but one Proposal have been withdrawn, the Department may award the Contract to the sole Proposer if its proposal is responsive.

2.4.3 CANCELLATION OF AWARD

The Department reserves the right to cancel the award of any Contract before execution without liability against the Department (except where a stipend is specified) if, in the judgment of the Department, the best interest of the State will be promoted thereby. If a stipend is specified, the successful Proposer will be paid the stipend per the instructions in Section 2.3 (Instruction to Proposers).

2.4.4 RETURN OF PROPOSAL GUARANTY

Proposal guarantees, other than Proposal bonds, will be returned to all Proposers except the two highest scoring Proposers, as soon as practicable after the evaluation of the Proposals. The guaranty of the most successful and the second most successful Proposers will be returned after a satisfactory contract bond has been furnished and the Contract has been executed.

A Proposer will not be released from the Proposal Process because of an alleged error in the preparation of the Proposal unless the Department returns the Proposal guaranty.

2.4.5 AWARD

Award of the Contract (if made) will be made to the Proposer that the Department determines is responsive to the RFP and whose Proposal has the highest proposal rating.

2.4.6 DEPARTMENT RIGHTS AND PROTESTS

2.4.6.1 Department Rights

The Department may investigate the qualifications of any Proposer under consideration, may require confirmation of information furnished by a Proposer, and may require additional evidence of the Proposer's qualifications to perform the Work described in this RFP. The Department reserves the right, in its sole and absolute discretion, to:

- Reject any or all of the Proposals.
- Issue a new RFP.
- Cancel, modify, or withdraw the entire RFP.
- Modify the RFP process.
- Solicit subsequent Proposals from the Proposers.
- Appoint evaluation committees to review Proposals and seek the assistance of outside technical experts in Proposal evaluation.
- Revise and modify, at any time, the factors it will consider in evaluating responses to this RFP and otherwise revise or expand its evaluation methodology.
- Hold meetings and conduct discussions and correspondence with all of the Proposers responding to the RFP to seek an improved understanding and evaluation of the responses to this RFP.
- Seek or obtain data from any source that has the potential to improve the understanding and evaluation of the responses to this RFP.
- Waive or permit corrections or supplements to data submitted with any response to this RFP.
- Approve or disapprove the use of particular Proposal team members or changes in Proposals. (A substitution of any of the Major Participants will be carefully scrutinized and may result in disqualification of the Proposal.)
- Accept other than the lowest-priced Proposal.
- Waive deficiencies, informalities, and minor irregularities in Proposals; accept a nonconforming Proposal or seek clarifications or modifications to a Proposal.
- Require a Guarantee (or Guarantees) of the Contract by a parent company (or companies) of the Proposer or any of its members, joint ventures, or partners or the parent companies of any such member, joint venture, or partner.

This RFP does not commit the Department to enter into the Contract or any other contract. The Department assumes no obligations, responsibilities, and liabilities, fiscal or otherwise, to reimburse all or part of the costs incurred or alleged to have been incurred by parties considering

a response to and/or responding to this RFP. Except for payment of the stipulated fee to certain Proposers as provided in Section 2.3.2.13 (Stipulated Proposal and Project Cancellation Fees), all such costs shall be borne solely by each Proposer.

In no event shall the Department be bound by, or liable for, any obligations with respect to the Project until such time (if at all) as a Contract, in form and substance satisfactory to the Department, has been executed and authorized by the Department, and then only to the extent set forth therein.

2.4.6.2 Protests

Any protests concerning this procurement will be governed by Utah Code Sections 63-56-45 et seq. and must be filed with the Department in writing and delivered as specified in Section 2.3.2.15 (Delivery Address for Proposals) within 60 days of Award of Contract. Each Proposer, by submission of a Proposal, agrees not to contest the Department's authority to enter into a Contract under the terms set forth in this RFP.

2.4.7 CONTRACT BONDS

2.4.7.1 General

The Department will furnish necessary bond forms to the successful Proposer. Complete, execute, and return forms to Department as required by the Utah Procurement Code.

Underwriting Limitation is stated in the United States Department of Treasury Circular 570, *Surety Companies Acceptable on Federal Bonds*. Only companies listed in the Department of Treasury Circular 570 are acceptable.

The Department will declare a Proposal non-responsive if its surety company is not listed in the Department of Treasury Circular 570 or if co-insurance, reinsurance, or other acceptable method is not provided when a company's underwriting limitation is deemed insufficient. Alterations, extensions of time, extra and additional work, or other changes authorized by the Contract may be made without securing the consent of the surety or sureties on the Contract bonds.

If a Design-Builder's surety is unable to provide payment, the Department will cancel all Work on the Contract unless it is determined to be in the public interest to continue the Work.

2.4.7.2 Payment Bond

The Payment Bond secures the payment of the claims of laborers, mechanics, or material men employed on the Work under the Contract. Payment and Performance Bonds shall equal 100 percent of the Contract Price. The Payment Bond and security assets, as applicable, shall remain in effect until the date of final payment and until all obligations and liens under this Contract have been satisfied. This bond will not be released until the Warranty Bond has been executed.

2.4.7.3 Performance Bond

The Performance Bond guarantees the faithful performance of the Contract. The Performance Bond shall equal 100 percent of the Contract Price. The Performance Bond and security assets, as applicable, shall remain in effect until the date of final payment and until all obligations and liens under this Contract have been satisfied. This bond will not be released until the Warranty Bond has been executed.

2.4.7.4 Warranty Bond

The Warranty Bond ensures all construction methods, equipment, and workmanship meet the desired warranty. The Warranty Bond shall equal 20 percent of the Contract Price.

2.4.8 EXECUTION OF CONTRACT

2.4.8.1 Execution and Approval of Contract

Promptly following Award of the Contract, the Department will deliver three execution copies of the Contract to the selected Proposer. The selected Proposer shall sign the Contract and deliver the following documents to the Department within 15 calendar days of receipt of the Award Notice:

1. Signed Contract (three executed duplicate originals)
2. Performance and payment bonds

The Contract shall not be effective until it has been signed by both the Proposer and the Department. The Proposer may withdraw the Proposal without penalty if the Contract is not executed by the Department within 30 calendar days after receiving signed Contracts and Contract Bonds.

2.4.9 FAILURE TO EXECUTE CONTRACT

The Department may cancel the Notice of Award and keep the Proposal guaranty if the successful Proposer fails to execute the Contract and file acceptable Bonds and insurance certificates evidencing coverage within 15 calendar days after the date of the Notice of Award. No stipend will be paid to the selected Proposer if the Award is not consummated due to failure of the selected Proposer to provide the information specified herein. Additionally, the Department may (but is not obligated to) award the contract to the next highest rated Proposer or the work may be re-advertised.

2.5 SCOPE OF WORK

2.5.1 GENERAL OBLIGATIONS OF THE DESIGN-BUILDER

A. Complete all Work and furnish all resources and other incidentals required to complete the specified Work.

Furnish the design of the Project and construct the Project as designed, in accordance with all professional engineering principles and construction practices generally accepted as standards of the industry in the State of Utah (the State), in a good and workmanlike manner, free from defects, and in accordance with the terms and conditions set forth in the Contract Documents.

B. The Design-Builder is an independent contractor, and nothing contained in the Contract Documents shall be construed as constituting any relationship with the Department other than that of Project owner and independent contractor. In no event shall the relationship between the Department and the Design-Builder be construed as creating any relationship whatsoever between the Department and any of the Design-Builder's employees. Neither the Design-Builder nor any of its employees is or shall be deemed to be an employee of the Department. Except as otherwise specified in the Contract Documents, the Design-Builder has sole authority and responsibility to employ, discharge, and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Subcontractors, and for all other Persons that the Design-Builder or any Subcontractor hires or engages to perform or assist in performing the Work.

C. Neither the Design-Builder nor any of its employees, agents, and representatives shall offer or give to an officer, official, or employee of the Department or the State gifts, entertainment, payments, loans, or gratuities. The Design-Builder represents and warrants that it has not previously offered or given any gifts, entertainment, payments, loans, or gratuities in violation of such prohibitions. Neither the Design-Builder nor any Subcontractor shall employ on the Project any present or former Department employee who was involved as a decision maker in evaluating or selecting the Design-Builder or who represented the Department in negotiating and/or approving invoices or Change Orders hereunder.

D. The Design-Builder, in addition to performing all other requirements of the Contract Documents, is required to:

1. Furnish all services, provide all materials, and undertake all efforts necessary or appropriate (excluding those services, materials and efforts which the Contract Documents specify will be undertaken by the Department or other Persons): (1) to construct the Project and maintain it during construction, so as to achieve FOA by the deadline specified herein; and (2) otherwise to do everything required by and in accordance with the Contract Documents.
2. At all times provide a project manager approved by the Department who (1) will have full responsibility for the prosecution of the Work, (2) will act as agent and be a single point of contact in all matters on behalf of the Design-Builder, (3) will be present or have a responsible representative at the Project Site at all times that Work is performed, and (3) will be

available to execute instructions and directions from the Department or its authorized representatives.

3. Obtain and pay the cost of obtaining all Governmental Approvals, and prior to beginning any construction activities in the field for any portion of the Project (or recommencing construction activities following any suspension), furnish the Department with fully executed copies of all such Governmental Approvals required for such portion.
4. Comply with, and ensure that all Subcontractors comply with, all requirements of all applicable Governmental Rules, including: (1) compliance with Environmental Laws and Federal Requirements, (2) performance of all environmental mitigation and monitoring measures required for the Project, (3) requirements regarding the handling, generation, treatment, storage, transportation, and disposal of Hazardous Substances, and (4) compliance with requirements for Utility relocations (work) impacted by the Project.
5. Perform Quality Control/Quality Acceptance testing in accordance with the Contract Documents.
6. Cooperate with the Department in its review of the design of the Project, inspections during construction, and other matters relating to the Work.
7. Provide the Department with a copy of Project Documents.
8. Supervise and be responsible for acts and omissions of the Design-Builder's employees, agents, officers, and Subcontractors and other Persons performing portions of the Work, as though all such Persons were directly employed by the Design-Builder.
9. Mitigate delay to the Project and mitigate damages due to delay in all circumstances, to the extent possible, including by re-sequencing, re-allocating, or re-deploying the Design-Builder's forces to other work, as appropriate
10. Comply with all applicable terms and conditions of all Utility Agreements.

2.5.2 PARTNERING

A. Partnering does not change the legal relationship of the parties to the Contract, and does not relieve either party from any of the terms of the Contract.

B. The Department requires the formation of a strong partnership among the Department, the Design-Builder, and the Design-Builder's principal design and construction subcontractors (Major participants). This partnership draws on the strengths of each organization to identify and achieve mutual goals. The objectives include effective and efficient Project performance and completion on schedule, within budget, and in accordance with the Contract Documents.

C. To implement the partnering initiative, the Design-Builder shall contact the Department's Engineer within 30 days of Notice of Award and before the preconstruction conference. The Engineer facilitates a planning meeting to determine a mutually agreeable facilitator, attendees, agenda, duration, and location of a partnering workshop.

D. Partnering is multilateral, and participation is mandatory. Any costs associated with implementing and running a partnering program will be agreed to by both the Department and the Design-Builder and will be shared equally. The Design-Builder's portion of these costs will be including in the lump sum proposal price and will not be paid via change order. The Design-Builder shall pay all costs and submit paid invoices to the Department for 50% reimbursement.

E. Persons who should attend the partnering workshop:
   1. Design-Builder's corporate level manager.
   2. Design-Builder and Project supervisory personnel.
   3. Design-Builder's Key Personnel
   4. Design-Builder's Principal design and construction subcontractors.
   5. UDOT Project Manager.
   6. UDOT Region Construction Engineer.
   7. UDOT Resident Engineer and key project personnel.
   8. UDOT Project Design Engineer.
   9. UDOT Innovative Contracting Engineer.
   10. Local government personnel.
   11. Utility Representatives

F. Follow-up workshops may be held periodically as agreed to by the Design-Builder and the Department.

2.5.3 DIFFERING SITE CONDITIONS

A. During the progression of the Work, the Design-Builder shall promptly and before such conditions are disturbed and the affected work is performed, notify the Engineer in writing of:
   1. Specific subsurface or latent conditions encountered at the Site, differing materially from those indicated in the Contract.
   2. Unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent to the Work provided for in the Contract.

B. Design-Builder 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. Each "Notice of Differing Site Conditions, Changes and Extra Work" shall be accompanied by a statement signed by a qualified professional (changed conditions related to geotechnical issues shall be signed by the geotechnical engineer of record) setting forth all relevant assumptions made by Design-Builder 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 Design-Builder to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs.

C. Upon written notification, the Engineer:
   1. Investigates the conditions.
   2. Determines if 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.
   3. Notifies the Design-Builder whether or not an adjustment of the Contract is warranted. If warranted, makes an adjustment, excluding anticipated profits as follows:
      a. Adjustments in Contract Time are made in accordance with Section 2.8.9 "Extending Contract Time."
      b. Payment is made under the provisions of Section 2.10.3, "Differing Site Conditions, Changes, Extra Work," and articles concerning Force Account Work (General, Labor, Materials, Contractor-Owned Equipment, Rented or Leased Equipment, Subcontracts, and Statements).

4. Modify the Contract in writing accordingly.

D. Department does not allow adjustments to the Contract that benefit the Design-Builder unless the Design-Builder has provided the required written notice as specified in Section 2.5.6, "Notification of Differing Site Conditions, Changes and Extra Work."

2.5.4 CHANGES

2.5.4.1 General

A. This Section sets forth the requirements for obtaining all Change Orders under this Contract. The Design-Builder hereby acknowledges and agrees that the Contract Price constitutes full compensation for performance of all of the Work, subject only to those exceptions specified in this Section 2.5.4, and that the Department is subject to constraints which limit its ability to increase the Contract Price or extend the Completion Deadlines. The Design-Builder hereby waives the right to make any claim for a time extension or for any monetary compensation in addition to the Contract Price and other compensation specified in this Contract, except as set forth in this Section 2.5.4.

2.5.4.2 Circumstances under which Change Orders May Be Issued

A. Definition of and Requirements Relating to Change Orders

1. **Change Orders:** The term "Change Order" shall mean a written amendment to the terms and conditions of the Contract Documents issued in accordance with this Section 2.5.4. The Department may issue unilateral Change Orders as specified in Section 2.5.4.3 (Procedure for Department-Initiated Change Orders). Change Orders may be requested by the Design-Builder only pursuant to Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder). A Change Order shall not be effective for any purpose unless executed by the Department, as specified herein. Change Orders may be issued for the following purposes (or combination thereof):
   a. To modify the scope of the Work
   b. To revise a Completion Deadline
   c. To revise the Contract Price
   d. To revise other terms and conditions of the Contract Documents

   Upon the Department's approval of the matters set forth in the Change Order form (whether it is initiated by the Department or the Design-Builder), the Department shall sign such Change Order form indicating approval thereof. A Change Order may, at the sole discretion of the Department, direct the Design-Builder to proceed with the Work with the amount of any adjustment in the Contract Price and/or Completion Deadline to be determined in the future in accordance with the terms of the Contract.
2. **Issuance of Directive Letter:** The Department may at any time issue a Directive Letter to the Design-Builder in the event of any desired change in the Work or of any dispute regarding the scope of the Design-Builder's Work. The Directive Letter will describe the Work in question and will state the basis for determining compensation, if any. The Design-Builder

will proceed immediately with the Work as directed, pending the execution of a formal Change Order (or, if the letter states that the Work is within the original scope of the Work, the Design-Builder will proceed with the Work as directed).

3. **Performance of Work Outside of Scope:** Before starting to work on any item which the Design-Builder considers to be outside of the original scope of the Work, as a condition precedent to its right to receive additional payment therefore or an extension of a Completion Deadline in connection with such Work, the Design-Builder shall have received either a Directive Letter from the Department stating that it is issued pursuant to Section 2.5.4.2, or a Change Order for such Work signed by the Department.

4. **No Cost Changes Which Require a Change Order:** The following changes in the Work require a Change Order or Contract amendment even if they have no net cost effect on the Contract Price: (a) any material changes in Basic Configuration and (b) any changes in the terms and conditions of the Contract Documents.

B. Directive Letter as Condition Precedent to Claim That a Department-Directed Change Has Occurred

1. In addition to provision of a Potential Change Order (PCO) Notice and subsequent Change Order request pursuant to Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder, paragraph: "Conditions Precedent"), receipt of a Directive Letter from the Department shall be a condition precedent to the Design-Builder's right to make a Claim that a Department-Directed Change has occurred, provided that no Directive Letter shall be required for alleged Department-Directed Changes directly attributable to delays caused by bad faith actions, active interference, gross negligence, or comparable tortious conduct by the Department or its duly authorized representatives. The fact that a Directive Letter was issued by the Department shall not be considered evidence that in fact a Department-Directed Change occurred. The determination whether a Department-Directed Change in fact occurred shall be based on an analysis of the original Contract requirements and a determination whether the Directive Letter in fact constituted a change in those requirements. The foregoing requirements shall not imply that a Directive Letter would be required in order for the Design-Builder to have the right to receive compensation for Work within its original scope (such as Relocation of previously unidentified main or trunk line Utilities, under certain circumstances) for which additional compensation is specifically allowed under this Section 2.5.4.

C. Right of the Department to Issue Change Orders

1. The Department may, at any time, without notice to any Surety or Guarantor, authorize and/or require changes in the Work within the general scope of the Contract pursuant to a Change Order, including accepting any option proposed by the Design-Builder.

2.5.4.3 Procedure for Department-Initiated Change Orders

A. This Section concerns Change Orders issued by the Department.

B. Request for Quotation

1. **Issuance of Request:** When the Department desires to issue a Department-Directed Change or to evaluate whether to initiate such a change, the Department may, at its discretion, issue a request for quotation. The Department may at any time ask the Design-Builder to provide two alternative Change Order forms in accordance with Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder), (Eligible Changes).
2. **Initial Consultation:** Within 7 days after the Design-Builder's receipt of a request for quotation, the Department and the Design-Builder shall consult (at no charge to the Department) concerning the estimated cost and time impacts. The Design-Builder shall provide data regarding such matters as requested by the Department.
3. **Notification by Department:** Within 7 days after the consultation and provision of data as described in this Section 2.5.4.3, the Department shall notify the Design-Builder whether the Department:
   a. Wishes to issue a Change Order,
   b. Wishes to request the Design-Builder to prepare a Change Order form as discussed at the meeting,
   c. Wishes to request the Design-Builder to modify the Work plan and prepare a Change Order form based on the modified plan, or
   d. No longer wishes to issue a Change Order.
4. **Submittal of Change Order Form:** If so requested, the Design-Builder shall, within 21 days after receipt of the notification described above, prepare and submit to the Department for review and approval a Change Order form for the requested change, complying with all applicable requirements of this Section, and incorporating and fully reflecting all requests made by the Department. If the Design-Builder determines that it cannot meet the time allowed, the Design-Builder shall notify the Department in writing of the Design-Builder's proposed deadline for providing the Change Order form, which deadline shall be subject to approval by the Department. Development of the cost proposal and scope, including any modifications thereto requested by the Department, shall be made at the Design-Builder's cost and expense, except that costs of design and engineering Work required for preparation of plans or exhibits necessary to the Change Order form shall be included in the Change Order as reimbursable items.

   The preparation of the cost estimate and any necessary changes to the Project Schedule will be considered part of the design and engineering Work required for preparation of the Change Order. If the Change Order is approved, the design and engineering costs will be included within the Change Order; otherwise, they shall be separately reimbursed through a separate Change Order.

5. **Order To Proceed:** If the parties agree that a change in the requirements relating to the Work has occurred but disagree as to whether the change justifies additional compensation or time or disagree as to the amount of

any change to be made to the Contract Price or extension of a Completion Deadline to be made, the Department may, at its sole discretion, order the Design-Builder to proceed with the performance of the Work in question notwithstanding such disagreement. Such order may, at the Department's option, be in the form of:

a. A time and materials Change Order as provided in Section 2.5.4.8, (Time and Material Change Orders),
b. A Directive Letter as described in Section 2.5.4.2, paragraph (Issuance of Directive Letter) pending further discussions regarding issuance of a Change Order or
c. A Change Order directing the Design-Builder to proceed with the changed requirements without entitlement to additional compensation or time.

B. Unilateral Change Orders

1. The Department may issue a Change Order at any time, regardless of whether it has requested a quotation. Any such Change Order shall state that the Design-Builder shall be entitled to compensation in accordance with this Section 2.5.4.8 (Time and Material Change Orders) for the additional Work required thereby.

2.5.4.4 Procedure for Change Orders Requested by the Design-Builder

A. **Time Extension:** The Design-Builder may request a Change Order to extend a Completion Deadline only for the following excusable delays changing the duration of a Critical Path, based on the current project schedule updated to reflect the status of work at the time the delay occurred:

1. Department-Caused Delays;
2. Necessary Basic Configuration Changes approved by the Department,
3. Delays directly attributable to Force Majeure events and Differing Site Conditions, as specified in Sections 2.5.3 and 2.5.4.11, to the extent provided therein; and
4. Certain delays relating to Utility Work for which the Design-Builder has no control over.

B. **Contract Price Increase:** The Design-Builder may request a Change Order to increase the Contract Price, subject to certain limitations with respect to delay damages as specified in Section 2.5.4.6 (Certain Limitations), and subject to strict compliance with the requirements of this Section 2.5.4, only for increased costs of the Work as follows:

1. Additional costs directly attributable to additional Work resulting from Department-Directed Changes;
2. Additional costs directly attributable to Department-Caused Delays;
3. Escalation for Force Majeure suspension with duration greater than six months,
4. Additional costs directly attributable to uncovering, removing, and restoring Work, to the extent provided in Section 2.6.11 (Inspection of Work).
5. Necessary Basic Configuration Changes approved by the Department.

C. Alternative Change Order Requests: If the Design-Builder requests a time extension, the Department may require the Design-Builder to provide two alternative Change Order requests, one of which shall provide for a time extension and any additional costs permitted hereunder, and the other of which shall show all Acceleration Costs associated with meeting the original completion deadline, as well as any additional costs permitted hereunder.

D. Conditions Precedent: The following requirements constitute conditions precedent to the Design-Builder's entitlement to request a Change Order in all circumstances. Said requirements shall not apply to Change Orders issued under this Section 2.5.4.3 (Procedure for Department-Initiated Change Orders). The Design-Builder agrees that the filing of PCO Notices and subsequent filing of requests for Change Orders with the Department pursuant to this Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder, subsection "Conditions Precedent"), are necessary in order to begin the administrative process for the resolution of Contract disputes. The Design-Builder understands that it shall be forever barred from recovery against the Department as stated below if it fails to give notice of any act, or failure to act, by the Department or any of its representatives, or the happening of any event, thing or occurrence pursuant to a proper PCO Notice.

E. Delivery of PCO Notice: The Design-Builder shall deliver to the Department written notice stating that an event or situation has occurred within the scope of this Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder). Notification shall be made upon discovery and/or reasonable observation of the condition. The first notice shall be labeled "PCO No. 1," and subsequent notices shall be numbered sequentially. Any notice regarding a situation involving a Necessary Basic Configuration Change shall specifically state that it involves such a change.

1. **Importance of Prompt Delivery:** Each PCO Notice shall be delivered as promptly as possible after the occurrence of such event or situation. If any PCO Notice is delivered later than 14 days after the Design-Builder first discovered (or should have discovered in the exercise of reasonable prudence) the occurrence which is described therein, the Design-Builder shall be deemed to have waived the right to collect any and all costs incurred prior to the date of delivery of the written notice, and shall be deemed to have waived the right to seek an extension of any Completion Deadline with respect to any delay in any Critical Path which accrued prior to the date of delivery of the written notice. Furthermore, if any PCO Notice concerns any condition or material described in Section 2.5.3 (Differing Site Conditions) or Standard Specification (DB) 01355, paragraph 1.9 (Hazardous Materials) the Design-Builder shall be deemed to have waived the right to collect any and all costs incurred in connection therewith to the extent that the Department is not afforded the opportunity to inspect such material or condition before it is disturbed.

   The Design-Builder's failure to provide a PCO Notice within 60 days after the Design-Builder first discovered (or should have discovered in the exercise of reasonable prudence) the occurrence of a given event or situation shall preclude the Design-Builder from any relief, unless the Design-Builder can show, based on a preponderance of the evidence, that

(a) the Department was not materially prejudiced by the lack of notice, or (b) the Department had actual knowledge, prior to the expiration of the 60-day period, of the event or situation and that the Design-Builder believed it was entitled to a Change Order with respect thereto.

2. **Contents of PCO Notice:** The PCO Notice shall: (a) state in detail the facts underlying the potential claim, the reasons why the Design-Builder believes additional compensation or time is due, and the date of occurrence, (b) state the name, title, and activity of each Department representative knowledgeable of the facts underlying the potential claim, (c) identify any documents and the substance of any oral communication involved in the claimed change, (d) state in detail the basis for a claim of necessary accelerated schedule performance, if applicable, (e) state in detail the basis for a claim that the Work is not required by the Contract, if applicable, (f) identify particular elements of Contract performance for which additional compensation may be sought under this Section 2.5.4.4, (g) identify any potential Critical Path impacts, and (h) provide an estimate of the time within which a response to the notice is required to minimize cost, delay, or disruption of performance.

3. **Facts Supporting Objection to Decision:** If the claim relates to a decision which the Contract leaves to the discretion of such Person or as to which the Contract provides that such Person's decision is final, the PCO Notice shall set out in detail all facts supporting the Design-Builder's objection to the decision, including all facts supporting any contention that the decision was capricious or arbitrary or is not supported by substantial evidence.

4. **Notices Under Other Contract Provisions:** The written notification under Section 2.5.3 (Differing Site Conditions), and Section 01355, paragraph 1.9 (Hazardous Materials) may also serve as a PCO Notice, provided it meets the requirements for PCO Notices.

5. **Response by Department:** Within 10 days after receipt of a PCO Notice, the Department may respond in writing to the Design-Builder to: (a) confirm that a change has occurred or (b) deny that a change has occurred or (c) advise the Design-Builder that the necessary information has not been submitted to decide which of the above alternatives applies, and indicate the needed information and date by which it is to be received for further review. Failure of the Department to respond shall not affect the Design-Builder's obligation to provide a request for Change Order within the time periods specified in this Section 2.5.4.4, paragraph D (Conditions Precedent).

6. **Failure to Provide Information:** Any adjustments made to the Contract shall not include increased costs or time extensions for delay resulting from the Design-Builder's failure to provide requested additional information under this Section 2.5.4.4, (Procedure for Change Orders Requested by the Design-Builder), subparagraph: (Delivery of PCO Notice).

F. Delivery of Requests for Change Orders: The Design-Builder shall deliver all requests for Change Orders under this Section 2.5.4.4, (Procedure for Change Orders Requested by the Design-Builder) to the Department within 30 days after delivery of the PCO Notice, or such longer period of time as may be necessary, provided that the Design-Builder shall have notified the Department in writing, prior to expiration of said 30-day period, of the amount additional time required. The Department may require design and construction costs to be covered by separate Change Order requests.

1. **Incomplete Change Orders:** Each request for Change Order provided under Section 2.5.4.4, (Procedure for Change Orders Requested by the Design-Builder), paragraph: (Delivery of Requests for Change Orders), shall meet all requirements set forth in Section 2.5.4.5 (Contents of Change Orders); provided that if any such requirements cannot be met due to the nature of the occurrence, the Design-Builder shall provide an incomplete Change Order which shall:
   a. Comply with all requirements capable of being met,
   b. Include a list of requirements that are not fulfilled, together with an explanation reasonably satisfactory to the Department stating why such requirements cannot be met,
   c. Provide such information regarding projected impact on the Critical Path as is requested by the Department, and
   d. In all events include sufficient detail to ascertain the basis for the proposed Change Order and for any price increase associated therewith, to the extent such amount is then ascertainable.

2. **Furnish Requested Information:** The Design-Builder shall furnish, when requested by the Department or its designee, such further information and details as may be required to determine the facts or contentions involved. The Design-Builder agrees that it shall give the Department or its designee access to any and all of the Design-Builder's books, records, and other materials relating to the Work, and shall cause its Subcontractors to do the same, so that the Department or its designee can investigate the basis for such proposed Change Order. The Design-Builder shall provide the Department with a monthly update to all outstanding incomplete requests for Change Orders describing the status of all previously unfulfilled requirements and stating any changes in projections previously delivered to the Department, excess time expenditures to date, and excess time anticipated for completion of the activities for which the time extension is claimed. The Department's failure to respond to any such request for Change Order within 14 days of delivery of the request shall be deemed a rejection of such request. Although the Department itself intends to review incomplete Change Orders for the purposes described in Section 2.5.4.4, (Procedure for

Change Orders Requested by the Design-Builder, subparagraph: "Importance of Timely Delivery") the Department shall have no obligation to review the backup associated with any request for Change Order until a complete Change Order is provided.

3. **Importance of Timely Delivery:** The Design-Builder acknowledges and agrees that, due to the limited availability of funds for the Project, timely delivery of notification of such events and situations and requests for Change Orders and updates thereto are of vital importance to the Department. The Department is relying on the Design-Builder to evaluate, promptly upon the occurrence of any event or situation, whether the event or situation will delay any Critical Path or will affect costs and, if so, whether the Design-Builder believes a time extension and/or Contract Price increase is appropriate. If an event or situation occurs which may affect the Contract Price or delay a Critical Path, the Department will evaluate the Project and determine whether it wishes to make any changes to the definition of the Project so as to bring it within the Department's funding and time restraints.

   The following matters (among others) shall be considered in determining whether the Department has been prejudiced by the Design-Builder's failure to provide timely notice:

   a. The effect of the delay on alternatives available to the Department (that is, a comparison of alternatives which are available at the time notice was actually given and alternatives which would have been available had notice been given within 10 days after occurrence of the event).
   b. The impact of the delay on the Department's ability to obtain and review objective information contemporaneously with the event.

G. Compliance with Requirements of Other Contract Provisions: The Design-Builder shall comply with all applicable requirements contained in Section 2.5.3 (Differing Site Conditions), unless precluded from doing so by emergency circumstances.

H. Subcontractor Claims: Prior to submission by the Design-Builder of any request for a Change Order which is based in whole or in part on any facts alleged in a submittal by any Subcontractor to the Design-Builder, the Design-Builder shall have reviewed all such Subcontractor claims and determined in good faith whether the claims are justified as to both entitlement and amount. The Design-Builder's request for a Change Order shall include only those items which the Design-Builder has determined are so justified and which otherwise meet all requirements hereunder for Design-Builder-initiated Change Orders. Each request for a Change Order involving Subcontractor Work, and each update to an incomplete Change Order request involving such Work shall include:

   1. A summary of the Design-Builder's analysis of all components of the Subcontractor claims
   2. A certification signed by the Design-Builder's project manager stating that the Design-Builder has reviewed and agrees with the Subcontractor's justification and has reviewed and verified the adequacy of any backup documentation included in the request

Any request for Change Order involving Subcontractor Work that is not accompanied by such an analysis and certification shall be considered incomplete.

I. Submittal of Request for Change Order: The Design-Builder shall initiate each request for a Change Order, after satisfaction of all conditions precedent set forth above, by submitting a Change Order form and supporting documentation to the Department for its review and approval. If the Design-Builder submits a request for Change Order requesting an extension of any Completion Deadline as permitted by Section 2.5.4.4, (Procedure for Change Orders Requested by the Design-Builder), paragraph: (Time Extension), then the Design-Builder shall also provide an Recovery Schedule in accordance with Section 2.8.

J. Performance of Disputed Work: If the Department refuses to issue a Change Order based on the Design-Builder's request, the Design-Builder shall nevertheless perform all Work as specified in an appropriate Directive Letter. The Design-Builder shall maintain and deliver to the Department, upon request, contemporaneous records, meeting the requirements of Section 2.5.4.8 (Time and Material Change Orders), for all Work performed which the Design-Builder believes constitutes extra Work (including non-construction Work), until all disputes regarding entitlement or cost of such Work are resolved.

2.5.4.5 Contents of Change Orders

A. Form of Change Order: Each Change Order and request for Change Order shall be prepared using the appropriate form provided by the Department, with any modifications necessary to meet the requirements of Section 2.5.4.4 (Procedure for Change Orders Requested by the Design-Builder), and shall meet all applicable requirements of this Section 2.5.4.5.

B. Scope of Work, Cost Estimate, Delay Analysis, and Information Regarding Change: The Design-Builder shall prepare a scope of work, cost estimate, delay analysis, and other information as required by this paragraph 1.6 (Contents of Change Orders), for each Change Order, other than Change Orders issued unilaterally by the Department.

1. **Scope of Work**: The scope of work shall describe, in detail satisfactory to the Department, all activities associated with the Change Order, including additions, deletions, and modifications to the existing Contract requirements.
2. **Cost Estimate:** The cost estimate shall set out the estimated costs in such a way that a fair evaluation can be made. It shall include a breakdown for labor, materials, equipment, overhead (which includes all indirect costs), and profit, unless the Department agrees otherwise. The estimate shall include costs allowable under this Section 2.5.4.6 (Certain Limitations), if any. If the Work is to be performed by Subcontractors and if the Work is sufficiently defined to obtain Subcontractor quotes, the Design-Builder shall obtain quotes (with breakdowns showing cost of labor, materials, equipment, overhead, and profit) on the Subcontractor's stationery and shall include such quotes as backup for the Design-Builder's estimate. No markup shall be allowed in excess of the amounts allowed under this Section 2.5.4.6 (Certain Limitations), and Section 2.5.4.8 (Time and Material Change Orders). The Design-Builder shall identify all conditions with respect to prices or other aspects of the cost estimate, such as pricing

contingent on firm orders being made by a certain date or the occurrence or nonoccurrence of an event.

3. **Delay Analysis:** If the Design-Builder claims that such event, situation, or change affects a Critical Path of the Project Schedule - based upon the current schedule updated to show actual progress of work at the time of the event - it shall provide a delay analysis of the critical path showing the cumulative effect of the change on the completion or fixed milestone date. A narrative report, in a form satisfactory to the Department, describing the impact analysis shall also be submitted. The revision to the Project Schedule associated with the time extension shall not modify the "early and late start cost curves" of the Project Schedule except with respect to activities that have been affected by the event that justifies the extension. The Design-Builder may reschedule activities not otherwise affected by the event in order to take advantage of additional Float available as the result of the time extension. Any such rescheduling shall be reflected in the Project Schedule.
4. **Other Supporting Documentation:** The Design-Builder shall provide such other supporting documentation as may be required by the Department. The Design-Builder acknowledges and agrees that the Department may use any or all of the information contained in the Escrowed Proposal Documents in evaluating the estimate.

C. Justification: For all requests for Change Orders other than Change Orders issued unilaterally by the Department, the Design-Builder shall provide a narrative justification to be included in the Change Order, detailing all causes of the proposed change and making specific reference to the applicable provisions of this Section 2.5.4.5 which permit a Change Order to be issued, and describing the data and documents which establish the necessity and amount of such proposed change.

D. Design-Builder Representation: Each Change Order (other than Change Orders issued unilaterally by the Department) shall contain a written representation by the Design-Builder that the amount of time and/or compensation requested includes all known and anticipated impacts or amounts, direct, indirect, and consequential which may be incurred as a result of the event or matter giving rise to such proposed change.

2.5.4.6 Certain Limitations

A. Limitation on Contract Price Increases. Any increase in the Contract Price allowed hereunder shall exclude:

1. Costs caused by the breach of contract or fault or negligence, or act or failure to act of the Design-Builder, its employees, agents, officers, or Subcontractors or any other Persons for whom the Design-Builder may be contractually or legally responsible;
2. Costs which could reasonably be avoided by the Design-Builder, including by resequencing, reallocating, or redeploying its forces to other portions of the Work or to other activities unrelated to the Work (including in the equation any additional costs reasonably incurred in connection with such reallocation or redeployment);
3. Costs for any rejected Work that failed to meet the requirements of the

Contract Documents and any necessary remedial Work.

B. Acceleration Costs: No Acceleration Costs shall be payable hereunder except with respect to Change Orders issued by the Department as an alternative to allowing an extension of a Completion Deadline as addressed in Section 2.5.4.4 Article C (Alternative Change Requests). Except as provided in the preceding sentence, no Acceleration Costs or other delay damages shall be compensable hereunder under any circumstances except in the case of delays that qualify as Department-Caused Delays entitling the Design-Builder to an extension of a Completion Deadline.

C. Other Limitations: Delay damages shall be limited to direct costs directly attributable to the delays described in Section 2.5.4.4, (Procedure for Change Orders Requested by the Design-Builder) paragraph: (Time Extension), and markups thereon in accordance with Section 2.5.4.8 (Time and Materials Change Orders), and any additional field office and jobsite overhead costs incurred by the Design-Builder directly attributable to such delays. In addition, before the Design-Builder may obtain any increase in the Contract Price to compensate for additional or extended overhead, Acceleration Costs, or other damages relating to delay, the Design-Builder shall have demonstrated to the Department's satisfaction that:

1. Its schedule which defines the affected Critical Path in fact set forth a reasonable method for completion of the Work.
2. The change in the Work or other event or situation which is the subject of the request for Change Order has caused or will result in an identifiable and measurable disruption of the Work which impacted a Critical Path activity, consumed all available Float, and extended the Work required for Substantial Completion beyond the Substantial Completion Deadline.
3. The delay or damage was not due to any breach of contract or fault or negligence, or act or failure to act of the Design-Builder, its employees, agents, officers, Subcontractors, or any other Persons for whom the Design-Builder may be contractually or legally responsible, and could not reasonably have been avoided by the Design-Builder, including by resequencing, reallocating, or redeploying its forces to other portions of the Work or other activities unrelated to the Work (subject to reimbursement for additional costs reasonably incurred in connection with such reallocation or redeployment).
4. The delay for which compensation is sought is not concurrent with any delay for which the Design-Builder is responsible.
5. The Design-Builder has suffered or will suffer actual costs due to such delay, each of which costs shall be documented in a manner satisfactory to the Department.

D. Limitation on Time Extensions: Any extension of a Completion Deadline allowed hereunder shall exclude any delay to the extent that it:

1. Did not affect the Critical Path,
2. Was due to the fault or negligence, or act or failure to act of the Design-Builder, its employees, agents, officers, Subcontractors or any other Persons for whom the Design-Builder may be contractually or legally responsible, or

3. Could reasonably have been avoided by the Design-Builder, including by resequencing, reallocating, or redeploying its forces to other portions of the Work (provided that if the request for extension involves a Department-Caused Delay, the Department shall have agreed, if requested to do so, to reimburse the Design-Builder for its costs incurred, if any, in resequencing, reallocating, or redeploying its forces).

4. The Design-Builder shall be required to demonstrate to the Department's satisfaction that the change in the Work, other event, or situation which is the subject of the request for Change Order seeking a change in a Completion Deadline has caused or will result in an identifiable and measurable disruption of the Work which has affected a Critical Path activity, and extended the Work required for Substantial Completion or FOA (as applicable), beyond the applicable Completion Deadline.

E. Work Performed Without Direction: To the extent that the Design-Builder undertakes any Work that is outside of the original scope of the Work, unless the Design-Builder has received a Directive Letter to perform such Work, the Design-Builder shall be deemed to have performed such Work voluntarily and shall not be entitled to a Change Order in connection therewith. In addition, the Design-Builder may be required to remove or otherwise undo any such Work, at its sole cost and expense.

2.5.4.7 Pricing of Change Orders

A. The Department and the Design-Builder (on its own behalf and on behalf of its Subcontractors) shall endeavor to negotiate, in good faith, a reasonable cost for each Change Order other than unilateral Change Orders under Section 2.5.4.3 (Procedure for Department-Initiated Change Orders). The price of a Change Order may be negotiated in accordance with this Section or may be based on Time and Materials records pursuant to Section 2.5.4.8 (Time and Materials Change Orders).

B. Contents: A negotiated Change Order shall specify scheduling requirements, time extensions, and all costs of any nature arising out of the Work covered by the Change Order. Notwithstanding the foregoing, the parties may mutually agree to use a multiple-step process involving issuance of a Change Order which includes an estimated construction cost and provides for a revised Change Order to be issued after a certain design level has been reached, thus allowing a refinement and further definition of the estimated construction cost.

C. Unit Priced Change Orders: In the event that the parties negotiate a unit-priced Change Order, measurement shall be as specified in the Change Order, and the unit prices shall not be subject to change regardless of any change in the estimated quantities.

D. Added Work: When the Change Order adds Work to the Design-Builder's scope, the increase in the Contract Price shall be negotiated based on estimated costs of labor, material, and equipment, or on actual costs in accordance with this Section 2.5.4.8 (Time and Material Change Orders). For negotiated Change Orders, markups for profit and overhead shall be consistent with this Sections 2.5.4.6

(Certain Limitations), and 2.5.4.8 (Time and Material Change Orders), and risk associated with the Work described in the Change Order shall be addressed through the assumptions contained therein regarding the scope of such Work.

E. Deleted Work: When the Change Order deletes Work from the Design-Builder's scope, the amount of the reduction in the Contract Price shall be based on an estimate including a bill of material, a breakdown of labor and equipment costs and overhead and profit associated with the deleted Work. The amount of risk associated with such Work as of the date of execution hereof by the Design-Builder shall be a factor in determining the markup for the deduction. When a deduction is involved, documented cancellation and restocking charges may be included in costs and subtracted from the price deduction.

F. Work Both Added and Deleted: When the Change Order includes both added and deleted Work, the Design-Builder shall prepare a statement of the cost of labor, material, and equipment for both added and deleted Work.

1. If the change results in a net increase in cost, the change shall be treated as Work added and the provisions of paragraph 1.8D (Added Work) shall be used to determine markups for overhead and profit. Markups for overhead and profit will be allowed only for the net increase in cost in order to establish the amount to be added to the Contract Price.
2. If the change results in a net decrease in cost, the change shall be treated as Work deleted and the provisions of paragraph 1.8E (Deleted Work) shall be used on the net decrease in cost in order to establish the amount of the reduction in the Contract Price.
3. If the change results in a net change of zero, there will be no change in the Contract Price.

2.5.4.8 Time and Materials Change Orders

A. The Department may at its discretion issue a time and materials Change Order whenever the Department determines that a time and materials Change Order is advisable. The time and materials Change Order shall instruct the Design-Builder to perform the Work, indicating expressly the intention to treat the items as changes in the Work and setting forth the kind, character, and limits of the Work as far as they can be ascertained, the terms under which changes to the Contract Price will be determined, and the estimated total change in Contract Price anticipated there under. Upon final determination of the allowable costs, the Department shall issue a modified Change Order setting forth the final adjustment to the Contract Price. The following costs and markups (and no others) shall be used for calculating the change in the Contract Price.

B. Labor Costs: The cost of labor shall be separated into construction-related Work and non-construction-related Work as described below. The use of a labor classification that would increase the extra Work cost will not be permitted unless the Design-Builder establishes the necessity for such additional costs. The cost of labor shall be calculated based on straight time for all hours worked, unless the Design-Builder obtains the Department's prior written approval for overtime.

1. **Construction Labor:** The cost of labor for workers used in the actual and direct performance of construction-related Work, whether provided by the Design-Builder or a Subcontractor, will equal the sum of the following:

a. Actual burdened wages (i.e., the base wage paid to the employee plus audited employee fringe benefits), plus

b. A labor surcharge of 31 percent of actual burdened wages, which shall constitute full compensation for all other payments made to, or on behalf of, the workers, in excess of actual burdened wages.

2. **Non-Construction Labor:** The cost of labor for non-construction-related Work (that is, design, surveying, real property acquisition support, permits, professional environmental services, and similar aspects of the Work), performed by employees of professional architect, engineering or surveying firms, or independent professional architects, engineers or surveyors, whether provided by the Design-Builder or a Subcontractor, will equal the sum of the following:

a. Actual wages (i.e., the base wage paid to the employee exclusive of any fringe benefits), plus

b. A labor surcharge of 140 percent, which shall constitute full compensation for all state and federal payroll, unemployment, and other taxes, insurance, fringe benefits (including health insurance, retirement plans, vacation, sick leave, and bonuses), and all other payments made to, or on behalf of, the workers in excess of actual wages, as well as for overhead.

C. Material Costs: Material costs included in the Change Order shall be the cost of all materials to be used in the performance of construction Work, including normal wastage allowance in accordance with industry standards, subject to the requirements set forth in this paragraph (Material Costs). The material prices shall be supported by valid quotes and invoices from the suppliers. The cost shall include sales taxes, freight, delivery charges, and any allowable discounts. The Department reserves the right to approve materials and sources of supply of materials to be furnished by the Design-Builder or Subcontractors and shall have the right to furnish such materials as it deems advisable. The price allowed for materials shall be adjusted as follows:

1. **Affiliated Source of Supply:** If the materials are obtained from a supply or source owned in whole or in part by the Design-Builder or a Subcontractor, the cost of such materials shall not exceed the lesser of the lowest price charged by the Design-Builder or such Subcontractor (as applicable) for similar materials furnished to other jobs or the current wholesale price for such materials delivered to the jobsite.

2. Excessive Cost: If the cost of such materials is excessive, in the sole opinion of the Department, then the cost of such materials shall be deemed to be the lowest current wholesale price at which such materials were available, in the quantities needed and delivered to the jobsite.

3. Evidence of Cost: If the Design-Builder or any Subcontractor (as applicable) does not furnish satisfactory evidence of the cost of such materials from the actual supplier thereof within 60 days after the date of delivery of the material, the Department reserves the right to establish the cost of such materials at the lowest current wholesale prices at which such materials were available, in the quantities needed and delivered to the jobsite.

D. Equipment

1. **Blue Book:** The Design-Builder will be paid for the use of equipment owned or rented by the Design-Builder or any Subcontractor for actual use in construction of the Project at an hourly rate equal to the lesser of the Design-Builder's actual cost or the applicable rate determined from the Rental Rate Blue Book for Construction Equipment, as it may be updated from time to time (the "Blue Book"). This publication can be obtained through:

   Primedia Information Inc.
   1735 Technology Drive, Suite 410
   San Jose, California 95110-1313
   Phone: (800) 669-3282
   Fax: (408) 467-6795

   The total hourly rates derived from the above publication are computed from equipment costs currently in effect. The rates derived do not include costs for operating personnel. The rates require adjustment by a regional factor and a depreciation factor found in the front of each chapter in the Blue Book.

2. **Rate Categories:** Equipment use rates fall in the following two categories:

   a. **Operating Rate:** This rate applies to those hours the equipment is actually in use, includes ownership and operating costs, and is subject to adjustment for depreciation using the Rate Adjustment Table and region using the Regional Adjustment Maps, as provided in the Rental Rate Blue Book, for construction equipment, except that fuel adjustments will be made as specified in Section 2.10.8 (Adjustments for Fuel Cost)

   b. **Standby Rate:** This rate applies to equipment required to be at the Site but not operating, and includes ownership costs only. The adjustment for depreciation shall be 50 percent of the adjusted ownership costs computed in the paragraph above (Rate Categories). The duration of allowable standby time is to be approved in writing by the Department, with a maximum of 8 hours per day or 40 hours in a normal week.

   When the manufacturer's rated capacity falls between those shown in the Blue Book, the closest rated capacity will be used, without interpolation. All rates shall be agreed upon in writing before Work is begun. Payment will not be made for pickup trucks used solely for transportation.

3. **Specialized Equipment:** In cases where the equipment to be used is specialized in nature, and is not available in the Design-Builder's inventory, and is rented or leased from an outside agency, a 10 percent allowance will be added on the first $5,000 plus 5 percent of the balance in excess of $5,000 for overhead for all rented or leased equipment paid for by invoices. Where the rate charged by the agency exceeds the rate determined by the Blue Book, the rental or lease agreement shall be submitted to the Department for approval. The equipment operating costs from the Blue Book will be paid for rented or leased equipment for each hour the equipment was actually used.

4. **Rented Equipment:** In those cases where the required equipment is in the Design-Builder's or Subcontractor's available inventory but not on the Site, the equipment may be rented from a local source. The Department may approve rental rates for equipment obtained from local sources when such rates are within 10 percent of rates in the Blue Book. When the equipment use is of short duration (less than a week) "move-in" and "move-out" costs for equipment owned by the Design-Builder or Subcontractors may be considered when comparing rental costs of equipment obtained from local sources. This option will be allowed only when the cost of locally rented equipment is less than using owned equipment, including "move-in" and "move-out" charges. Such rentals must be supported by a cost analysis indicating that the method used was the least expensive. Should equipment be rented even though it is of a type that is in the Design-Builder's or Subcontractor's inventory and the rental costs exceed that allowed by this paragraph, the Design-Builder will be reimbursed for such equipment based on the rates in the Blue Book.
5. **Small Tools:** The rates paid as provided above shall be deemed to include compensation for the cost of fuel, oil, lubricants, supplies, small tools, necessary attachments, repairs and maintenance of all kinds, depreciation, storage, insurance, and all incidentals. Individual pieces of equipment or tools not listed in the Blue Book and having an individual replacement value of $1,000 or less, whether or not consumed by use, shall be considered to be small tools. Equipment rental rates not provided in the Blue Book must be approved by the Department before start of any Change Order Work.
6. **Equipment Operators**: Equipment operators will be paid for as stipulated in this Section 2.5.4.8, paragraph B (Labor Costs).
7. **Condition of Equipment:** All equipment shall be in good working condition and suitable for the purpose for which the equipment is to be used.
8. **Classification of Equipment:** Unless otherwise specified, manufacturers' ratings and manufacturer-approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment that has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer of that equipment.
9. **Computation of Time:** The time to be paid for use of equipment on the Site shall be the time the equipment is in operation on the time and materials Change Order Work being performed. The time shall include the reasonable time required to move the equipment to the location of the time and materials Change Order Work and return it to the original location or to another location requiring no more time than that required to return it to its original location. Moving time will not be paid for if the equipment is also used at the Site other than for time and materials Change Order Work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power. No payment for loading and transporting will be made if the equipment is also used at the Site other than for time and materials Change Order Work. Time will be computed in half and full hours. In computing the time for use of equipment, less than 30 minutes shall be considered one-half hour.

E. Permit Fees: The Design-Builder will be reimbursed for the cost of any additional permit fees payable as the result of the change in the Work. Backup documentation supporting each cost item for this category shall be provided by the Design-Builder and approved by the Department prior to any payment authorization being granted.

F. Other Direct Costs: The Design-Builder will be reimbursed for the cost of any justified change-related direct cost not covered by the categories of costs contained in this Sections 2.5.4.8, paragraph B (Labor Costs), through paragraph E (Permit Fees). Backup documentation supporting each cost item for this category shall be provided by the Design-Builder and approved by the Department prior to any payment authorization being granted. Other direct costs may include lodging, subsistence and transportation allowances or costs, paid to or on behalf of personnel performing non-construction work.

G. Markups

1. In addition to the added costs as determined above, the Design-Builder will be paid markups of 15 percent for labor costs in accordance with Section 2.5.4.8 paragraph B.1 (Construction Labor), 10 percent for labor costs in accordance with paragraph B.2 (Non-Construction Labor), (allocable to profit only), 10 percent for material costs in accordance with paragraph C (Material Costs), 10 percent for equipment use costs in accordance with paragraph D (Equipment), 5 percent for permit fees in accordance with paragraph E (Permit Fees), and 10 percent for other direct costs in accordance with paragraph F (Other Direct Costs), subject to the following.
2. **Items Included in Markups:** These markups are full and complete compensation for all overhead, small tools (as defined in paragraph 1.9 D.5 (Small Tools), consumables (items which are consumed in the performance of the Work which are not a part of the finished product), and other indirect costs of the added or changed Work, as well as for profit thereon, including any and all costs and expenses incurred due to any delay in connection with the added or changed Work. The Design-Builder's markup percentages shall be considered to include, among other costs, incidental job burdens, bonuses not otherwise covered, field, jobsite, and general home office expenses of all types (including timekeepers, bookkeepers, and other general office help), supervisory expenses of all types (excluding only direct supervision of force account work), and all other overhead, general condition, indirect costs, and expenses. With respect to non-construction-related labor costs, overhead is included as part of the labor surcharge calculated in accordance with 2.5.4.8 paragraph B.2 (Non-Construction Labor), includes accessories such as computer-assisted drafting and design (CADD) systems computers, facsimile machines, scanners, plotters, etc.
3. **Payment of Markups:** The foregoing markups will be paid to the Design-Builder only for Work it performs; in the case of Work that is subcontracted, the markups will be allowed to the Subcontractor who actually performs the Work.
4. **Subcontracted Work:** In the case of subcontracted Work, the Design-Builder shall be allowed a predetermined markup of 5 percent of the compensation allowed for the Subcontractor, provided that only one such

markup shall be allowed, notwithstanding the actual number of intervening Subcontractors. This markup shall fully compensate the Design-Builder for overhead and profit with respect to subcontracted Work.

5. **Materials and Equipment:** No markup will be paid to the Design-Builder for any materials furnished by the Department or for any equipment use costs.
6. **Credit Items:** Where the Design-Builder's or any Subcontractor's portion of a change involves credit items, or the proposed change is a net deductive change, the Design-Builder shall include all the Design-Builder's and Subcontractor's overhead and profits in computing the value of the credit.

H. Time and Materials Records

1. **Collection and Maintenance of Data:** The Design-Builder shall contemporaneously collect, record in writing, segregate, and preserve: (a) all data necessary to determine the costs described in this Section 2.5.4.8 (Time and Material Change Orders) with respect to all Work which is the subject of a Change Order or a requested Change Order, specifically including costs associated with design Work as well as Utility Relocations, but specifically excluding negotiated Change Orders, and (b) all data necessary to show the actual impact (if any) of the change on each Critical Path with respect to all Work which is the subject of a Change Order or a proposed Change Order, if the impact on the Project Schedule and the most recent Monthly Plan Update is in dispute. Such data shall be provided to the Department, to the Dispute Resolution Board or to other authorized representatives of the Department reviewing any Dispute regarding compensation for such Work as provided in Section 2.6.10 (Duties of Inspector).
2. **Daily Reports:** The Design-Builder shall furnish daily, on forms approved by the Department, reports of time and materials Work. The reports shall itemize all costs for labor, materials, and equipment rental and give total of costs to date for the time and materials Change Order Work. For workers, the reports shall include hours worked, rates of pay, names, and classifications. For equipment, the reports shall include size, type, identification number, rental rate, and hours of operation. All such records and reports shall be made immediately available to the Department upon its request. The cost of furnishing such reports shall be included in the Design-Builder's overhead and fee percentages.
3. **Reports As Basis for Payment:** All time and materials reports shall be signed by the Design-Builder or its authorized representative. The Department will compare its records with the Design-Builder's reports, make the necessary adjustments, and compile the costs of time and materials Change Order Work. When such reports are agreed upon and signed by both parties, they will become the basis of payment.

2.5.4.9 Eliminated Work

A. Should any Work contained in the Contract be found unnecessary, the Department will, upon issuance of a Change Order (or a proceed order followed by a Change

Order) to the Design-Builder, eliminate the Work from the Contract. This action shall not invalidate the Contract. When the Design-Builder is notified of eliminated Work, reimbursement will be made for actual Work done and all costs incurred, including mobilization of materials before notification. Credit for the eliminated Work shall be based on the Design-Builder's estimated price for such Work included in the Proposal Price, plus the markups for variable overhead and profit allocated to such Work included in the Proposal Price.

2.5.4.10 Vacant

2.5.4.11 Force Majeure

A. Definition of Force Majeure

1. Events Considered Force Majeure

For purposes of the Design-Builder's entitlement to a time or price extension hereunder, the term "Force Majeure" shall mean any event beyond control of the Design-Builder and not due to an act or omission of the Design-Builder or any Subcontractor or other Person for whom the Design-Builder may be contractually or legally responsible, which materially and adversely affects the Design-Builder's obligations hereunder and which event (or the effects of which event) could not have been avoided by due diligence and use of reasonable efforts by the Design-Builder. This definition is subject to certain exclusions as specified below. For purposes of the Design-Builder's entitlement to a price increase hereunder, the term "Force Majeure" shall mean any of the following events:

(a) An earthquake occurs which exceeds 4.0 on the Richter scale;

(b) Any epidemic, blockade, rebellion, war, riot, act of sabotage, or civil commotion;

(c) The discovery at, near, or on the Site of any archaeological, paleontological or cultural resources or any biological resources (which term shall be deemed to mean any threatened or endangered species, raptors or eagles), provided that the existence of such resources was not disclosed in the RFP Documents (with the understanding that discovery of biological resources at any location within a Sensitive Wildlife Area described as containing such resources will not be considered Force Majeure and that designation of a new Sensitive Wildlife Area would be considered Force Majeure);

(d) The discovery at, near, or on the Site of any Hazardous Substances, except to the extent that the presence of such Hazardous Substances was disclosed in the RFP Documents.

(e) The suspension, termination, interruption, denial, or failure to obtain nonrenewal or amendment of any Environmental Approval, except as otherwise provided in Standard Specification (DB) 01355 (Environmental Compliance); and

(f) Any change in a Governmental Rule, or change in the judicial or administrative interpretation of, or adoption of any new Governmental Rule after the Proposal Date.

2. Exclusions from Force Majeure

This Section 2.5.4.11 shall not apply to Differing Site Conditions, Local Agency Betterments, Utility Delays, Department-Directed Changes or any other matter for which the Contract Documents specifically describe how liability is to be allocated between the Department and the Design-Builder, regardless of whether such events are beyond the control of the Design-Builder. In addition, for purposes of the Design-Builder's entitlement to a price increase hereunder, the term "Force Majeure" shall be limited to the matters listed in Section 2.5.4.11 and specifically excludes from its definition the following matters which might otherwise be considered force Majeure:

a) Fire or other physical destruction or damage, including lightning, explosion, drought, rain, flood not caused by the above-described events, earthquakes under 4.0 on the Richter scale, hurricane, storm or action of the elements, or other acts of God;

b) Discovery of hydrocarbon materials within the Planned ROW Limits in an amount less than 50 cubic meters per location;

c) Discovery of contaminated water within the Planned ROW Limits in quantities less than 400 liters per location;

d) All other matters not caused by the Department or beyond the control of the Department and not listed in this Section 2.5.4.11.

B. Responsibility for Events Beyond the Parties' Control. In general, the risk of Force Majeure events shall be borne by the Department hereunder, and the risk of other events beyond the control of the parties shall be borne by the Design-Builder, except as otherwise provided herein.

C. Change Orders for Force Majeure Events

1. **Price Increase**. Subject to the restriction and limitations in this Section 2.5.4 (Changes), the Department agrees to issue Change Orders to compensate the Design-Builder for additional costs (excluding delay damages) directly attributable to Force Majeure events that modify the scope of the Work. In general, a change will be allowed if such event would have required a change in the design of, or would have increased unit priced quantities for, the Project had it been awarded on a design-bid-build basis (and therefore would have to be implemented through a change order under the Department's standard contract documents for such projects). Costs directly attributable to the following matters are specifically contemplated as grounds for a Change Order under this Section provided they otherwise qualify as Force Majeure: (a) mitigation measures required as the result of any new listing of a threatened or endangered species, (b) mitigation requirements due to discovery of any threatened or endangered species, raptor or eagle outside of a Sensitive Wildlife Area designated in the RFP Documents as containing such species, (c) costs of remediating Hazardous Substances discovered on the

Site, and (d) costs of activities required under Section 2.5.4 directly attributable to a Force Majeure suspension.

2 **Force Majeure suspension.** In the event of any Force Majeure suspension of any portion of the Work, which has a duration greater than six months, the Design-Builder will be entitled to escalation calculated in accordance with Section 2.5.5 (Suspension of Work Ordered by the Department), with respect to the delay period in excess of six months. For purposes of the foregoing, if a Force Majeure event ends during the Winter Season, the period of the Force Majeure suspension will be deemed to include the remainder of the Winter Season.

3. **Time Extension**. Subject to the restriction and limitations in this Section 2.5.4 (Changes), the Department agrees to issue Change Orders to extend the Completion Deadlines as the result of any delay in the Critical Path caused by a Force Majeure event.

4. **Notification.** Provision of timely notifications as required under this Section 2.5.4 shall be a prerequisite to the Design-Builder's entitlement to a Change Order relating to the resources and materials described in Sections 2.5.4 paragraphs 1.12.C.1 (b) and (c).

5. **Third Party Reimbursement for Hazardous Substances Remediation Costs**. To the extent that the Design-Builder incurs costs in connection with remediation of Hazardous Substances which are not eligible for a Change Order hereunder but which are eligible for reimbursement from a third party, the Department agrees to assign to the Design-Builder any causes of action held by the Department against such third party for reimbursement of such costs. The Design-Builder shall be responsible for identifying any potentially responsible parties. If the Design-Builder wishes to obtain such an assignment from the Department it shall deliver a notice requesting the same, and shall provide the Department with a form of assignment reasonably acceptable to the Department.

2.5.4.12 Insurance Proceeds

A. Under certain circumstances, insurance policies required to be provided by the Department hereunder are intended to provide compensation to the Design-Builder for costs incurred by the Design-Builder. The Design-Builder shall be responsible for processing all such claims and shall not be entitled to receive a Change Order for any costs that it could have recovered from the insurer.

2.5.4.13 Disputes

A. If the Department and the Design-Builder agree that a request to increase the Contract Price and/or extend any Completion Deadline by the Design-Builder has merit, but are unable to agree as to the amount of such price increase and/or time extension, the Department agrees to mark-up the Change Order request provided by the Design-Builder to reduce the amount of the price increase or time extension as deemed appropriate by the Department. In such event, the Department will execute and deliver the marked-up Change Order to the Design-Builder within a reasonable period after receipt of a request by the Design-Builder to do so, and thereafter will make payment and grant a time extension based on such marked-up Change Order. The failure of the Department and the Design-Builder to agree to any Change Order under this Section 2.5.4 (including agreement as to the amount of compensation allowed under a time and materials

Change Order and the disputed amount of the increase in the Contract Price and/or extension of the Completion Deadline(s) in connection with a Change Order as described above) shall be a dispute to be resolved pursuant to Section 2.9 (Dispute Resolution). Except as otherwise specified in the Change Order, execution of a Change Order by both parties shall be deemed accord and satisfaction of all claims by the Design-Builder of any nature arising from or relating to the Work covered by the Change Order. The Design-Builder's Claim and any award by the dispute resolver shall be limited to the incremental costs incurred by the Design-Builder with respect to the disputed matter (crediting the Department for any corresponding reduction in the Design-Builder's other costs) and shall in no event exceed the amounts allowed by Section 2.5.4.8 (Time and Material Change Orders), with respect thereto.

2.5.4.14 No-Cost Changes

A. Changes in the Work which have no net cost effect on the Contract Price shall not require a Change Order, provided the Final Design Documents are approved by the Department, except for the types of changes identified in Section 2.5.4.2 (Circumstances Under Which Change Orders May Be Issued).

2.5.4.15 No Release or Waiver

A. Extension of Time for Performance: No extension of time granted hereunder shall release the Design-Builder's Surety or Guarantor from its obligations. The Department shall not be deemed to have waived any rights under this Contract (including its right to abrogate the Contract for abandonment or for failure to complete within the time specified, or to impose and deduct damages as may be provided herein) as the result of any grant of an extension of time beyond the date fixed for the completion of any part of the Work, any acceptance of performance of any part of the Work specified by the Contract after a Completion Deadline, or the making of any payments to the Design-Builder after such date.

B. No Change Order Based on Course of Conduct or Order by Unauthorized Person: No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Department has been unjustly enriched shall be the basis for any claim, request for additional compensation or extension of a Completion Deadline. Further, the Design-Builder shall undertake, at its risk, Work included in any request, order, or other authorization issued by a Person in excess of that Person's authority as provided herein, or included in any oral request. The Design-Builder shall be deemed to have performed such Work as a volunteer and at its sole cost.

2.5.5 SUSPENSIONS OF WORK ORDERED BY THE DEPARTMENT

A. The Department may, at any time and for any reason, order Design-Builder to suspend all or any part of the Work required under the Contract Documents for the period of time that the Department deems appropriate for the convenience of Department. Design-Builder shall promptly recommence the Work upon receipt of written notice from Department directing Design-Builder to resume work.

B. The Department has the authority by written order to suspend the Work without liability to Department wholly or in part for Design-Builder's failure to:

1. Correct conditions unsafe for the Project personnel or general public;
2. Carry out the Contract;

3. Carry out orders of Department; or
4. Comply with environmental requirements.

C. During periods that Work is suspended, Design-Builder shall continue to be responsible for the Work and shall prevent damage or injury to the Project and other facilities in the Project vicinity in accordance with this Section, and Section 2.5.7.3, (Maintaining Traffic – During Suspension of Work) and Section 2.5.12 (Design-Builder's Responsibility for Work) paragraph C. If the suspension is for Department's convenience, the work performed by the Design-Builder during the suspension period shall be considered Department directed Work and paid under Section 2.5.4 "Changes".

D. If the Department suspends or delays in writing the performance of all or any portion of the Work for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry), and the Design-Builder believes that additional compensation or Contract Time or both are due as a result of such suspension or delay, submit to the Department a written request for adjustment following written notification of the suspension and or within 7 calendar days of receipt of the notice to resume work. Explain in the request the reasons and support for such adjustment.

E. Upon receipt of request, the engineer:
1. Evaluates the request.
2. Adjusts (excluding profit) and modifies the Contract in writing accordingly, if the Engineer agrees that:
   a. The suspension increased the cost and/or time required for the performance of the Contract.
   b. The suspension was caused by conditions beyond the control of and not the fault of the Design-Builder, its suppliers, or subcontractors at any approved tier.
   c. The suspension was not caused by weather.

F. Department does not allow adjustment to the Contract unless the Design-Builder has submitted the request for adjustment within the time prescribed in Section 2.5.6 "Notification of Differing Site Conditions, Changes and Extra Work."

G. Department does not allow adjustments to the Contract under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this Contract.

H. Suspension of work shall in no way relieve the design-builder of any obligation contained in the contract documents or entitle the design-builder to a change order.

2.5.6 NOTIFICATION OF DIFFERING SITE CONDITIONS, CHANGES AND EXTRA WORK

A. Promptly notify the Engineer of events or conditions that materially change the cost or time of performance of the Contract including differing site conditions, extra work, altered work beyond the scope of the Contract, suspension of work, or actions taken by the Department that change the Contract terms and conditions.

B. Do not perform further work or incur further contract expense relating to the claimed change after the date the change allegedly occurred, unless directed otherwise in writing by the Engineer.

C. Immediately notify the Engineer verbally of the alleged change or extra work occasioned by differing site conditions or actions by the Department. Provide the

following applicable information to the Engineer in writing within 5 calendar days of the date the change or action was noted:

1. The date of occurrence and the nature and circumstances of the occurrence that constitute a change.
2. Name, title, and activity of each Department representative knowledgeable of the claimed change.
3. Identity of any documents and the substance of any oral communication involved in the claimed change.
4. Basis for a claim of accelerated schedule performance, if applicable.
5. Basis for a claim that the work is not required by the Contract, if applicable.

D. Particular elements of contract performance for which additional compensation may be sought under this article include:

1. Labor or materials, or both, that are added, deleted or wasted by the claimed change and what equipment is idled or required.
2. Delay and disruption in the manner and sequence of performance that has been or will be caused.
3. Adjustments to contract prices, delivery schedules, staging, and contract time estimated due to the claimed change.
4. Estimate of the time within which the Department must respond to the notice to minimize cost, delay, or disruption of performance.

E. The failure to provide required notice under this article constitutes a waiver of any and all claims that may arise as a result of the alleged change.

F. After notifying the Engineer, and in the absence of directions received to the contrary from an authorized representative of the Department, continue diligent prosecution of the work under the Contract to the maximum extent possible under the contract provisions.

G. Within 10 calendar days after receipt of notice, the Engineer responds in writing to the Design-Builder to:

1. Confirm that a change occurred and, when necessary, direct the method and manner of further performance, or
2. Deny that a change occurred and, when necessary, direct the method and manner of further performance, or
3. Advise the Design-Builder that information necessary for deciding to confirm or deny the change has not been submitted, and indicate what information is needed for further review and date by which the Design-Builder should submit it to the Engineer. The Engineer responds to such additional information within 10 calendar days of receipt from the Design-Builder.

H. Any adjustments made to the Contract do not include increased costs or time extensions for delay resulting from the Design-Builder's failure to provide requested additional information under requirements of this article.

2.5.7 MAINTAINING TRAFFIC

2.5.7.1 General

A. Keep road(s) open to traffic during the Work or provide and maintain detour roads as specified or directed.

1. Keep publicly and privately used roadways in a condition that safely and

adequately accommodates traffic 24 hours a day and 7 days a week.

2. Provide traffic control in compliance with the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), the Traffic Control provisions of the Specifications, and the Traffic Control Plans.
3. Maintain the sections of road undergoing improvement.

B. Do not park equipment and vehicles, or store materials in the median on divided roadways or within 30 feet from the outside edge of the driving lane.

C. Install guardrail so that uncompleted guardrail ends are not exposed to oncoming traffic. Diligently install or modify guardrails until complete.

D. Failure to comply with "maintaining traffic" is cause for the department to take action to meet the safety requirements of this specification. Department deducts its costs incurred in such action from money due to the Design-Builder.

E. Snow removal is not required during periods of winter shutdown or when the Department suspends construction operations. The Department does not additionally compensate for maintenance except for specific work directed by the Engineer. See this Section, paragraphs, "Maintaining Traffic - Special Detours," "Maintaining Traffic - During Suspension of Work," and "Maintaining Traffic - As Directed by the Engineer."

2.5.7.2 Special Detours

A. The Design-Builder shall include in the Contract Price all costs to construct, maintain, water for dust control, and to obliterate any detours used by the Design-Builder for Maintenance of Traffic, including the construction and removal of temporary bridges and accessory features.

B. The Design Builder will furnish right-of-way for temporary highways or bridges that result from their design unless the temporary highway or bridge is shown in the plans furnished by the Department.

2.5.7.3 During Suspension of Work

A. Keep sections of the project and temporary roadways passable and open to traffic during work suspensions.

B. Suspensions ordered by the Engineer: The Department maintains temporary roadways and portions of the Project during work suspensions.

1. Resume maintenance for the entire Project once work proceeds.
2. Replace or restore any work or materials lost or damaged because of temporary use of the Project.
3. Remove work or materials used for temporary maintenance, and complete the Project as though the work had been continuous and without interference.
4. Department pays for maintenance required for events beyond the Design-Builder's control during work suspensions as extra work.

C. Other Suspensions of Work: Maintain the roadway at no additional cost to the Department to accommodate traffic during suspensions resulting from:

1. Seasonal or climatic conditions.
2. Failure to correct conditions unsafe for the workers or the general public.

3. Failure to carry out orders of the Engineer.
4. Any other reasons caused by the Design-Builder.

2.5.7.4 As Directed by the Engineer

A. Department pays for special maintenance directed by the Engineer that is not included in the Contract for the benefit of the traveling public, under Section 2.10.3, "Payment for Differing Site Conditions, Changes, Extra Work," and articles concerning Force Account Work (General, Labor, Materials, Contractor-Owned Equipment, Rented or Leased Equipment, Subcontracts, Compensation).

B. The Engineer determines the work to be classified as special maintenance.

2.5.8 RIGHTS AND USE OF MATERIAL FOUND IN THE WORK

A. Obtain written approval by the Designer of Record before using excavated materials found on the Site that are suitable for completing other portions of Work.

B. Replace excavated material used for completing other Work with acceptable material at no additional cost to the Department.
   1. Department does not charge for the materials used.
   2. Obtain written approval by the Engineer before excavating material outside grading limits but within the highway right-of-way.
   3. Compact replacement material to the density requirements specified for roadway embankment construction.

C. Structure materials designated for removal may be used temporarily in the work.

2.5.9 FINAL CLEANUP

A. Clean the highway, the Site, Project Vicinity, borrow, and local material sources and all areas occupied in connection with the Work of all rubbish, excess materials, temporary structures, and equipment, etc. before Final Owner Acceptance.

B. Final cleanup costs shall be include in the Contract Price.

2.5.10 RESTORATION OF SURFACES OPENED BY PERMIT

A. Allow individuals, firm or corporation with authorized permits to enter the Project to construct or reconstruct any utility service.

B. Repair damage caused by the permit holder when directed. Department pays for repair work as extra work, or as provided in the Contract.

2.5.11 CONSTRUCTION OVER OR ADJACENT TO NAVIGABLE WATERS

A. Do not interfere with the navigation of waterways when conducting Work over, on, or adjacent to navigable waters.

B. Comply with all conditions of the permit from the U.S. Coast Guard or the U.S. Army Corps of Engineers.

2.5.12 DESIGN-BUILDER'S RESPONSIBILITY FOR WORK

A. Protect the Work against injury or damage from all causes whether or not related to performing the Work until written Final Owner Acceptance of the Project is given, except as provided in Section 2.5.5, "Suspensions of Work Ordered by the Department."

B. Without additional cost to the Department, the Design-Builder shall rebuild, repair, restore, and make good all losses, injuries, or damages to any portion of the Work from any cause before receiving Final Owner Acceptance.

1. Excluded are any losses, injuries, or damages to the Work from events against which the Design-Builder cannot reasonably protect the Work, including cataclysmic phenomena of nature, acts of the public enemy, or acts of governmental authorities.

C. When work is suspended for any cause:

1. Protect the project from damage.
2. Provide for normal drainage.
3. Erect any necessary temporary structures, signs, or other facilities.
4. Maintain all newly established plantings, seedings, and soddings and protect new tree growth and other designated vegetative growth in acceptable condition.
5. For reimbursement for costs incurred in periods of suspension, refer to Section 2.5.7.3, "Maintaining Traffic - During Suspension of Work."

D. The Design-Builder will obtain and include in the Contract Price the cost of obtaining all required Governmental Approvals, assuring that they are granted in due course, and remain in effect so as to enable the Work to proceed in accordance with the Contract Documents. If any Governmental Approvals required must be formally issued in the name of the Department, the Design-Builder shall undertake all efforts to obtain such approvals, including execution and delivery of appropriate applications and other documentation in a form approved by the Department.

2.5.13 ENVIRONMENTAL PROTECTION

A. Refer to Section 3.17.3 (Environmental Protection Program).

2.5.14 VALUE ENGINEERING

2.5.14.1 Design-Builder Proposals

A. Savings resulting from a Value Engineering Change Proposal (VECP) offered by the Design Builder and approved by the Department is shared equally.

B. Base contract on specified work rather than on VECPs that are subject to Department approval. If a VECP is rejected, complete the Contract as per the Contract Documents.

C. The Department considers proposals that may potentially result in savings without damaging essential functions and characteristics of the facility, including but not limited to service life, economy of operation, ease of maintenance, desired ability, safety, and approximate estimated savings. Department reserves the right to reject VECPs for any reason.

2.5.14.2 Submitting Proposals

A. At a minimum, submit the following materials and information with each VECP:

1. A statement that the submission is a VECP, and a narrative description of the proposed change.

2. A description of the existing Contract requirements, which are, involved in the proposed change for performing the work.
3. A discussion of the differences between the existing requirements and the proposed change, together with advantages and disadvantages of each changed item.
4. Itemization of the Contract requirements (with references to specific sections), which must be changed if the VECP is approved.
5. Justification for changes in function or characteristics of each item, and effect of the change on the performance of the end item, as well as on the meeting of requirements contained in the Contract Documents, including environmental compliance requirements.
6. A complete cost analysis including (1) a cost estimate for the existing Contract requirements compared to Design-Builder's cost estimate of the proposed changes and (2) an estimate of any additional costs that will be incurred by Department, including any additional Right of Way and Relocation costs.
7. Date or time, by which a Change Order adopting the VECP must be issued in order to obtain the maximum cost reduction, noting any effect on each applicable Contract Schedule.
8. A statement of the probable effect the proposal would have on the Contract completion time.
9. A description of any previous use or tests of the proposal, the conditions, and the result and the dates, project numbers, and the Department's action on the proposal if previously submitted.
10. Costs of development and implementation by Design-Builder.

B. Any additional information requested by Department shall be provided in a timely manner. Additional information could include results of field investigations and surveys, design computations and field change sheets.

C. Upon receipt of a VECP, the Department will process it expeditiously and notify the Design-Builder within 7 calendar days that there is insufficient review time for a response.

D. The Design-Builder may withdraw all or part of any VECP at any time prior to approval by the Department. Design-Builder and Department shall bear its own costs in connection with preparation and review of VECPs.

E. The Design-Builder shall have no claim against the Department for any delay resulting from the failure to respond within the time indicated in this Section, article, "Value Engineering - Submitting Proposals," when additional information is necessary to complete the review.

2.5.14.3 Conditions for Proposals

A. The Department may approve in whole or in part, by Change Order, any VECP submitted. Until a Change Order is issued on a VECP, Design-Builder shall remain obligated to perform in accordance with the Contract Documents. The decision of Department as to rejection or approval of any VECP shall be at the sole discretion of Department and shall be final and not subject to partnering, dispute resolution or appeal.

B. If the Department accepts a VECP submitted by the Design-Builder pursuant to this Section, the Contract Price shall be adjusted in accordance with the following:

1. The Department will pay the estimated net savings of the change. Estimated net savings means (a) the difference between the cost of performing the Work according to the Contract Documents and the actual cost to perform it according to the proposed change, less (b) the costs of studying and preparing the VECP as proven by the Design-Builder and approved by the Department in accordance with the Change Order procedures set forth herein, less (c) any additional costs incurred by the Department resulting from the VECP. The Design-Builder's profit shall not be considered part of the cost

C. The Department will determine whether a VECP qualifies for consideration and evaluation. VECPs that require excessive time or costs for review, evaluation or investigations, or that are not consistent with Department's design policies and basic design criteria may be rejected. .

D. Use only proven features that have been employed under similar conditions or projects acceptable to the Department.

E. The Department rejects VECPs that:

1. Provide equivalent options to those already in the Contract.
2. Change only pavement structure thickness or type.

F. The Department may reject VECPs that:

1. Contain revisions the Department is already considering or has approved for the Contract.
2. Do not generate sufficient savings.
3. Do not provide additional information as requested by the Department including requests for field investigation results and surveys, design computations, and field change sheet for proposed design changes.

G. If the VECP is rejected, the Design-Builder shall have no claim for any additional costs or delays resulting from the rejection of a VECP, including development costs, loss of anticipated profits, or increased material or labor costs.

H. The Engineer can reject all unsatisfactory work resulting from an approved VECP.

1. Remove rejected work and reconstruct under the original Contract provisions at no additional cost to Department.
2. Reimbursement for modifications to the VECP to adjust field or other conditions is limited to the total amount of the contract bid prices.
3. Rejection or limitation of reimbursement is not basis for any claim against the Department.

2.5.14.4 Payment

A. The Department pays by Change Order for VECPs accepted in whole or in part at such time as payments would have been made for the Work that is the subject of the VECP had the VECP not been implemented.

B. Except as specified in this Section, Design-Builder is not entitled to share in either collateral or future Contract savings. The term "collateral savings" means those measurable net reductions in Department's costs of operation resulting from the VECP, including costs of maintenance by the Department, logistics and Department-furnished property. The term "future Contract savings" shall mean reductions in the cost of performance of future construction contracts for essentially the same item resulting from a VECP submitted by Design-Builder.

2.6 CONTROL OF WORK

Role of Department

Project Manager: The Department has designated Lisa Wilson as Project Manager. Although she will be supported by various Department staff members and consultants with designated Project responsibilities that may closely relate to the Design-Builder's activities, the Project Manager will at all times be the primary interface between the Design-Builder and the Department. The Design-Builder may interface with the Department's Project staff and consultants only as specifically designated by the Project Manager.

Oversight: For its own benefit, the Department will oversee all Project activities, operations, and end products to satisfy itself that the Design-Builder is meeting the Contract requirements for design, construction, and maintenance of the Project. This oversight will include (but will not be limited to) the quality assurance, quality verification testing and inspection, and independent testing and inspection functions described in Section 3.18 (Quality), fulfillment of environmental commitments in Section 3.17 (Environmental Commitments), and satisfaction of all other regulatory requirements.

Contract Administration: The Department has assigned Lonnie Marchant to administer the Contract, including invoice review, approval, and payment; schedule review; performance evaluation, including Incentive Fee determinations; Change Order negotiation; disputes resolution; and any other activities indicated by the Contract.

Coordination: The Department has and will continue significant interfaces with federal, State and local agencies, the public, utility companies, and municipalities. As such, the Department will coordinate jointly with the Design-Builder's activities in community relations, public information and involvement, and governmental agency liaison. The Design-Builder shall support the Department in these coordination activities, as specified in the Contract Documents. The Department's involvement in no way relieves or eliminates the Design-Builder of its responsibility for coordination of these activities.

Compliance: The Department will review and oversee all Project activities to satisfy itself of the Design-Builder's compliance with all applicable governmental rules and approvals.

2.6.1 AUTHORITY AND DUTIES

A. Design-Builder shall be responsible for and have control over the design, construction means, methods, techniques, sequence, procedures, Site security, and Site safety, and shall be solely responsible for coordinating all portions of the Work under the Contract Documents, subject, however to all requirements contained in the Contract Documents.

1. Provide and comply at all times with all requirements of the Safety Plan approved by the Department. The Design-Builder shall take all reasonable precaution and be solely responsible for the safety of and shall provide protections to prevent damage, injury, or loss to:
   a. All employees of the Design-Builder and its Subcontractors performing the Work and other Persons who are on the Site or would reasonably be expected to be affected by the Work
   b. The Work and materials and equipment to be incorporated therein
   c. Ensure that all of its activities and the activities of its employees, agents, officers and Subcontractors and all other Persons for whom the Design-Builder may be legally or contractually responsible are undertaken in a manner that will minimize the effect on surrounding property and the public to the maximum extent

practicable.

B. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished, work performed and the rate of progress of the work; all questions which may arise as to the interpretation of the Plans and Specifications; and all questions as to the acceptable fulfillment of the Contract on the part of the Design-Builder.

C. The Department has the authority by written order to suspend the work without liability wholly or in part if the Design-Builder fails to:

1. Correct conditions unsafe for the project personnel or the public
2. Complete Contract Provisions
3. Comply with Department orders

D. The Engineer may audit the books and records of the Design-Builder or a subcontractor to the extent that the books and records relate to the performance of the Contract or subcontract, including cost or pricing data submitted under Section 2.5.4, (Changes). Books and records that relate to the performance of the Contract shall be maintained by the Design-Builder for a period of three years after the date of final payment under the prime contract and by the subcontractor for a period of three years after the date of final payment under the subcontract, unless a shorter period is authorized in writing by the Department.

E. The Engineer may, at reasonable times, inspect that part of the plant or place of business of the Design-Builder or subcontractor that is related to the performance of the Contract.

F. The Design-Builder may suspend work only with the approval by the Engineer for:

1. Periods of unsuitable weather
2. Conditions unsuitable for the prosecution of work
3. Any other condition or reason determined to be in the Department's interest.

2.6.2 PLANS AND WORKING DRAWINGS

A. Design-Builder is responsible for design and will be required to provide Project Design Documents to the Department for review. The following is the scheduled design reviews:

1. Early in project: review and approval of 60 percent design
2. During Design: 90 percent, 100 percent and interim Design-Builder-requested oversight reviews
3. Completion of an item: release for construction reviews
4. Completion of design: 100 percent reviews
5. Design Changes: interim and 100 percent full reviews

B. The Design-Builder shall furnish the Design Documents to the Department and shall obtain the Department’s Acceptance of the Final Design Documents. The Design-Builder shall construct the Project in accordance with the Final Design Documents. The Final Design Documents may be changed only with the Department’s Approval.

C. Keep one full set of the Final Design Documents that have been released for construction on the project site at all times.

D. Reviews, inspections, tests, and approvals conducted by the Department and others do not constitute acceptance of the materials or Work reviewed, tested, or inspected. The Department may reject or accept any Work or materials, request changes, and/or identify additional Work that must be done to bring the Project into compliance with Contract requirements at any time prior to FOA, whether or not previous reviews, inspections, tests, or approvals were conducted by the Department or any such Persons. The Design-Builder shall not be relieved of obligations to perform the Work in accordance with the Contract Documents, or any of its Warranty obligations, by reviews, tests, inspections, or approvals performed by any Persons, or by any failure of any Person to take such action.

E. Shop and working drawings for permanent work shall include structural steel fabrication plans, anchor bolt layouts, shop details, erection plans, equipment lists, and any other information and details as required to adequately control the Work. Shop and working drawings shall be reviewed and approved by the engineers who prepared the Project Design Documents. Work shall not be performed or materials ordered until working drawings for such work, or changes thereto, are approved. Such approval shall not relieve the Design-Builder of responsibility for the successful completion of the Work.

F. The Design-Builder shall be responsible for agreement of dimensions and details as well as for conformity of his working drawings with the Contract. The Design-Builder shall indicate on the working drawings all deviations from the Contract and shall also itemize and explain all deviations in the letter of transmittal.

G. Upon receipt of an approved copy of the shop working drawings, the Design-Builder shall furnish to the Engineer:

1. Enough additional copies to provide 4 approved sets of prints.
2. One set of reproducible transparencies (polyester film) or electronic media using software meeting the requirements for design.
3. If requested, an electronic file in drawing format compatible with Department's CADD standards.

2.6.3 CONFORMITY WITH CONTRACT AND DESIGN-BUILDER'S PLANS AND SPECIFICATIONS

A. Perform Work and furnish materials to meet Contract requirements, including the requirements established in the Final Design Documents.

B. When Work fails to meet Contract requirements but is adequate to serve the Work's intended purpose, the Department will decide the extent to which the Work will be accepted and remain in place. The Department will document the basis of acceptance by Change Order and adjust payment according to payment adjustment factors listed in the Contract Documents.

C. Remove, replace, or correct Work at no cost to the Department when a Work item does not meet specified requirements and results in work inadequate to serve the design purpose.

2.6.4 VACANT

2.6.5 ORDER OF PRECEDENCE OF DOCUMENTS

A. The RFP, Proposal and all supplementary documents are essential parts of the Contract and a requirement occurring in one is binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

B. Should discrepancies appear between any of the following parts of the Contract, a listed part shall take precedence over all those listed below it.

1. The Design-Builder's Proposal Documents (see Note below).
2. Addenda to the Request For Proposals
3. Request for Proposals Chapter 3
4. Request for Proposals Chapter 2
5. Request for Proposals Chapter 1
6. Request for Proposals Appendices
7. The Special Provisions prepared by the Design-Builder that are approved by the Department
8. Standard Specifications (DB)
9. Standard Drawings

Note: The Design-Builder's Proposal shall take precedence over the RFP only to the extent it exceeds the requirements of the RFP. In other words, if the Proposal Documents include statements that can reasonably be interpreted as offering to provide higher quality items than otherwise required by the Contract Documents or to perform services in addition to those otherwise required, or otherwise contain terms which are more advantageous to the Department than the requirements of the other Contract Documents, the Design-Builder's obligations hereunder shall include compliance with all such statements, offers and terms.

C. Do not take advantage of any apparent error or omission in the Contract.

D. Notify the Department promptly of any omissions or errors in the Contract so that necessary corrections and interpretations can be made.

2.6.6 DESIGN-BUILDER COOPERATION

A. Facilitate progress of the Work, and cooperate with Department inspectors and other contractors.

B. Employ a competent superintendent experienced with the Work being performed, and capable of reading and understanding the Contract Documents.

C. The superintendent must be:

1. Present at the project site at all times.
2. Available to execute instructions and directions from the Engineer or authorized representatives.
3. Authorized to act as agent for the Design-Builder on the work.

D. Supply all necessary resources to complete the Contract, regardless of the amount of work sublet.

E. The Design-Builder agrees that it has full responsibility for completing the design of the Project. The Design-Builder specifically acknowledges and agrees that:

1. Preliminary Design Plans made available by the Departments are preliminary and conceptual in nature.
2. The Design-Builder is not entitled to rely on any documents (including those designated as Reference Documents) or information provided by the Department (other than the RFP Documents).
3. The Design-Builder is responsible for correcting any errors, omissions and defects in the Preliminary Design Plans, which can reasonably be corrected through the design and/or construction process without a material change in the Project.
4. The Department's liability for errors, omissions and defects in the Preliminary Design is limited to Necessary Basic Configuration Changes. The Design-Builder is responsible for determining, prior to commencement of construction in an area, whether there are any errors, omissions, or defects in the Preliminary Design that might affect the construction to be performed in such area.

2.6.7 COOPERATION WITH UTILITIES

A. The Contract Documents (Utilities Information) will indicate the various utilities known to be within the work zone. The Design-Builder will notify all utility companies and shall be responsible for coordinating their Work and relocations, if any, with the utility companies.

2.6.8 COOPERATION BETWEEN CONTRACTORS

A. The Department reserves the right to contract for and perform other or additional work on or near the Work covered by the Contract.

B. Cooperate with other contractors working within the project limits. Conduct work without interrupting or inhibiting the progress or completion of work by other contractors.

C. Each contractor involved accepts all liability, financial or otherwise, in connection with the Contract.

D. Each contractor protects and saves harmless the Department from any damages or claims caused by inconvenience, delay, or loss from the presence and work of other contractors working within the same project limits.

E. Coordinate and sequence the work with other contractors. Arrange, place, and dispose of materials without interfering with the operations of other contractors on the same project.

F. Other Department projects may be ongoing within the limits of this project.

2.6.9 DESIGN-BUILDER PROVIDED CONSTRUCTION STAKES, LINES, AND GRADES

A. Perform the construction engineering, necessary calculations, and staking work. Include:

1. Reestablish survey points and centerlines.
2. Reference control points, when necessary.
3. Run a level circuit to check or reestablish plan benchmarks.
4. Set stakes for construction limits, right-of-way, drainage items, slopes, pavement structure, embankment and subgrade controls, bridge control

points for vertical and horizontal alignment of all components, and any other stakes necessary to control lines and grades.

B. Furnish all stakes, templates, straightedges, and other devices necessary to check, mark, and maintain points, lines, and grades.

C. Conform to standard procedures used by Department engineering personnel.

D. Run level circuits to verify benchmarks the full length of road construction projects. On bridge construction projects, establish four benchmarks, two on each side of each structure unless physical conditions prohibit placement.

E. Maintain orderly and clear field notes in standard field notebooks consistent with standard engineering practices and meeting the Department's Manual of Instruction for Construction.

1. Use standard field books consistent with those customarily used by the Department.
2. Allow Department personnel to inspect these field books at any time.
3. The books become Department property once work is completed.

F. Supervise construction engineering personnel and correct any errors at no additional cost to the Department.

G. Assume responsibility for the final accuracy of construction.

2.6.10 DUTIES OF INSPECTOR

A. The Department and POC Inspectors are authorized to inspect all Work and materials furnished. The Department may at any time audit the Design-Builder's or the CQO's POC records.

1. Inspection may extend to the preparation, fabrication, or manufacture of the materials to be used.
2. The Inspector is not authorized to alter or waive the contract provisions, to issue instructions contrary to the Contract, or to act as foreman for the Design-Builder.
3. The Inspector is authorized to reject Work or materials until any issue in question can be referred to and decided by the Engineer.
4. Audits may be performed at any time by the Department Inspectors and may include the following:

   a. Design-Builders cost records used to develop the costs of any or all change orders.

   b. POC records and reports.

   c. Documentation of time and material change orders.

2.6.11 INSPECTION OF WORK

A. Provide safe access to all parts of the Work and provide information and assistance to the Engineer and CQO representatives to ensure a complete and detailed inspection.

B. Remove and replace work performed or materials used without supervision or inspection by an authorized Department or CQO representative at Design-Builder's expense, if ordered.

C. Remove and uncover portions of finished work, as directed. Once inspected, restore work to Contract requirements.

1. If the uncovered work is found acceptable, the Department pays for the additional cost to uncover, remove, and replace or make good the parts removed as extra work.
2. If the work is found unacceptable, the Department does not pay for additional costs to uncover, remove, and replace the covering, or make good the parts removed.

D. When a government agency, utility or railroad company is to accept or pay a portion of the contract cost, that organization's representatives may inspect the work. The right to inspect does not make that entity a party to the Contract and does not interfere with the rights of parties to the Contract.

E. Notify the Department and CQO at least 48 hours in advance of all testing that will be performed. Department and CQO reserve the right to be present at any and all testing.

2.6.12 CORRECTION OF NON-CONFORMING WORK: WARRANTIES

A. Nonconforming Work is Work that the CPOQ or the Department determines does not conform to the requirements of the Contract Documents.

B. Subject to the CPOQ's and the Department's right to accept or reject Nonconforming Work, rejected Nonconforming Work shall be removed and replaced so as to conform to the requirements of the Contract Documents, at the Design-Builder's expense; and the Design-Builder shall promptly take all action necessary to prevent similar deficiencies from occurring in the future. The fact that CPOQ or the Department may not have discovered the Nonconforming Work shall not constitute an acceptance of such Nonconforming Work. If the Design-Builder fails to correct (or to begin correction of) any Nonconforming Work within 10 days of receipt of notice from the CPOQ or the Department requesting correction, then CPOQ or the Department may cause the Nonconforming Work to be remedied or removed and replaced, and the Department may deduct the cost of doing so from any moneys due or to become due the Design-Builder and/or obtain reimbursement from the Design-Builder for such cost. The procedures for correction of Nonconforming work set forth in the construction QMP shall be consistent with the requirements of this Section.

C. Unless accepted under this Section, paragraph (Conformity with Plans and Specifications), The Department may, but shall not be obligated to, accept any Nonconforming Work without requiring it to be fully corrected. In such event, the Department shall be entitled to reimbursement of a portion of the Contract Price as set forth in the Contract Documents. Such reimbursement shall be deducted from future payments or, if future payments are insufficient to cover the amount owing, shall be payable to the Department within 30 days after the Design-Builder's receipt of an invoice therefore.

D. Work performed contrary to Engineer's instructions, work beyond plan limits, or extra work performed without the Engineer's permission:

1. Is excluded from pay consideration.
2. May be ordered removed, restored, or replaced by others at the Design-Builder's expense.

E. The Design-Builder warrants that:

1. All design Work performed pursuant to the Contract Documents shall conform to all professional engineering principles generally accepted as standards of the industry in the State at the time the design Work is furnished;
2. The Project shall be free of defects (except to the extent that such defects are inherent in the standards and specifications contained in the Contract Documents), including design defects, errors and omissions;
3. Materials and equipment furnished under the Contract Documents shall be of good quality and new;
4. The Work shall meet all of the requirements of the Contract Documents; and
5. The specifications and/or drawings selected or prepared for use during construction are appropriate for their intended use.

F. Additional Warranty requirements are set forth in Chapter 3. The Warranties shall not be deemed to require the Design-Builder to perform routine maintenance work such as periodic rework of bridge joints, restriping and similar work as required as a result of normal wear.

G. The Warranty term shall commence for each element of the Work upon transfer of control thereof to the Department or Third Party owners (i.e., at Substantial Completion for most of the Work and at FOA for Work not yet completed as of Substantial Completion). Special Warranty requirements are set forth in the RFP Chapter 3, – Work Requirements. The term of the Warranties shall expire 2 years after the date of FOA, unless otherwise specified, except utilities where the warranty will expire 1 year after FOA.

H. If the Department determines that any of the Work has not met the standards set forth in this Section at any time during the Warranty term for such Work, then the Design-Builder shall correct such Work. Within 7 calendar days of receipt by the Design-Builder of notice from the Department specifying a failure of any of the Work to satisfy the Design-Builder's Warranties, or of any Subcontractor representation, Warranty, Guarantee or obligation which the Design-Builder is responsible to enforce, the Design-Builder and the Department shall mutually agree when and how the Design-Builder shall remedy such violation; provided, however, that in case of an emergency requiring immediate curative action, the Design-Builder shall implement such action as it deems necessary and shall notify the Department of the urgency of a decision. The Design-Builder and the Department shall agree on a remedy immediately upon notice by or to the Department of such emergency. If the Design-Builder does not use its best efforts to proceed to effectuate such remedy within the agreed time, or if the Design-Builder and the Department fail to reach such an agreement within such 7-day period (or immediately, in the case of emergency conditions), then the

Department, after notice to the Design-Builder, shall have the right to perform or have performed by Third Parties the necessary remedy, and the costs thereof shall be borne by the Design-Builder.

I. All costs of correcting such rejected Work, including additional testing and inspections, shall be deemed included in the Contract Price. The Design-Builder shall reimburse the Department or pay the Department's expenses made necessary thereby within 10 days after the Design-Builder's receipt of invoice therefore.

J. The Design-Builder's Warranties shall apply to all Warranty Work which was required to be performed during the Warranty period but which was not performed properly. The Warranties shall apply to all Work redone or replaced pursuant to the terms of this Contract. The Warranties for each redone or replaced element of the Work shall last until the later of:

1. The end of Warranty term for such element as specified in this Section, or
2. 1 year after acceptance by the Department of any redone or replaced Work, not to exceed 1 year after the end of the Warranty term.

K. Without in any way derogating the Design-Builder's own representations and warranties (including the Warranties) and other obligations with respect to all of the Work, the Design-Builder shall obtain from all Subcontractors and cause to be extended to the Department, appropriate representations, warranties, guarantees and obligations with respect to the design, materials, workmanship, equipment, tools, and supplies furnished by such Subcontractors. All representations, warranties, guarantees and obligations of Subcontractors:

1. Shall be written so as to survive all the Department and the Design-Builder inspections, tests and approvals, and
2. Shall run directly to and be enforceable by the Design-Builder and/or the Department.

L. The Design-Builder hereby assigns to the Department all of the Design-Builder's rights and interest in all extended warranties for periods exceeding the applicable Warranty period which are received by the Design-Builder from any of its Subcontractors.

M. Upon receipt from the Department of notice of a failure of any of the Work to satisfy any Subcontractor warranty, representation, guarantee, or obligation, the Design-Builder shall be responsible for enforcing or performing any such representation, warranty, guarantee, or obligation, in addition to the Design-Builder's other obligations hereunder. The Department's rights under this Section shall commence at the time such representation; warranty, guarantee, or obligation is furnished, and shall continue until the expiration of the Design-Builder's relevant Warranty (including extensions for redone Work). Until such expiration, the cost of any equipment, material, labor (including re-engineering), or shipping shall be to the account of the Design-Builder (if such cost is covered by such a Warranty), and the Design-Builder shall be required to replace or repair defective equipment, material, or workmanship furnished by any Subcontractor.

N. The foregoing warranties are in addition to all rights and remedies available under the Contract Documents or applicable law, and shall not limit the Design-Builder's liability or responsibility imposed by the Contract Documents or

applicable law with respect to the Work, including liability for design defects, latent construction defects, strict liability, negligence, or fraud; provided, however, that, upon expiration of the Warranties, the Design-Builder shall have no further liability to the Department for patent construction defects.

O. In addition to benefiting the Department and its successors and assigns, the Warranties and Subcontractor warranties provided under this Section (including Warranties for redone Work) shall inure to the benefit of, and shall be directly enforceable by, local agencies and Utilities, with respect to their facilities.

P. If the Design-Builder fails or refuses to provide the Warranty remedy described in this Section "Corrective Work", notwithstanding a valid request by the Department, the Design-Builder shall be liable for the cost of performance of the Warranty Work by others.

Q. Any disagreement between the Department and the Design-Builder relating to this Section shall be subject to the dispute resolution provisions contained in this Section 2.6.19 (Procedures for Resolution of Disputes), 2.6.20 (Procedure for Resolution of Claims), or Section 2.9 (Dispute Resolution) provided that the Design-Builder shall proceed as directed by the Department pending resolution of the dispute.

2.6.13 LOAD RESTRICTIONS

A. Observe legal load restrictions when hauling equipment or materials on public roads beyond project limits.

1. A special permit does not decrease Design-Builder's liability for damage.
2. Refer to the "Utah Regulations for Legal & Permitted Vehicles."

B. Do not apply weight restrictions to equipment or materials hauled over subgrade.

C. Do not exceed legal gross weight limits on any public roads, structures, or on any component of the pavement structure excluding granular borrow.

D. Suspend construction operations when load restriction violations are observed until acceptable corrective measures are approved by the Engineer.

E. When public roads are used to haul any type of excavation, borrow, backfill, base, or surfacing material, the Engineer contacts the appropriate law enforcement agency, if excess load violations are suspected.

F. For materials imported to the job site (i.e. Asphalt, Cement, Concrete, Steel, etc.): The Engineer notifies the appropriate enforcement agency if it is suspected that legal gross load limits are exceeded.

2.6.14 OPENING SECTIONS OF PROJECT TO TRAFFIC

A. The Engineer may order sections of the Work opened to traffic before Final Owner Acceptance.

B. Opening sections of Work do not constitute acceptance of the Work or a waiver of any Contract requirements.

C. Maintain any section of roadway opened to traffic by order of the Engineer.

1. The Department prepares a Change Order when the opening is not provided for in the Contract. Department does not compensate the

Design-Builder if the order to open is the result of Design-Builder fault or inactivity.

D. Engineer gives written notice establishing a time period for completing features of the Work for which the Design-Builder is late.

1. Engineer may order all or a portion of the project opened to traffic if the Design-Builder fails to complete or make a reasonable effort to complete the late work.
2. Assume liability and responsibility for maintaining the work and conduct the remaining construction operation with minimum interference to traffic without additional compensation.

E. Repair damage to the project that is not attributable to traffic (except landslides) at no additional cost to Department. Establish the basis for removal with the Engineer before removing landslides.

2.6.15 FURNISHING RIGHT OF WAY

A. The Design-Builder shall develop and furnish to the Department for approval, Right-of-Way (ROW) plans and Deeds and Instruments in accordance with the Department's Right-of-Way Design Manual. ROW plans and deeds shall address the limits of right-or-way as required by Design-Builder's Design Documents.

B. The Design-Builder shall develop and furnish appraisals, conduct negotiations, acquire real property, and complete all relocations using the services of the firm(s) on the Department's prequalified list. The Design-Builder shall submit appraisals to the Department prior to any negotiations for review and approval.

C. In addition to the oversight review by the Department of the ROW deliverables and tasks required by the Department's Draft Right-of-Way Process and Procedures Manual, the Department will conduct condemnation actions as necessary and provide payment for real property acquisitions, whether by negotiated purchase or condemnation.

D. Concurrent with the development of the Project's Baseline CPM Schedule, the Design-Builder and Department shall discuss the Right-of-Way access and acquisition requirements associated with the scheduled activities and mutually determine which parcels are on the critical path. For approval, the Baseline Schedule must be structured to provide a reasonable work-around to progress the Project until these parcels become available and minimize the dependence on these parcels.

E. The Department does not intend to contract for, pay for, or receive Right-of-way services that are in violation of any professional licensing laws, and by execution of the Contract, Design-Builder acknowledges the Department has no such intent. It is the intent of the parties that the Design-Builder is fully responsible for furnishing the design and the ROW of the Project, although the fully licensed design firm(s) or individual designated herein will perform the design and ROW services required by the Contract Documents. Any reference in the Contract Documents to Design-Builder's responsibilities or obligations to perform the design portions of the Work shall be deemed to mean that the Design-Builder shall furnish the design for the Project.

F. The Design-Builder warrants that it owns, or will own, and has, or will have, good and marketable title to all materials, equipment, tools and supplies that are furnished, or to be furnished, by it and its Subcontractors and become part of the Project or are purchased for the Department for the operation, maintenance, or repair thereof, free and clear of all Liens. Title to all of such materials, equipment, tools and supplies that shall have been delivered to the Site shall pass to the Department, free and clear of all Liens, upon the sooner of:

1. Incorporation into the Project, or
2. Payment by the Department to the Design-Builder of invoiced amounts pertaining thereto.

G. Notwithstanding any such passage of title, and subject this Section 2.6, the Design-Builder shall retain sole care, custody, and control of such materials, equipment, tools and supplies, and shall exercise due care with respect thereto as part of the Work until FOA or until the Design-Builder is removed from the Project.

2.6.16 ACCEPTANCE - PARTIAL

A. The Design-Builder may request final inspection of an item or portion of the Work when:

1. An item or portion of the Work is substantially complete as described in Section 2.6.17 “Substantial Completion”, and
2. The item or portion of the Work is considered or determined necessary for the convenience of traffic, such as a structure, an interchange, section of road, intersection, substation, or portion of a lighting or signal.

B. If the item or portion of the Work has been completed according to the Contract, the Engineer may make written acceptance of that item or portion of the Work as complete. The issuance of Partial Acceptance shall not relieve the Design-Builder from any of its continuing obligations as described in the Contract Documents. The following are exceptions to the issuance of Partial Acceptance:

1. Lighting And Signal Warranties And Guarantees
   a. The notice of acceptance for lighting and signal work is not given until six months after the date of the inspection.
   b. During this six-month period, all manufacturer's warranties and guarantees on contractor- furnished electrical and mechanical equipment are enforced. At the end of the six-month period, and after all electrical and mechanical defects within the scope of warranties and guarantees are corrected, the Engineer makes written acceptance of the work completed and relieves the Contractor of further responsibility for that portion of the project. Partial acceptance does not void or alter any terms of the Contract.
2. Plant Establishment Periods:
   a. The notice of acceptance for plants is be given until the establishment period as specified in the Contract is completed.
   b. The establishment period on plants begins after inspection by the Engineer and continues as specified in the Contract.
   c. At the end of the establishment period, and after all unacceptable plants have been replaced, the Engineer accepts the plants in

writing and relieves the Contractor of further responsibility for that portion of the project.

Note: The six-month warranty period for lighting and signal work and the establishment period for plants does not affect the processing of a semi-final estimate when the Contract is 95 percent or more complete, or after completion of work on the project.

3. Warranty:
   a. Work specified under Part III, Warranty.

2.6.17 SUBSTANTIAL COMPLETION

A. The Design-Builder shall provide written notice to the Department when all of the following have occurred:

1. The Design-Builder has completed the Work (except for Punch List items, final cleanup, and other items included in the requirements for FOA).
2. The Design-Builder has ensured that all construction associated with the Work has been performed in accordance with the requirements of the Contract Documents, including environmental compliance requirements.
3. The Design-Builder has ensured that the Work may be operated without damage to the Work or any other property on or off the Site, and without injury to any Person.
4. The Design-Builder has ensured that the Work is ready to be opened for public traffic and that no further Work is required which would involve any lane or shoulder closure.

B. As promptly as is practicable after receipt of Design-Builder's notice pursuant to this Section 2.6.17 "Substantial Completion", the Department shall conduct inspections as Department deems desirable. If such inspections disclose that any Work does not meet the requirements of the Contract Documents, the Department will promptly advise the Design-Builder in writing of any of the following of which the Department then has knowledge:

1. Defects in the Work, and/or
2. Deficiencies in the Work relating to any of the items described in clauses 1, 2, 3, 4 of paragraph A under 2.6.17 above, and/or
3. Deviations of any installed equipment, materials, and workmanship from the requirements of the Contract Documents.

C. Immediately comply with and execute instructions given by the Department.

D. Upon correction of the deviations, defects, or deficiencies pursuant to paragraph B above, the Design-Builder shall provide written notification to the Department and the Department will conduct another round of inspection(s). This procedure shall be repeated until the Department finds that all prerequisites to Substantial Completion, as appropriate, have been met.

E. Substantial Completion of the Project shall be deemed to have occurred when:

1. The Design-Builder has corrected, pursuant to the provisions of paragraph B above, all defects, deficiencies, and deviations with respect to the Project, including all Safety Committee requirements, and the Department has notified the Design-Builder in writing of its acceptance (or waiver pending FOA) of such corrections; provided that final cleanup and the

items described in paragraph 1.19.D.3 shall not be required to be performed as a condition of Substantial Completion;

2. The Design-Builder has received all applicable Governmental Approvals required to be obtained by the Design-Builder pursuant to Section 2.5.12 (Design-Builder Responsibility).
3. A Punch List for the Project, and a list of Safety Committee review comments to be performed after Substantial Completion, have been mutually agreed upon by the Department and the Design-Builder; and
4. The Project is ready to be opened for public traffic and no further Work is required which would involve any lane closure.

F. The Warranty period will begin at Final Owner Acceptance. Upon Final Owner Acceptance, the Warranty Bond will be executed. The Design-Builder must execute the Warranty Bond in order for the Department to release the Payment Bond and the Performance Bond.

2.6.18 FINAL OWNER ACCEPTANCE (FOA)

A. The following are the requirements for Final Owner Acceptance.

1. Promptly after Substantial Completion of the Project, the Design-Builder shall perform all Work, if any, which was waived for purposes of Substantial Completion, and shall satisfy all of its other obligations under the Contract Documents with regard to the Work, including ensuring that the Project has been completed and all components have been properly adjusted and tested. FOA of the Project shall be deemed to have occurred when all of the following have occurred:
   a. All requirements for Substantial Completion of the Project shall have been fully satisfied.
   b. The Department shall have received all Design Documents, As-Built Documents, ROW record maps, surveys, test data, and other deliverables required under the Contract Documents.
   c. All special tools purchased by the Design-Builder as provided in the Contract Documents shall have been delivered to the Department, and all replacement spare parts shall have been purchased and delivered to the Department free and clear of Liens.
   d. All of the Design-Builder's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish, and temporary facilities shall have been removed from the Site.
   e. The Design-Builder shall have delivered to the Department a certification representing that there are no outstanding Claims of the Design-Builder or claims, Liens, or stop notices of any Subcontractor or third parties laborer with respect to the Work, other than any previously submitted unresolved Claims of the Design-Builder and any claims, Liens, or stop notices of a Subcontractor or laborer being contested by the Design-Builder (in which event the certification shall include a list of all such matters with such detail as is requested by the Department and, with respect to all Subcontractor and laborer claims, Liens and stop notices, shall include a representation by the Design-Builder that it is diligently and in good faith contesting such matters by appropriate legal proceedings which shall operate to prevent the

enforcement or collection of the same). For purposes of such certificate, the term "Claim" shall include all matters or facts that may give rise to a Claim.

f. The Punch List items and the Safety Committee review items which were determined to be suitable for performance after Substantial Completion shall have been completed to the reasonable satisfaction of the Department, all of the Design-Builder's other obligations relating to Work under the Contract Documents (other than obligations which by their nature are required to be performed after FOA) shall have been satisfied in full or waived, and the Department shall have delivered to the Design-Builder a Notice of FOA to the effect of the foregoing.

g. The Design-Builder shall deliver a Warranty Binder, describing all subcontractor, fabricator, and materials warrantees that extend beyond the warranty period required by the contract.

B. The occurrence of FOA shall not relieve the Design-Builder from any of its continuing obligations hereunder.

C. Acceptance of the Work hereunder will not prevent the Department from correcting any measurement, estimate, or certificate made before or after completion of the Work, or from recovering from the Design-Builder or the Surety or both, the amount of any overpayment sustained due to failure of the Design-Builder to fulfill the obligations under the Contract. A waiver from the Department of any breach of any part of the Contract is not held as a waiver of any other or subsequent breach.

D. The Design-Builder hereby offers and agrees to assign to the Department all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) arising from purchases of goods, services, or materials pursuant to this the Design-Builder or any Subcontract. This assignment shall be made and become effective at the time the Department tenders final payment to the Design-Builder, without further acknowledgment by the parties.

2.6.19 PROCEDURES FOR RESOLUTION OF DISPUTES

A. Notify Department orally and in writing of the dispute under Section 2.5.6 (Notification of Differing Site Conditions, Changes and Extra Work), before beginning or continuing the affected work, if additional compensation is considered due for work or material not covered in the Contract.

B. The Engineer responds as described under Section 2.5.6 (Notification of Differing Site Conditions, Changes and Extra Work), following notification, indicates whether or not a change has occurred, and provides further information concerning the method and manner of further performance of the work.

C. Provide cooperation and information to the Engineer during the period of notification review and evaluation.

D. Department does not grant additional compensation if oral and or written notification is not given, or if the Engineer is not given proper facilities for keeping strict account of actual costs.

1. Department does not construe notice by the Design-Builder, and the Engineer's accounting of costs as substantiating the validity of the claim.
2. Department equitably adjusts the Design-Builder if the dispute is found to have merit.

2.6.20 PROCEDURES FOR RESOLUTION OF CLAIMS

A. Disputes that are not resolved are escalated to the claims procedure.

1. Provide written notification of the intent to make a claim under Section 2.5.6, (Notification of Differing Site Conditions, Changes and Extra Work).
2. Submit to the Department the formal claim in writing and with sufficient detail to enable the Engineer to ascertain the basis and amount of the claim.
3. The Engineer shall issue a formal written decision on each Claim. The decision shall state whether the Claim is accepted or denied, and the reasons for the Engineer's decision.
4. Engineer's formal written decision shall constitute a final Department decision, entitling Design-Builder to submit the dispute to the Dispute Resolution Board.

B. As a minimum, include the following information with each claim submitted:

1. A detailed factual statement of the claim for additional compensation and time, providing all necessary dates, locations, and items of work affected by the claim.
2. The date actions resulting in the claim occurred or conditions resulting in the claim became evident.
3. The name, title, and activity of each Department employee knowledgeable about facts that gave rise to the claim.
4. The name, title, and activity of each Design-Builder employee knowledgeable about facts that gave rise to the claim.
5. The specific provisions of the Contract that support the claim and a statement of the reasons why such provisions support the claim.
6. All detailed facts that support positions related to a decision that the Contract leaves to the Engineer's discretion or provides that the Engineer's decision is final.
7. Identity of pertinent documents, and the substance of any material oral communications relating to the claim.
8. A statement whether the additional compensation or extension of time is based on alleged breach of Contract.
9. Copies of any identified documents, other than Department documents and documents previously furnished to the Department that support the claim (manuals that are standard to the industry may be included by reference).
10. For an extension of time include:
    a. The specific days for which a time extension is requested.
    b. The specific reasons a time extension should be granted.
    c. The specific provisions under which a time extension is requested.
    d. A project schedule analysis demonstrating the validity of the requested time extension.

11. The exact amount of compensation requested and a breakdown of the cost into the following categories:
    a. Direct labor.
    b. Direct materials.
    c. Direct equipment. The rates claimed for each piece of equipment shall not exceed actual cost. In the absence of actual equipment cost, the rates for the equipment, when in use, cannot exceed the rates established by Section 2.5.4.8 (Time and Materials Change Orders). Break down the equipment cost in accordance with Section 2.5.4.8 (Time and Materials Change Orders).
    d. Job overhead.
    e. Overhead (general and administrative).
    f. Subcontractor's claims (in the same level of detail as specified herein is required for any subcontractor's claims).
12. Certification: Submit a statement to the Engineer containing the following language:

Under the penalty of law for perjury or falsification, the undersigned,

_____	_____	_____
Name	Title	Company

hereby certifies that the claim for extra compensation and time, if any, made herein for work on this Contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the Contract between the parties.

Dated _____/s/_____
Subscribed and sworn before me this _____day of _____
Notary Public _____
My Commission Expires _____

13. Failure to submit information and details as described in this Section for any claim shall operate as a waiver of the claims.

2.6.21 RECORD KEEPING FOR RESOLUTION OF CLAIMS

A. Maintain full and complete records of all costs and additional time incurred for any alleged claim.

B. Permit the Engineer access to those records and any other records as required to determine the facts or contentions involved in the claim.

C. Retain all records for a period of not less than 3 years after Final Owner Acceptance.

2.6.22 AUDITING OF CLAIMS

A. All claims filed against the Department are subject to audit at any time following the filing of the claim.

B. Employees of the Department or an auditor under contract with the Department may conduct the audit. The audit may begin at any time during the life of the Contract, or 20 calendar days after notice is provided to the Design-Builder, the

subcontractors, or the Design-Builder's agents if more than 60 calendar days after the Final Owner Acceptance date of the Contract have elapsed.

C. Provide adequate facilities acceptable to the Engineer for the audit during normal business hours. Cooperate with the auditors.

D. Failure of the Design-Builder, subcontractors, or agents to maintain and retain sufficient records to allow the auditors to verify all or a portion of the claim or to permit the auditor access to the books and records of the Design-Builder, subcontractors, or agents constitutes a waiver of the claim and bars any recovery there under.

E. As a minimum, make the following documents available to auditors:

1. Daily time sheets and supervisor's daily reports.
2. Union agreements.
3. Insurance, welfare, and benefits records.
4. Payroll registers.
5. Earnings records.
6. Payroll tax forms.
7. Material invoices and requisitions.
8. Material cost distribution work sheet.
9. Equipment records (list of company equipment, rates, etc.).
10. Vendors', rental agencies', subcontractors', and agents' invoices.
11. Subcontractors' and agents' payment certificates.
12. Canceled checks (payroll and vendors).
13. Job cost report.
14. Job payroll ledger.
15. General ledger.
16. Cash disbursements journal.
17. All documents that relate to each and every claim together with all documents that support the amount of damages as to each claim.
18. Work sheets used to prepare the claim establishing the cost components for items of the claim including but not limited to labor, benefits and insurance, materials, equipment, subcontractors, all documents that establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals.

F. Full compliance with the provisions of this article is a contractual condition precedent to the right to seek an appeal to the Dispute Resolution Board or judicial relief.

2.6.23 HIGHER LEVEL REVIEW FOR RESOLUTION OF CLAIMS

A. Submit all claims for higher level review or an appeal to the Dispute Resolution Board to the Engineer in writing within 10 calendar days of the Engineer's denial of a claim.

B. Failure to submit a request within this 10-day time frame is considered acceptance of the Engineer's denial action.

2.7 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

2.7.1 GENERAL LEGAL COMPLIANCE

A. Observe and comply with:

1. Federal and State Laws
2. Local laws and ordinances
3. Regulations, orders and decrees of bodies or tribunals having jurisdiction or authority.
4. UDOT Construction Safety and Health Manual

B. Protect and indemnify the Department and its representatives against claim or liability arising from the violation of any of the above listed items, whether violated by the following companies or their employees:

1. The Design-Builder
2. Subcontractor(s) at any tier
3. Suppliers of materials or services
4. Any others engaged by the Design-Builder

2.7.2 SANITARY, HEALTH, AND SAFETY

A. Observe the rules and regulations of Federal, State, UDOT Construction Safety and Health Manual, and local health officials.

B. Do not require employees of the Design-Builder or subcontractor(s) to work in surroundings, or under conditions that are unsanitary, hazardous or dangerous to health or safety.

C. Admit any inspector of the OSHA or other legally responsible agency involved in safety and health administration without delay and without presentation of an inspection warrant to all areas of the work and project site upon presentation of proper credentials.

2.7.3 EXPLOSIVES

A. Comply with all laws and ordinances as well as Title 29, Title 30, and Code of Federal Regulations, Part 1926 - Safety and Health Regulations for Construction (OSHA), and UDOT Construction Safety and Health Manual, whichever is the most restrictive, in the use, handling, loading, transportation, and storage of explosives and blasting agents.

B. Do not endanger life, property, or new work with the use of explosives.

C. Accept liability for property damage, injury, or death resulting from the use of explosives.

D. Notify property owners and public utility companies in the vicinity of the proposed detonation before using any explosives.

2.7.4 CIVIL RIGHTS

A. Comply with Federal, State and local laws, rules and regulations that enumerate unlawful employment practices including discrimination because of race, religion, color, sex, age, disability, or national origin, and that define actions required for Affirmative Action and Minority/Disadvantaged Business programs.

2.7.5 FORESTS

A. Perform work within or adjacent to State or National Forest under regulations of the State Fire Marshal, Conservation Commission, Forestry Department, or other authority having jurisdiction governing the protection of forests.

B. Immediately notify the Engineer in writing upon discovering any discrepancy or inconsistency between the Contract and any law, ordinance, regulation, or order, except as noted in Section 2.7.8 "Federal Aid Participation."

C. Keep the project site orderly and clean.

D. Obtain all required permits.

E. Prevent and assist with the suppression of forest fires.

F. Cooperate with responsible forestry officials.

2.7.6 PERMITS, LICENSES, AND TAXES

A. Acquire all permits and licenses; pay applicable charges, fees, and taxes; and give all notices necessary to perform the work.

B. Include these costs in the appropriate unit prices bid for the Contract items.

2.7.7 PATENTED DEVICES, MATERIALS, AND PROCESSES

A. Provide proof of legal agreement with the patentee or owner, if necessary, for use of any of the following:

1. Design(s)
2. Devised(s)
3. Material(s)
4. Process (es)
5. Trademark(s)
6. Copyright(s)

B. Indemnify and hold harmless the Department and any affected third party or political subdivision from claims of infringement that result from use of any patented or copyright item listed above.

C. Indemnify the Department for costs, expenses, and damages obligated for payment resulting from infringement during the conduct of the work or after the project is completed.

2.7.8 FEDERAL AID PARTICIPATION

A. Federal requirements of a Federally assisted Contract supersede conflicting provisions of laws, rules, or regulations.

B. The Department supervises all work, but appropriate Federal officials inspect and approve the work when there is Federal participation in the Contract. The U.S. Government, however, is not a party to the Contract and will not interfere with the rights of Contract parties.

2.7.9 PUBLIC CONVENIENCE AND SAFETY - TRAFFIC AND PEDESTRIANS

A. Perform construction with minimal obstruction to traffic.

B. Follow the safety provisions of all applicable laws, rules, codes, and regulations to ensure the safety and convenience of the public and property as provided under Section 2.5.7, "Maintaining Traffic," paragraphs "General," "Special Detours," "During Suspension of Work," and "As Directed by the Engineer."

C. Provide, erect, and maintain all traffic control devices such as barriers, barricades and warning signs to protect the work and the public safety.

1. Use barriers and barricades to delineate highway sections closed to traffic.
2. Illuminate obstructions during darkness and provide warning signs to control and direct traffic.

D. Erect warning signs before work that may interfere with traffic or where work crosses or coincides with an existing road.

1. Place and maintain warning signs according to the project traffic control plan.
2. Obtain approval before dismantling or removing traffic control devices.

E. For Pedestrians:

1. Place and maintain warning signs under project traffic control plan.
2. Provide pedestrian access in area where construction interferes with existing sidewalk.

2.7.10 PROTECTION AND RESTORATION - PROPERTY AND LANDSCAPE

A. Preserve public and private property during the work.

B. Engineer verifies reference to the location of monuments and property line markers before they are moved, disturbed, or damaged.

C. Accept liability for any damage to public or private property resulting from defective work or materials, or non-execution of the Contract.

D. Maintain liability until the project is accepted.

E. Restore damaged property to a condition similar or equal to that existing before the damage at no additional cost to the Contract.

F. Temporarily discontinue work if remains of prehistoric dwelling sites or artifacts of historical or archeological significance are encountered.

G. Follow procedures outlined in Standard Specification-(DB) 01355, Paragraph, (Cultural Resources)

2.7.11 PERSONAL LIABILITY OF DEPARTMENT EMPLOYEES

A. The Department's authorized representatives act solely as agents and representatives of the Department when carrying out the provisions of or exercising the power or authority granted to them under the Contract.

B. They are not liable either personally or as employees of the Department for actions in their ordinary course of employment.

2.7.12 NO WAIVER OF LEGAL RIGHTS UPON COMPLETION

A. Upon completion of the Contract, the Department makes final inspection and notifies the Design-Builder of acceptance.

1. Final acceptance does not prevent the Department from correcting any measurement, estimate, or certificate made before or after completion of the work.
2. The Department is not prevented from recovering from the Design-Builder or SURETY or both, overpayment sustained for failure of the Design-Builder to fulfill the obligations under the Contract.
3. A waiver from the Department of any breach of any part of the Contract is not held as a waiver of any other or subsequent breach.

B. Assume liability to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards to the Department's rights under any warranty or guaranty without prejudice to the terms of the Contract.

2.7.13 SITE OF WORK

A. Refer to complete definition in Section 2.2.

2.7.14 HAULING BY TRUCK - GENERAL

A. When additional trucks are needed for a Federal or State funded project, a lease agreement or subcontract must be in the project office before the additional trucks begin work on the project site.

2.7.15 HAULING BY TRUCK - COMPLIANCE WITH STATE REGULATIONS

A. Comply with all State regulations regarding hauling by truck.

B. Comply with all Federal and State regulations regarding hauling for Federal Funded Projects, including wages and hours.

C. When using Independent Owner-Operators, follow written guidance provided by the U. S. Department of Labor in WH Publication 1297: “Employment Relationships under the Fair Labor Standards Act.”

1. The owner-operator must qualify under those guidelines to be classified an Owner-operator and be exempt from the pre-determined wage rates.
2. The driver of the truck must be the registered owner and be shown as such on the vehicle registration. Corporations and partnerships do not qualify.
3. A subcontract must be approved and in the project office before the owner-operator can work on the project.
4. Show the owner-operator’s name, address and social security on the payroll and classify them as “owner-operator. Hours worked and wages paid are not required.

D. When leasing additional trucks, place the drivers of the leased trucks on the Design-Builder or subcontractor payrolls.

2.7.16 AIR QUALITY PROTECTION

A. Refer to Standard Specification-(DB) 01355: Environmental Protection.

B. Contact the Utah Division of Air Quality (DAQ) and obtain the appropriate Air Quality Permit for the project. Permit application forms can be obtained from DAQ’s web site: http://www.deq.state.ut.us/EQAIR/PERMITS/pmtforms.htm

Utah Division of Air Quality
150 North 1950 West

PO Box 144820
Salt Lake City, UT 84114-4810
Phone: (801) 536-4000
Fax: (801) 536-4099

C. The Design-Builder is not allowed to proceed with work affecting air quality without an Air Quality Approval Order or Notice of Intent to Approve letter or a Temporary Approval Order for the project, process, or equipment to be used.

2.8 PROSECUTION AND PROGRESS

2.8.1 NOTICE TO PROCEED

A. Proceed with the work after receipt of written notice from the Department.

B. Notify the Engineer at least five (5) calendar days before beginning work.

C. Contract time will begin ten (10) calendar days after the date of the Notice to Proceed.

2.8.2 PROGRESSION OF WORK

A. At all times the Design-Builder shall schedule and direct its Work in an orderly progression to achieve Substantial Completion within the specified time and in accordance with each applicable Contract Schedule, including furnishing such employees, materials, facilities and equipment and working such hours (including extra shifts, overtime operations, Sundays and Holidays) as may be necessary to achieve such goal, all at the Design-Builder's own expense, except as otherwise specifically provide in Section 2.5.3 "Differing Site Conditions."

2.8.3 SUBLETTING OF CONTRACTS

A. The Design-Builder shall not award any Subcontracts except in accordance with the Subcontracting Plan, shall comply in all respects with the requirements of the Subcontracting Plan and other requirements of the Contract Documents relating to Subcontracts, and shall ensure that its Subcontractors (at all tiers) comply with all applicable requirements of the Contract Documents relating to subcontracting.

B. The Design-Builder shall sublet no more than 50 percent of the construction Work, and the Major Participant responsible for design shall sublet no more than 50 percent of the design Work. Work to be performed by the DQO or CQO shall not be sublet except as specified in the Proposal.

C. Subcontracts or transfer of the Contract do not relieve liability under the Contract and bonds. The Department shall not be bound by any Subcontract, and no Subcontract shall include a provision purporting to bind the Department.

D. The Design-Builder shall obtain certifications and disclosure from Subcontractors in accordance with the Federal Requirements.

E. Do not allow subcontract work to begin until approved by Engineer.

F. The amount of construction Work sublet shall be determined by dividing the Contract Price allocable to construction or design Work (as determined by the Department) by the total dollar value of the Subcontracts for such Work, excluding Subcontracts between the Design-Builder and its equity participants but including lower-tier Subcontracts through said equity participants. The amount of design Work sublet shall be determined by dividing the total dollar value of the prime design Subcontract(s) (i.e., the Subcontract(s) between the Design-Builder and the Major Participant(s) responsible for design) by the total dollar value of the lower-tier design Subcontracts.

G. Each Subcontract shall include terms and conditions sufficient to ensure compliance by the Subcontractor with all applicable requirements of the Contract Documents, and shall include provisions addressing the following requirements as

well as any other terms that are specifically required by the Contract Documents to be included therein.

1. Provide for a reduction in retained monies commensurate with the percentage held as retainage withheld from the prime Contract as provided for in Section 2.10.5.1, Retainage.
2. Include a statement agreeing on a method of distribution of any adjustments due to price increases or decreases using applicable price adjustment specifications for fuel, cement, common carrier rates, etc.

H. Each Subcontract shall provide that, pursuant to terms in form and substance satisfactory to the Department, (a) the Department is a third-party beneficiary of the Subcontract and shall have the right to enforce all terms of the Subcontract for its own benefit, and (b) all guarantees and warranties, express and implied, shall inure to the benefit of the Department as well as the DESIGN-BUILDER. Any acceptance of assignment of a Subcontract from the Department, its successor(s), or assign(s) shall not operate to make the assignee(s) responsible or liable for any breach of the Subcontract by the DESIGN-BUILDER or for any amounts due and owning under the Subcontract included in an invoice paid by the Department.

I. Special Terms Related To CPOQ Subcontracts. The following terms and conditions shall apply with respect to the Construction Proof of Quality Organizations responsible for quality assurance of the construction Work:

1. The Design-Builder shall not permit any Work to be performed without appropriate oversight and supervision by the CPOQ.
2. The form of Subcontract with each entity responsible for performing CPOQ functions shall be submitted for review by the Department before such entity commences any Work.
3. Each of the CQO managers shall have the obligation and authority to stop Work if such manager has determined that any Work is nonconforming, or if the Department advises such manager that the Department has determined that any Work is nonconforming.
4. The CQO managers shall report on a day-to-day basis to the Design-Builder's project manager, but shall also have direct access to the Design-Builder's senior management (i.e., a higher level than the project manager) and the Department's Project Manager. The CQO managers shall provide weekly reports directly to the Design-Builder's senior management and the Department's Project Manager.
5. No CPOQ employee shall be terminated from the Project without advance written notification to the Department of the termination and the reasons therefore.
6. If documentation indicates that any CPOQ or DPOQ employee has deviated from any of the responsibilities and procedures relating to quality control or quality assurance, the Department shall have the right to require such employee to be immediately removed from the Project.
7. The Design-Builder shall not withhold or delay any payment owing to any CQO entity without the express approval of the Department.

J. The Design-Builder shall notify the Department, in writing, of the name and address of, and licenses held by, each Subcontractor (excluding Suppliers), as soon as the potential Subcontractor has been identified by the Design-Builder, but

in no event less than 14 days prior to the scheduled initiation of Work by such proposed Subcontractor. The Design-Builder shall provide the Department with a list of its Subcontractors (including Suppliers) from time to time upon request; shall allow the Department access to all Subcontracts and records regarding Subcontracts; and shall deliver to the Department, within 10 days after execution, copies of all Subcontracts.

K. Notwithstanding any Subcontract or agreement with any Subcontractor, the Design-Builder shall be fully responsible for all of the Work. The Department shall not be bound by any Subcontract, and no Subcontract shall include a provision purporting to bind the Department.

2.8.4 PROGRESS SCHEDULES

2.8.4.1 Baseline Construction Schedule

Develop a cost loaded baseline construction schedule using Primavera SureTrak Project Manager or Primavera Project Planner. This schedule shall accurately reflect the real cost distribution for doing the Work and the proposed approach to accomplish the work outlined in the contract documents and shall conform to the requirements listed below. This schedule shall establish design (30%, 60%, 90%, and final design reviews) and construction milestones.

Use the baseline construction schedule to coordinate all of the activities on the project - especially the interfaces between the Design-Builder and other entities like utilities, local governments, special districts, and the Department.

Use the baseline schedule to develop the Invoice Data Sheets incorporated into the monthly pay request (Reference Section 2.10.2)

Once a Design-Builder is selected via this RFP process, the Department will provide the Design-Builder with its Baseline Schedule comments. The Design-Builder needs to address these comments in a timely manner and resubmit the schedule to the Department. The Department must approve the Baseline Schedule prior to the start of Contract Work.

Once the baseline schedule is approved, the Design-Builder shall not change the cost of any activity without the Department's approval.

2.8.4.1.1 Baseline Schedule Requirements

As a minimum, the baseline construction schedule shall:

1. Define a complete logical plan that can realistically be accomplished, for executing the work defined in the construction contract.
2. Include sufficient activities to assure adequate planning of the project.
3. Comply with the phasing, work constraints, and milestones defined in the contract as well as all other contractual terms and conditions.
4. Clearly show the critical path (using the longest path definition) and other critical elements of work. If the schedule is resource loaded and leveled, the Design-Builder shall define the critical path of the schedule based on resource limitations
5. Minimize the number of critical and near critical activities in the schedule. Critical activities are defined as the activities on the longest path. Near critical activities are defined as activities with fewer than 10 days total float.

6. Clearly define significant interface points between the Design-Builder, UDOT, and others (such as utility companies).
7. Designate the "Data Date" as the day anticipated for the Notice to Proceed.
8. Include a unique identification number for each schedule activity.
9. Clearly and uniquely define each activity description. Using descriptions referring to a percent complete of a multi-element task (i.e., "Construction 50% of Deck") are not acceptable.
10. Define the duration of each activity - limiting the maximum duration of any activity to 15 days unless otherwise accepted by the Engineer.
11. Clearly identify the relationships tying activities together.
12. Not have any open ended activities (with the exception of one start and one finish activities).
13. Not have any constrained activities that are not clearly defined and justified in the narrative
14. Not sequester project total float through manipulating the calendars, extending activities durations, or any other such methodology.
15. Be resource loaded **IF** the Design-Builder feels that resource limitations may affect the prosecution of the work. No time extensions tied to a shortage of resources will be considered unless the baseline and subsequent schedule updates are resource loaded. If the schedule is resource loaded and leveled, the Design-Builder shall identify the resource driven critical path.
16. Include milestones defining significant contractual events such as Notice to Proceed, substantial completion, interface points with outside entities like utilities, and local government entities.
17. Have a well-defined activity coding structure that allows project activities to be sorted by total project, responsible party, location of work, type of work, and work phase.
18. Be cost loaded at the activity level. The cost loading shall represent the real cost of doing the work assigned to each activity. The Department will not accept front-end cost loading.
19. Have clearly defined calendars.
20. Be accompanied by a Narrative that describes:

    a. The construction philosophy supporting the approach to the Work outlined in the baseline schedule. This discussion shall address the reasons for sequencing of work as shown on the schedule, limited resources that may affect the schedule, potential conflicts and how they may be resolved, and other salient items.
    b. The justification(s) for activities with durations exceeding 21 calendar days.
    c. The justification(s) for constraints used.
    d. The justification(s) for unusual calendars used.
    e. The approach the Design-Builder used to apply relationships between activities (for example, all ties are based on physical relationships between work activities - rebar must be placed before concrete is poured; or relationships are used to show limited resources - bridge 2 follows bridge 1 because the Design-Builder only has one bridge crew; etc.).
    f. The project critical path and challenges that may arise associated with the critical path.

g. How the Design-Builder intends to interface with other entities such as utilities, local governments, and special districts.
h. The basis for the cost loading.

2.8.4.1.2 Acceptance of Baseline Schedule by the Department

1. Acceptance of Baseline Schedule by the Department in no way implies approval of a construction methodology nor does it relieve the Design-Builder of any contractual responsibilities.
2. Acceptance of Baseline Schedule by the Department in no way attests to the validly of any assumptions in the schedule. The Design-Builder is solely responsible for planning and executing the work.
3. Acceptance of Baseline Schedule by the Department in no way excuses the Design-Builder from contractual work not included in the schedule.
4. Acceptance of Baseline Schedule by the Department in no way modifies the contract documents.

2.8.4.1.3 Project Float

Total Project Float is defined as the length of time schedule activities can be delayed before they affect the finish date of the project. It is understood by the Design-Builder and the Department that such float is a shared commodity, not for the exclusive use or financial benefit of either party. Either party has the full use of the project float until it is totally depleted.

2.8.4.1.4 Pursuance of the Work

Employ a sufficient work force, supply adequate materials and equipment, and prosecute the work with such diligence as to maintain the rate of progress indicated in the accepted baseline construction schedule. Any additional or unanticipated costs required to maintain the schedule shall be solely the Design-Builder's obligation and shall not be charged to the Department unless provided for in other provisions of the contract.

2.8.4.2 Construction Schedule Updates

Updated the construction schedule monthly as of the cutoff date for the monthly progress payment and submitted to the Engineer. The updated schedule shall show actual progress for each activity; actual start and finish dates for completed activities; actual start dates, percent complete, and remaining duration for activities in progress; projected sequences of activities for future work; revised relationships and durations for unfinished activities, if warranted; and a well defined critical path.

Submit in writing desired added and deleted schedule activities including their cost loading, changes in activity relationships, or changes in activity constraints to the Engineer for approval prior to the formal submission of the schedule update.
The monthly schedule updates will be used to calculate the monthly activity billings.

Submit one hard copy and one electronic copy of the schedule update to the Engineer for his review and approval.

Along with the updated schedule, submit a narrative describing:

A. Actual work performed during the billing period.

B. Any problems or delays that have been experienced to date, the reasons for the problems or delays, and the Design-Builder intends to resolve the problems or bring the delayed activities back on schedule.
C. Differences between the actual work performed and the work planned for the period, including explanations for the deviations.
D. The current critical path of the project, highlighting any changes to this path since the last update and the impacts of such changes.
E. All added or deleted activities and the reason(s) for and the impact(s) of such changes.
F. All changes in activity durations and the reason(s) for and the impact(s) of such changes.
G. All changes in relationships between activities and the reason(s) for and the impact(s) of such changes.
H. The addition or deletion of constraints and the reason(s) for and the impact(s) of such changes.
I. All changes to the project calendars and the reason(s) for and the impact(s) of such changes.
J. The work the Design-Builder plans to accomplish during the next period. If it deviates from the schedule, the Design-Builder shall provide reasoning for the deviations.
K. All potential problems that may be encountered during the next period and the proposed solutions to such problems. Specifically, the Design-Builder shall identify all potential problems that the Department may be involved in. The narrative shall explain what action the Department needs to take and by when to avoid the problem.

The Engineer shall conduct a monthly review of the updated construction schedule as part of the invoicing cycle (Reference Section 2.10.2). This review shall serve as the forum to discuss activity slippages, remedies, schedule revisions, interface requirements, change orders, potential Design-Builder delay claims, and other relevant issues. The Design-Builder's Project manager, scheduler, and appropriate field personnel shall attend these working sessions. These reviews shall result in joint approval of project progress for the monthly invoice and in the compilation of an action item list that highlights who is responsible for existing or pending issues and by when the issue needs to be resolved to avoid contract delays.

After reaching agreement with the Department on the Project status, the Design-Builder shall prepare and submit its updated schedule, which incorporates or addresses the comments made by the Department in the above noted meeting, as part of its monthly invoice package.

If the work has been delayed 20 workings days or 5% of time remaining to until a completion milestone, the Engineer may request that the Design-Builder incorporate a recovery schedule in its schedule update.

2.8.4.3 Construction Schedule Delays

A construction schedule delay is defined as an event, action, or other factor that impacts the critical path of the construction schedule extending the time needed to complete the construction project. In general there are four types of delays:

A. Excusable Delays. An excusable delay is one caused by an unforeseeable event beyond the Department's or the Design-Builder's control. Such delays where the

Design-Builder may be granted added time but no additional money include but are not limited to acts of God, acts of public enemies, fires, floods, area wide strikes, and unusually severe weather.

B. Compensable Delays. A compensable delay is one caused solely by the Department or its representatives. Such delays may entitle the Design-Builder to additional time and monetary compensation.

Delays caused by utilities and local governments are not compensable. It is understood that the Design-Builder considered in its bid all utility and local government facilities impacted by the project and recognized the limited ability the Engineer has to control the work of such entities. The Design-Builder agrees that it made allowance in its bid for the fact that no compensation will be allowed for inconveniences and delays caused by utilities and local governments.

C. Inexcusable Delays. An inexcusable delay is one which the Design-Builder could have foreseen and prevented but failed to do so. In such cases, the Design-Builder is responsible for the cost and time impacts resulting from the delay for both himself and any other parties affected. Examples of events that cause inexcusable delays include bad weather typical for the season the work is being performed or failure by the Design-Builder to assign sufficient resources to the project.

D. Non-Critical Delays. Non-critical delays are delays, regardless of cause, that do not impact the critical path of the project. No added time or monetary compensation will be given the Design-Builder for such delays. If the delay is sufficiently long to eventually place the impacted activity(s) on the critical path of the construction schedule, then the time period the delay affects the critical path will we handled as defined in Paragraphs A - C above.

If the work has been delayed, a letter must be sent to the Engineer within seven calendar days of the delay-causing event. This letter shall:

A. Identify and describe the events that caused the delay.
B. Identify the party(s) responsible for the events.
C. Identify the activities in the construction schedule affected by the events.
D. Show that these activities are on the schedule's critical path.
E. Demonstrate the magnitude of the delay via an analysis of the current update of the construction schedule.

The Engineer will review the request and within 14-calendar day of receipt of the second letter issue a written response to the Design-Builder. If the Engineer agrees with the request, a time extension and added compensation, if applicable, will be granted under the terms of the contract.

If the Engineer disagrees with the request, a clear explanation will be included in the letter. This letter will serve as formal rejection of the request by the Department. If the Department does not respond within 14 day, then this will be interpreted as a formal rejection of the claim.

Once a delay-causing event is identified, take all reasonable steps needed to minimize the impact of the delay. Failure to do so may result in all or part of the delay claim being rejected.

2.8.5 LIMITATION OF OPERATIONS

A. Minimize traffic interference:

1. Conduct the Work to minimize interfering with traffic.
2. Finish a section of roadway if it is essential to public convenience before starting work on any additional sections as specified in the Contract.

B. Perform no Work on Sundays or holidays without written approval except repair or servicing of equipment, protection of Work, maintenance or curing of concrete, or maintenance of traffic.

C. Night work:

1. Give 5 calendar days notice before starting night work.
2. Provide adequate lighting for performing satisfactory inspection and construction operations.
3. Control noise and vibration under the provisions of Standard Specification-(DB) 01355, paragraph: Noise and Vibration Control.

D. Before undertaking any field activities, ensure all ROW is cleared; the QMP is approved and in place; provide design documents that are signed and stamped by the Design-Builder and accepted by the Department.

E. Maintain existing Utility services at all times.

F. Construction Staging Activities: Restrict off-corridor staging facilities to those areas in the Project Vicinity that are fully approved by permitting agencies and the Department.

2.8.6 CHARACTER OF WORKERS

A. Employ workers with the skill, appropriate licensing and experience necessary to perform the work. The Proposal Documents identify certain key positions for the Project. The Department shall have the right to review the qualifications and character of each individual to be assigned to a key position (including personnel employed by Subcontractors) and to approve or disapprove use of such key persons. The Design-Builder shall notify the Department in writing of any proposed changes in any Key Personnel, and shall not change any Key Personnel without the prior written consent of the Department.

B. Remove any person employed by the Design-Builder, DQO, CQO, or any subcontractor who performs the Work in an improper or unskilled manner, or who is intemperate or disorderly. Rehire these employees only with the Engineer's written permission.

C. Failure to remove any employee(s) or to furnish suitable and sufficient personnel to perform the Work may result in a written notice to suspend the Work.

D. The Design-Builder shall submit a directory and organization chart showing all of its Key Personnel by function. The directory shall be updated throughout the course of the Project. Within 21 calendar days of NTP, the Design-Builder shall provide a comprehensive directory, including the names of the previously committed Key Personnel, Project office address and location, e-mail address, office and residence telephone numbers, fax number, cellular and/or pager number(s), and their Project title and area(s) of responsibility.

The organization chart shall provide a graphic representation of the Project hierarchy and, as a minimum, identify personnel whose responsibilities include the following functions:

1. Project management
2. Quality management
   - Design
   - Construction
3. Subcontracts and procurement
4. Design
   - ATMS
   - Structures
5. Coordination
   - Utilities
   - Agencies
6. Safety

The Design-Builder shall notify the Department at least 28 calendar days in advance of replacing any of the Key Personnel assigned to these functions, and shall submit the names and qualifications of the proposed replacement(s) to the Department for advance approval.

2.8.7 METHODS AND EQUIPMENT

A. Use equipment of the size and mechanical condition to perform and produce the specified work.

B. Do not damage the roadway, adjacent property, or other highways.

C. Use methods or equipment other than those specified only with the Engineer's written permission.

1. Describe in writing the proposed methods and equipment to be used and the reasons for the change.
2. Once approval is received, produce work that meets project requirements.
3. Discontinue use of alternate methods or equipment if the Engineer determines that the Work does not meet contract requirements.
4. Remove and replace or repair non-conforming work to return it to specified quality at no cost to the Department.
5. Department will not change the basis of payment for a change in methods or equipment.

2.8.8 CONTRACT TIME

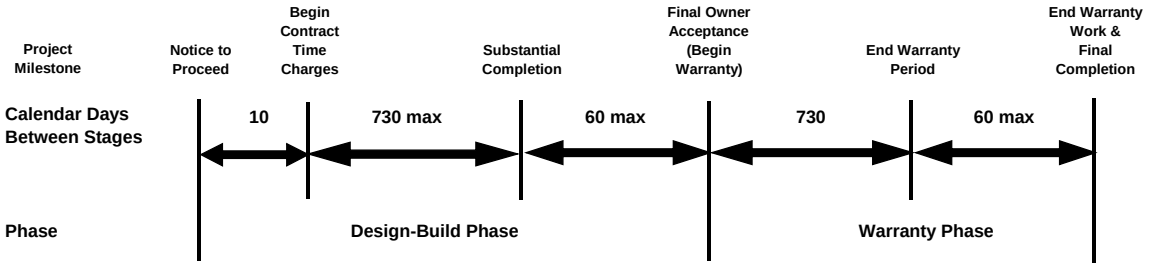
2.8.8.1 Measuring Contract Time

Contract time will be measured on a calendar day basis, per the definition of a Calendar Day in Section 2.2. The Department will exclude Calendar Days elapsing between the effective dates of any orders of the Engineer to suspend and resume work that are not the fault of the Design-Builder. Weather is not considered an authorized suspension.

Contract time charges begin on the 10th calendar day after Notice to Proceed. Contract time charges end when all Work required by the contract is complete.

2.8.8.2 Contract Milestones

The graphic above shows the time allowed between contract milestones.



2.8.8.3 Time for Substantial Completion

The Design-Builder shall achieve Substantial Completion on or before 730 calendar days of contract time have elapsed. Liquidated damages shall be assessed for failure to achieve Substantial Completion within the amount of time allowed, per Section 2.8.10 (Failure to Complete on Time).

2.8.8.4 Time for Final Owner Acceptance

The Design-Builder shall achieve Final Owner Acceptance on or before 60 days have elapsed after Substantial Completion. Liquidated damages shall be assessed for failure to achieve Final Owner Acceptance within the amount of time allowed, per Section 2.8.10 (Failure to Complete on Time).

2.8.8.5 Time for Final Completion

The Design-Builder shall achieve Final Completion on or before 60 days have elapsed after the end of the Warranty Period. Liquidated damages shall be assessed for failure to achieve Final Completion within the amount of time allowed, per Section 2.8.10 (Failure to Complete on Time).

2.8.9 EXTENDING CONTRACT TIME

Additional contract time may be requested as part of project change orders covering extra work requested by the Department, suspensions of work, and other excusable delays. A narrative clearly explaining the cause and duration of the delay shall accompany such requests for time extensions. The narrative shall be supported by a project schedule impact delay analysis showing that the overall project critical path, and thus the substantial completion date, is negatively affected by the number of days requested. Such schedule analyses shall be based on the most current project schedule update. Any changes made to the schedule, as part of these analyses shall be explained. This includes explaining the addition or deletion of activities, modified activity durations, changes in activity relationships and constraints, and any other change that contributes to the schedule delay.

2.8.10 FAILURE TO COMPLETE ON TIME

A. The Department will deduct from any money due the Design-Builder the following sums as liquidated damages for failure to achieve the contract milestones for Substantial Completion, Final Owner Acceptance, and Final Completion within the times specified in Section 2.8.8, "Contract Time".

Liquidated Damages for Failure to Achieve Contract Milestones within the Time Allowed		
Starting	**Ending**	**Liquidated Damages per Calendar Day**
The 731st Day of Contract Time	Substantial Completion	$4,700.00
The 61st Calendar Day after the date of Substantial Completion	Final Owner Acceptance	$1,000.00
The 61st Calendar Day after the last day of the Warranty Period	Final Completion	$500.00

B. Allowing the continuation and completion of the Work after the specified contract completion time or approved extension has elapsed does not waive the Department's rights under the Contract.

2.8.11 TERMINATION FOR DEFAULT

A. Termination can occur if the Design-Builder:

1. Fails to begin the Work under the Contract within the time specified.
2. Fails to perform the Work with sufficient resources to assure the prompt completion of the Work.
3. Fails to perform the Work in accordance with the Contract requirements or neglects or refuses to remove and replace rejected materials or unacceptable work.
4. Discontinues the prosecution of the Work.
5. Fails to resume work that has been discontinued within a reasonable time after notice to do so.
6. Becomes insolvent, or is declared bankrupt, or commits any act of bankruptcy or insolvency.
7. Allows any final judgment to remain unsatisfied for a period of 10 calendar days.
8. Makes an assignment for the benefit of creditors without the Department's approval.
9. Fails to comply with Contract requirements including minimum wage payments or EEO requirements.
10. Is a party to fraud.

B. The Design-Builder shall be in default under this Contract in accordance with this Section 2.8.11 (Termination for Default) or upon the occurrence of any one or more of the following events or conditions and the declaration by the Department in writing that an Event of Default has occurred:

1. The Design-Builder discontinues the prosecution of the Work for any reason other than termination by the Department, a Force Majeure event, suspension by the Department, or nonpayment by the Department not related to a breach by the Design-Builder; or
2. The Design-Builder breaches any agreement, representation, or warranty contained in the Contract Documents, including EEO requirements, or fails to maintain appropriate performance and payment bonds; or
3. The Design-Builder shall have assigned or transferred the Contract Documents or any right or interest herein, except as expressly permitted under this Section 2.8.3, Subletting of Contracts or

4. Any Guarantor revokes or attempts to revoke its obligations under the Guarantee, or otherwise takes the position that such instrument is no longer in full force and effect.

C. The Engineer may declare the Contract in default by written notice to the Design-Builder and the Surety advising them of the actions required for remedy.

D. The Department agrees to allow the Design-Builder 15 days' notice and opportunity to cure any breach before declaring an Event of Default, provided that no such notice and opportunity to cure is required for any breach that by its nature cannot be cured. If a breach is curable but by its nature cannot be cured within 15 days, the Department agrees not to declare an Event of Default, provided that the Design-Builder commences such cure within such 15-day period and thereafter diligently prosecutes such cure to completion. The Design-Builder hereby acknowledges and agrees that the events described in this Section 2.8.11, paragraphs A6, A7, and A10 are not curable.

E. An Event of Default shall occur, then, in addition to all other rights and remedies available under this Contract or otherwise, including the rights to recover Damages and to seek recourse against the surety bonds required hereby, Guarantee, and/or other performance security, the Department shall have the following rights and remedies, and the Design-Builder shall have the following obligations:

1. The Department, without prejudice to any of its other rights or remedies, may terminate this Contract or a portion thereof forthwith for default by delivery of a Notice of Termination or Notice of Partial Termination to the Design-Builder; and/or
2. If requested by the Department, the Design-Builder shall withdraw from the Site; shall assign to the Department (without recourse to the Design-Builder) such of the Design-Builder's Subcontracts as the Department may request; and shall remove such materials, equipment, tools, and instruments used by, and any debris or waste materials generated by, the Design-Builder in the performance of the Work as the Department may direct. The Department may take possession of any or all facilities of the Design-Builder located on the Site as well as any or all Design Documents, Construction Documents, and all other completed or partially completed drawings (including plans, elevations, sections, details, and diagrams), specifications, records, information, schedules, samples, shop drawings, and other documents that the Department deems necessary for completion of the Work; and/or
3. The Department, without incurring any liability to the Design-Builder, shall have the rights (1) to take the performance of all or a portion of the Work from the Design-Builder (either with or without the use of the Design-Builder's materials, equipment, tools, and instruments) and enter into an agreement with another Person for the completion of such Work; or (2) to use such other methods, as in the opinion of the Department, will be required for the completion of the Project.

F. All costs and charges incurred by the Department, including the cost of completing the Work under the Contract, will be deducted from monies owed or that may be owed the Design-Builder. Should the expense exceed the sum that

would have been payable under the Contract, the Design-Builder and SURETY are liable and must pay the Department the amount of the excess.

G. If an Event of Default shall have occurred, the Design-Builder shall be liable to the Department (in addition to any other damages under the Contract Documents other than those costs intended to be covered by Liquidated or Stipulated Damages payable hereunder) for all costs reasonably incurred by the Department or any party acting on the Department's behalf in completing the Work or having the Work completed by another Person. Upon the occurrence of an Event of Default, the Department shall be entitled to withhold all or any portion of further payments to the Design-Builder until such time as the Department is able to determine how much (if any) remains owing to the Design-Builder. Promptly upon such determination, the Department shall notify the Design-Builder in writing of the amount, if any, that the Design-Builder shall pay the Department or that the Department shall pay the Design-Builder with respect thereto. All costs and charges incurred by the Department, including attorneys' fees and costs, together with the cost of completing the Work under the Contract Documents, will be deducted from any moneys due or which may become due to the Design-Builder. If such expense exceeds the sum which would have been payable under the Contract, then the Design-Builder and its Surety (ies) and Guarantor(s) shall be liable and shall pay to the Department the amount of such excess

H. The Design-Builder's liability to the Department for damages resulting from breach of this Contract, whether in contract or tort or any other theory of law, but excluding gross negligence or willful misconduct on the part of the Design-Builder, and excluding any liability of the Design-Builder to the Department for third party claims as provided in Section 2.12, shall not exceed the sum of all those costs reasonably incurred by Department or any party acting on Department's behalf in completing or correcting the Work or having the Work completed or corrected by another Person, and

Furthermore, under no circumstances will either party be entitled to remote, speculative or incidental consequential damages (including lost profits) arising out of breach of this Contract by the other party. The foregoing shall not affect the rights and remedies of the parties expressly set forth in the Contract Documents such as the right to collect Damages and the right to indemnity.

I. If an Event of Default consists solely of Design-Builder's actual or projected failure to achieve Substantial Completion within 60 days after the Substantial Completion Deadline, the Department shall have no right to terminate this Contract under this Section 2.8.11 (Termination for Default). If the delay extends beyond said 60-day period or is projected to extent beyond said 60-day period, the Department shall be free to terminate this Contract under this Section 2.8.11, Termination for Default. The foregoing limitation shall not preclude the Department from terminating for default based on a separate Event of Default (including any failure by the Design-Builder to prosecute the Work diligently.)

J. The Design-Builder shall have the right to stop Work in the event of failure by the Department to make an undisputed payment due hereunder within 60 days of the submittal of the Invoice (which Work stoppage shall be considered a suspension under Section 2.5.5, Suspension of Work ordered by the Department, but the Design-Builder shall not have the right to terminate the Contract.

K. Each right and remedy of the Department hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing at law or in equity or by statute or otherwise; and the exercise or beginning of the exercise by the Department of any one or more of any of such rights or remedies against the Design-Builder shall not preclude the simultaneous or later exercise by the Department of any or all other such rights or remedies.

2.8.12 TERMINATION FOR CONVENIENCE

2.8.12.1 Notice of Termination

The Department may terminate this Contract and the performance of the Work by the Design-Builder in whole or, from time to time, in part, if the Department determines, in its sole discretion, that a termination is in the Department's best interest. The Department shall notify the Design-Builder of its decision to terminate by delivering to the Design-Builder a written Notice of Termination specifying the extent of termination and its effective date. Termination (or partial termination) of this Contract shall not relieve any Surety or Guarantor of its obligation for any just claims arising out of the Work performed.

2.8.12.2 Design-Builder's Responsibilities Upon Termination

After receipt of a Notice of Termination, and except as otherwise directed by the Department, the Design-Builder shall immediately proceed as follows, regardless of any delay in determining or adjusting any amounts due under this Section 2.8.12.2.

1. Stop Work as specified in the notice.
2. Communicate such notice to all affected Subcontractors.
3. Place no further Subcontracts, except as necessary to complete the continued portion of the Work, if any, or for mitigation of damages.
4. Terminate all Subcontracts to the extent that they relate to the Work terminated.
5. Assign to the Department in the manner, at the times, and as to the extent directed by the Department, all of the right, title, and interest of the Design-Builder under the Subcontracts so terminated, in which case the Department will have the right, at its sole discretion, to settle or pay any or all claims arising out of the termination of such Subcontracts.
6. Settle all outstanding liabilities and claims arising out of such termination of Subcontracts, with the approval or ratification of the Department, to the extent it may be required, which approval or ratification shall be final.
7. Transfer the title to and deliver to the Department, in the manner, at the times, and as and to the extent, if any, directed by the Department (a) fabricated or unfabricated parts, the Work in process, completed Work, supplies, and other material produced or acquired for the Work terminated; and (b) the Design Documents, Construction Documents, and all other completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, records, samples, information, and other property that would have been required to be furnished to the Department if the Work had been completed.
8. Complete performance in accordance with the Contract Documents of all Work not terminated.
9. Take all action that may be necessary, or that the Department may direct, for the protection and preservation of the property related to the Contract Documents that is in the possession of the Design-Builder and in which the Department has or may acquire an interest; and

10. Use its best efforts to sell, in a manner, at the times, to the extent, and at the price or prices directed or authorized by the Department, any property of the types referred to in this Section 2.8.12.2, provided, however, that the Design-Builder (a) is not required to extend credit to any purchaser, and (b) may acquire the property under the conditions prescribed and at prices approved by the Department. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Department under the Contract Documents or paid in any other manner directed by the Department.

2.8.12.3 Inventory

The Design-Builder shall submit to the Department a list of termination inventory not previously disposed of and excluding items authorized for disposition by the Department, upon receipt of a request therefore from the Department. Within 45 days of receipt of the list, the Design-Builder shall deliver such inventory to the Department and the Department shall accept title to such inventory as appropriate.

2.8.12.4 Negotiated Termination Settlements

Settlement Proposal: After receipt of a Notice of Termination, the Design-Builder shall submit a final termination settlement proposal to the Department in the form and with the certification prescribed by the Department. The Design-Builder shall submit the proposal promptly, but no later than 90 days from the effective date of termination, unless the Design-Builder has requested a time extension in writing within such 90-day period and the Department has agreed in writing to allow such an extension. However, if the Department determines that the facts justify it, a termination settlement proposal may be reviewed and acted on after such 90-day period or any extension thereof. If the Design-Builder fails to submit the proposal within the time allowed, the Department may determine, on the basis of information available to it, the amount, if any, due the Design-Builder because of the termination and shall pay the Design-Builder the amount so determined.

Negotiated Settlement Amount. Subject to the provisions of this Section, 2.8.12.4, the Design-Builder and the Department may agree upon the whole or any part of the amount or amounts to be paid to the Design-Builder by reason of the total or partial termination of Work pursuant to this Section 2.8.12.4. Such negotiated settlement may include a reasonable allowance for profit solely on Work that has been completed as of the termination date. Such agreed-upon amount(s), exclusive of settlement costs, shall not exceed the total Contract Price as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of Work not terminated. Upon determination of the settlement amount, this Contract will be amended accordingly, and the Design-Builder will be paid the agreed-upon amount. Nothing in this Section 2.8.12.4, paragraph "Negotiated Settlement Amount", prescribing the amount to be paid to the Design-Builder in the event that the Design-Builder and the Department fail to agree upon the whole amount to be paid to the Design-Builder by reason of the termination of Work pursuant to this Section 2.8.12.4, shall be deemed to limit, restrict, or otherwise determine or affect the amount(s) which may be agreed upon to be paid to the Design-Builder pursuant to this Section 2.8.12.4 Negotiated Termination Settlements.

If Negotiations Fail: In the event of failure of the Design-Builder and the Department to agree, as provided in this Section, upon the whole amount to be paid to the Design-Builder by reason of the termination of Work pursuant to this Section, the amount payable (exclusive of interest charges) shall be determined by the Department in accordance with the following paragraph, but without duplication of any amounts agreed upon in accordance with paragraph 1.19.D.2 above.

2.8.12.5 Termination Prior to NTP

In the event of a termination prior to issuance of the NTP the Department will pay the Design-Builder the amount of the Stipulated Fee.

2.8.12.6 Termination after NTP:

In the event of a termination after issuance of the NTP the Department will pay the Design-Builder 100% of the total of the following amounts for Work performed prior to the effective date of the Notice of Termination for convenience, as such amounts are determined by the Department, and without duplication of any items or of any amounts agreed upon in accordance with Section 2.8.12.4, paragraphs "Settlement Proposal", and "Negotiated Settlement Amount":

1. The Design-Builder's actual reasonable out-of-pocket cost (including equipment costs only to the extent permitted by Section 2.5.4 (Changes) for all Work performed, including reasonable overhead and accounting for any refunds payable with respect to insurance premiums, deposits or similar items, as established to the Department's satisfaction, plus 10 percent profit;
2. The cost of settling and paying claims arising out of the termination of Work under Subcontracts as provided in Section 2.8.12.2, Design-Builder's Responsibilities Upon Termination, subparagraph (6), exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the Notice of Termination of Work under this Contract, which amounts shall be included in the cost on account of which payment is made under item (a) above; and
3. The reasonable out-of-pocket cost (including reasonable overhead) of the preservation and protection of property incurred pursuant to Section 2.8.12.2, Design-Builder's Responsibilities Upon Termination, subparagraph (9) and any other reasonable out-of-pocket cost (including overhead) incidental to termination of Work under this Contract, including costs incidental to the determination of the amount due to the Design-Builder as the result of the termination of Work under this Contract.

2.8.12.7 Maximum Compensation

The Design-Builder acknowledges and agrees that it shall not be entitled to any compensation in excess of the value of the Work performed (determined as provided in Section 2.8.12.5 (Termination Prior to NTP), or Section 2.8.12.6 (Termination After NTP) plus its settlement costs, and that items such as lost or anticipated profits, unabsorbed overhead and opportunity costs shall not be recoverable by it upon termination of the Contract.

2.8.12.8 Excluded Items

Except for normal spoilage, and except to the extent that the Department will have otherwise expressly assumed the risk of loss, there will be excluded from the amounts payable to the Design-Builder under Section 2.8.12.4 paragraph Determination of Settlement Amount "If Negotiations Fail", the fair value, as determined by the Department, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Department, or to a buyer pursuant to Section 2.8.12.2, (Design-Builder's Responsibilities Upon Termination), subparagraph 10. The amount set forth in the Proposal by the Design-Builder for the Work terminated shall be a factor to be analyzed in determining the value of the Work terminated. Upon determination of the amount of the termination payment, this Contract shall be amended to

reflect the agreed-upon termination payment, and the Design-Builder shall be paid the agreed-upon amount.

2.8.12.9 Partial Termination

If a termination hereunder is partial, the Contract Price for the remainder of the Work shall be adjusted as appropriate to account for the change in the overall scope of the Project.

2.8.12.10 Reduction in Amount of Claim

The amount otherwise due the Design-Builder under this Section 2.8.12.10 shall be reduced by (a) all unliquidated advance or other payments on account theretofore made to the Design-Builder applicable to the terminated portion of this Contract; (b) the amount of any claim which the Department may have against the Design-Builder in connection with this Contract; and (c) the agreed-upon price for, or the proceeds of the sale of, any materials, supplies or other things acquired by the Design-Builder or sold pursuant to the provisions of this Section 2.8.12.10, and not otherwise recovered by or credited to the Department.

2.8.12.11 Partial Payments

The Department may, from time to time, under such terms and conditions as it may prescribe and at its sole discretion, make partial payments on account against costs incurred by the Design-Builder in connection with the terminated portion of this Contract, whenever, in the opinion of the Department, the aggregate of such payments shall be within the amount to which the Design-Builder will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed upon or determined to be due under this Section 2.8, such excess shall be payable by the Design-Builder to the Department upon demand, together with interest thereon at a rate equal to the average rate at the time being received from the investment of State funds, as determined by the State Treasurer, for the period from the date such excess payment is received by the Design-Builder to the date on which such excess is repaid to the Department. However, no interest will be charged with respect to any such excess payment attributable to a reduction in the Design-Builder's claim by reason of retention or other disposition of termination inventory until 10 days after the date of such retention or disposition, or such later date as determined by the Department by reason of the circumstances.

2.8.12.12 Inclusion in Subcontracts

The Design-Builder shall insert in all Subcontracts a requirement that the Subcontractor shall stop Work on the date and to the extent specified in a Notice of Termination from the Department, and shall require Subcontractors to insert the same provision in each Subcontract at all tiers.

2.8.12.13 Limitation on Payments to Subcontractor

For the purposes of this Section, upon termination under this Section 2.8.12 under any Subcontract which would have entitled the Subcontractor to gross proceeds of $100,000 or more had it not been terminated, the Design-Builder will not be entitled to reimbursement for that portion of the termination settlement with any such Subcontractor which constitutes anticipatory or unearned profit on Work not performed or which constitutes consequential damages on account of the termination or partial termination.

2.8.12.14 No Unearned Profits or Consequential Damages

Under no circumstances shall the Design-Builder be entitled to anticipatory or unearned profits or consequential or other damages as a result of a termination or partial termination under this Section 2.8. The payment to the Design-Builder determined in accordance with this Section 2.8

constitutes the Design-Builder's sole and exclusive remedy for a termination under this Section 2.8.

2.8.12.15 No Waiver

Anything contained in the Contract to the contrary notwithstanding, a termination under this Section 2.8 shall not waive any right or claim to damages that the Design-Builder may have, and the Design-Builder may pursue any cause of action that it may have at law or in equity or under the Contract.

2.8.12.16 Dispute Resolution

The failure of the parties to agree on amounts due under this Section 2.8 shall be a dispute to be resolved in accordance with Section 2.9 (Dispute Resolution). However, all costs claimed by the Design-Builder under this Section 2.8 shall, at a minimum, be allowable, allocable, and reasonable in accordance with the cost principles and procedures of Part 31 of the Federal Acquisition regulations. The Department's determination regarding the allowability, allocability and reasonableness of such costs shall be final and conclusive.

2.8.13 SAFETY REQUIREMENTS

The Design-Builder shall establish and submit to the Department for review a Safety Plan that, as a minimum, complies with the following:

A. Meet the General Safety Orders Covering Utah Industries and Federal Mine Safety Health Administration, issued by the Industrial Commission of Utah, Occupational Safety and Health Act of 1970 to protect the life and health of employees in the performance of this Contract. Obtain copies from the office of the Engineer.

B. Adhere to the requirements and responsibilities of the UDOT Construction Safety and Health Manual. Obtain a copy from the Department.

C. Admit, upon presentation of credentials, any inspector or officer of Utah OSHA, UDOT Risk Management, or other legally responsible agency involved in safety or health administration without delay and without presentation of an inspection warrant to all areas of work on the project.

D. Immediately correct any conditions that do not comply with the foregoing provisions.

E. A stop work order will be issued for failure or refusal to correct unsafe conditions.

   1. A stop work order does not provide relief from completing the project within the specified Contract completion time.
   2. A start work order will be issued when satisfactory corrective action is taken.

2.9 DISPUTES RESOLUTION

2.9.1 INTRODUCTION, MEMBERSHIP, OPERATION

A. **Partnering:** Section 2.5.2, Partnering, sets forth a framework for voluntary partnering between the parties in connection with the Project. The purpose of Partnering is to facilitate resolution of disputes or claims arising out of the work. Either party may withdraw from partnering upon written notice to the other. However, no Claim or change approved through the partnering shall be revived. It is the intent of the parties that the dispute resolution provisions contained in this Section 2.9 shall apply only in the event that the normal Department-Design-Builder dispute resolution effort is not succeeding. The provisions of this Section 2.9 shall apply to all Disputes arising out of the Work, except as expressly provided to the contrary in the Contract Documents.

B. **The Dispute Resolution Board (DRB)**: A Dispute Resolution Board (the "Dispute Resolution Board") will be established to assist in the resolution of Disputes arising out of the Work. This Section 2.9 describes the purpose, procedure, function, and key features of the Dispute Resolution Board. The form of the Dispute Resolution Board Agreement that will formalize the creation of the Dispute Resolution Board is attached hereto as the Three Party Agreement.

C. **Function of Dispute Resolution Board:** The Dispute Resolution Board will assist in and facilitate the timely and equitable resolution of disputes between the Department and Design-Builder in an effort to avoid construction delay and litigation. It is not intended for Department or Design-Builder to default on the normal responsibility to amicably and fairly settle their differences by indiscriminately assigning them to the Dispute Resolution Board. Rather it is intended that the Dispute Resolution Board encourage the Department and the Design-Builder to resolve potential disputes without resorting to this appeal procedure.

D. **Appeal to Dispute Resolution Board;** Conditions Precedent to Litigation: Either the Department or the Design-Builder may appeal a dispute to the Dispute Resolution Board. The Department may appeal a dispute to the Dispute Resolution Board at any time. The Design-Builder shall have no right to submit a Dispute to the Dispute Resolution Board unless the Design-Builder has first obtained a final Department Decision in accordance with the procedures set forth in Section 2.6.19, "Procedure for Resolution of Disputes" and Section 2.6.20 "Procedure for Resolution of Claims". The Design-Builder's refusal to allow the Department to exercise its audit rights under the Contract Documents shall also preclude the Design-Builder from submitting a Dispute to the Dispute Resolution Board. Submission of Claims and disputes to the Dispute Resolution Board shall be a condition precedent to the Design-Builder's ability to file a complaint in court to obtain resolution of the Dispute.

E. **Continuance of Work During Dispute**: At all times during the course of the dispute resolution process, the Design-Builder shall continue with the Work as directed, in a diligent manner and without delay, or shall conform to Department's decision or order, and shall be governed by all applicable provisions of the Contract Documents. Records of the Work shall be kept in sufficient detail to enable payment in accordance with applicable provisions in the Contract Documents, if this should become necessary.

F. **Membership:** The Dispute Resolution Board will consist of one member nominated by the Department and approved by Design-Builder, one member nominated by the Design-Builder and approved by the Department, and a third member nominated by the first two members and approved by both the Department and the Design-Builder. The third member will act as chairman for all Dispute Resolution Board activities unless the parties otherwise agree.

G. **Experience of Members:** It is desirable that all Dispute Resolution Board members be experienced with highway design and construction as well as in resolution of disputes involving interpretation of design-build contracts. The goal in selecting the third member is to complement the dispute resolution experience of the first two and to provide leadership for the Dispute Resolution Board's activities.

H. **Avoidance of Appearance of Conflict:** It is imperative that Dispute Resolution Board members show no partiality to either the Design-Builder or the Department, or have any conflict of interest.

1. No member shall be an Affiliate or otherwise have a financial interest in this Contract or in the outcome of any dispute decided hereunder, except for the right to receive payment for serving on the Dispute Resolution Board.
2. No member shall have been previously employed (or have his/her employer employed) by the Department, the Design-Builder, or any Affiliate, within 10 years prior to the Proposal Due Date, except for fee-based consulting services on other projects that are disclosed to all parties, or have had financial ties to, any party to this Contract.
3. No member shall have had substantial prior involvement in the Project or relationship with any party or Affiliate of a nature which would be grounds for disqualification of a judge or which could otherwise compromise his or her ability to impartially resolve disputes.
4. No member shall accept employment with the Department, the Design-Builder or any Affiliate during the term hereof and for so long thereafter as any obligations remain outstanding under the Contract Documents, except as a member of other Dispute Resolution Boards.
5. No member shall discuss employment with the Design-Builder, any Affiliate, the Department, or any consultants working on the Project during the term hereof and for so long thereafter as any obligations remain outstanding under the Contract Documents.

I. **Submission of Disclosure Statements:** Before their appointments are final, the first two prospective members shall submit complete disclosure statements for the approval of both the Department and the Design-Builder. Each statement shall include a resume of experience, together with a declaration describing all past, present, and anticipated or planned future relationships to the Project and with all parties involved in this Contract, including disclosure of past or current professional or close personal relationships with the Design-Builder, any Affiliate, the Department, or its consultants working on the Project, or with any key member of any such Person. The third Dispute Resolution Board member shall supply such a statement to the first two Dispute Resolution Board members and to the Department and the Design-Builder before his or her appointment is final.

J. **Selection Process:** Each party shall select its Dispute Resolution Board member within 6 weeks after Award of this Contract and provide information regarding the selected individual to the other party. Immediately upon approval of the first two members, the two members shall begin selection of the third member. The first two members shall ensure that the third member meets all of the criteria listed above. The third member shall be selected within 4 weeks after the first two members are notified to proceed with the selection. In the event of an impasse in selection of the third member, that member shall be selected by mutual agreement of the Department and the Design-Builder. In so doing, they may, but are not required to, consider the nominees offered by the first two members. If the Department and the Design-Builder cannot agree on the selection of the third member, then each party may submit a list of up to five candidates to a court of competent jurisdiction for judicial resolution of the selection of the third member.

K. **Execution of Agreements:** Promptly upon approval of the Dispute Resolution Board members, the Department, the Design-Builder and the individual Dispute Resolution Board members shall enter into three-party agreements which set forth the terms and conditions which apply to the services to be provided by the members. The Department, the Design-Builder, and all three members of the Dispute Resolution Board shall execute the Dispute Resolution Board Agreement within 4 weeks after the selection of the third member.

L. **Operation:** The Dispute Resolution Board shall formulate its own rules of operation in accordance with the Dispute Resolution Board Agreement.

M. **Progress Reports:** In order to keep abreast of design and construction development and progress, the members will be provided regular written progress reports and other relevant data from Department. The Design-Builder may provide supplemental progress reports if it chooses, after consultation with the Department. Such supplemental progress report(s) shall be limited to material pertaining to disputes that have already been presented to the Dispute Resolution Board. The Design-Builder shall not submit supplemental progress reports pertaining to issues that have not been previously presented to the Dispute Resolution Board. The Design-Builder shall provide a copy of any supplemental progress report to Department.

N. **Regular Meetings**: The Dispute Resolution Board shall visit the Project Site and meet with representatives of the Department and the Design-Builder at regular intervals and at times of critical events. The frequency of these visits shall be as agreed upon among the Department, the Design-Builder, and the Dispute Resolution Board, depending on the progress of the Work. The regular meetings shall be held at the jobsite. Each meeting shall consist of an informal round table discussion followed by a field inspection of the Project. The round table discussion shall be attended by selected personnel from the Department and the Design-Builder.

1. The agenda shall generally include the following:
   a. Meeting convened by the chairman of the Dispute Resolution Board.
   b. Opening remarks by the Department's representative.
   c. Description by the Design-Builder of Work accomplished since the last meeting, current status of the Work, schedule for future Work, potential disputes, Claims, and other controversies, and proposed

solutions for these problems.

d. Discussion by the Department's representative of the Work as the Department views it; potential disputes, Claims, and other controversies, and the status of past disputes, Claims, and other controversies.

e. Setting of a tentative date for next meeting.

2. If it is considered necessary by the parties, the Department will prepare minutes of regular meetings and circulate them for comments, revisions, and/or approval of all concerned.

3. The field inspection shall cover all active segments of the Work. Representatives of both the Department and the Design-Builder shall accompany the Dispute Resolution Board.

2.9.2 PROCEDURE AND SCHEDULE

A. **Impartiality of Dispute Resolution Board:** The Dispute Resolution Board shall fairly and impartially consider disputes referred to it, and shall provide written recommendations to the Department and the Design-Builder, to assist in the resolution of disputes submitted to the Dispute Resolution Board in accordance herewith.

B. **Time Periods**: Disputes shall be considered as quickly as possible, taking into consideration the particular circumstances and the time required to prepare detailed documentation. Steps may be omitted as agreed upon by both parties, and the time periods stated below may be shortened in order to hasten resolution. Before the Design-Builder shall have the right to submit a Claim or dispute to the Dispute Resolution Board, it must first comply with the following procedures.

C. **Written Protest:** If the Design-Builder objects to any decision, action, or order of the Department (including any rejection or modification of a proposed Change Order by the Department), the Design-Builder may file a written protest with the Department, stating clearly, and in detail, the basis for the objection, within 1 week after the date on which the Design-Builder first becomes aware of the decision, action, or order. In the event any such protest is not filed within this time period, the Design-Builder shall be deemed to have waived the right to collect any and all costs incurred prior to the date of delivery of the protest, and shall be deemed to have waived the right to seek an extension of the Completion Deadlines with respect to any delay in the Critical Path which occurred prior to the date of the protest. This waiver shall occur whether or not there is any showing of prejudice to the Department resulting from the delay in filing the protest.

D. **Issuance of Department Decision**: The Department will consider the written protest and make the Department Decision on the basis of the pertinent Contract requirements, together with the facts and circumstances involved in the dispute. The decision will be furnished in writing to the Design-Builder, within 2 weeks after receipt of the Design-Builder's written protest, provided that if no written decision is issued, the Department shall be deemed to have denied the Design-Builder's written protest and a Department Decision to that effect shall be deemed received by the Design-Builder at the end of such 2-week period. This decision shall be final and conclusive on the subject, unless a written appeal to Department

is filed by the Design-Builder within 30 days of receiving the Department Decision.

E. **Finality of Decision:** If a written appeal is submitted to the Department, both parties shall pursue the matter further to attempt to settle the dispute. If the Department fails to issue a new decision within 2 weeks after the date on which the appeal is submitted, the existing Department Decision shall be final and conclusive at the end of such 2-week period. If the Department issues a new decision within such 2-week period, such decision shall be the Department Decision and shall be final and conclusive on the date it is issued.

F. **Submittal of Dispute**: If the Department Decision does not resolve the dispute, then either party may submit the Dispute to the Dispute Resolution Board. The Dispute shall be submitted to the Dispute Resolution Board by written notice of appeal, delivered to the Dispute Resolution Board and simultaneously served upon the other party. The notice of appeal (or complaint if the Dispute Resolution Board does not exist) shall be filed and served within 30 days following the date on which the Department Decision becomes final, and shall state clearly and in full detail the specific issues of the dispute to be considered. If no notice of appeal or complaint is filed within 30 days following the date upon which the Department Decision is final, the Department Decision shall be final, conclusive, and binding upon the parties.

G. **Date of Hearing:** When a dispute is appealed to the Dispute Resolution Board, the Dispute Resolution Board, with input from the Design-Builder and the Department, shall first decide when to conduct the hearing. If the matter is not urgent, it may be heard at the next regular Dispute Resolution Board meeting. For an urgent matter, the Dispute Resolution Board shall meet at its earliest convenience.

H. **Discovery and Evidence:** Once a notice of appeal is filed with the Dispute Resolution Board, discovery shall be permitted to the full extent provided for judicial cases under Utah law. During the hearing, the Design-Builder and the Department shall each have ample opportunity to be heard and to offer evidence. Detailed procedures are given in this Section 2.9.

I. **Dispute Resolution Board Recommendation:** The Dispute Resolution Board's recommendations for resolution of the dispute will be given in writing to both the Department and the Design-Builder within 2 weeks of completion of the hearings. In exceptionally difficult cases, this time may be extended by mutual agreement of all parties. Following delivery of the recommendation, if requested by either party, the Dispute Resolution Board shall meet with the Department and the Design-Builder to provide additional clarification of its recommendation.

J. **Response:** Within 2 weeks of receiving the Board's recommendations, or such other time specified by the Dispute Resolution Board, both the Department and the Design-Builder shall respond to the other and to the Dispute Resolution Board in writing, signifying either acceptance or rejection of the Dispute Resolution Board's recommendations. The failure of either party to respond within the specified period shall be deemed an acceptance of the Dispute Resolution Board's recommendations. If, with the aid of the Dispute Resolution Board's recommendations, the Department and the Design-Builder are able to resolve

their dispute, the Department will promptly process any required Contract changes.

K. **Further Appeal:** Should the dispute remain unresolved, during the 6-month period following issuance of the Dispute Resolution Board recommendations, either party may appeal the decision back to the Dispute Resolution Board, may submit the dispute to judicial resolution, or may resort to other methods of settlement. If the dispute has not been submitted to judicial resolution within such 6-month period, and there has been no agreement between the parties for resolution of the dispute, then the parties shall be deemed to have conclusively agreed to accept the recommendation made by the Dispute Resolution Board.

L. **Dispute Resolution Board Recommendations Not Admissible:** Although both the Department and the Design-Builder should place great weight on the Dispute Resolution Board recommendations, no such recommendation will be admissible as evidence in any subsequent litigation or other dispute resolution proceeding, except in cases involving the failure of a party to implement a recommendation which has become binding under this Section 2.9.2, paragraph B: (Time Periods).

M. **Location of Hearings**: Normally the hearing will be conducted at the jobsite. However, any location that would be more convenient and still provide all required facilities and access to necessary documentation is satisfactory. Private sessions of the Dispute Resolution Board may be held at any convenient location.

N. **Conduct and Record of Hearing:** The third member of the Dispute Resolution Board will act as chairman of the hearing, or he or she may appoint one of the other members to be chairman. Normally each member keeps his or her own notes, and a formal transcript is not prepared. In special cases, when requested by either party, the Dispute Resolution Board may allow preparation of a transcript by a court reporter. Audio or video recordings will not be permitted without approval by both the Department and the Design-Builder.

O. **Hearing Procedures:** The Department and the Design-Builder shall have representatives at all hearings. The Design-Builder will first discuss the dispute, followed by the Department. Each party will then be allowed successive rebuttals until all aspects are fully covered. The Dispute Resolution Board members may ask questions, request clarification, or ask for additional data. In large or complex cases, additional hearings may be necessary in order to consider and fully understand all the evidence presented by both parties. Both the Department and the Design-Builder shall be provided full and adequate opportunity to present all of their evidence, documentation, and testimony regarding all issues before the Dispute Resolution Board. During the hearings, no Dispute Resolution Board member shall express any opinion concerning the merit of any facet of the case.

P. **Recommendations of Dispute Resolution Board:** After the hearings are concluded, the Dispute Resolution Board shall meet to formulate its recommendations. All Dispute Resolution Board deliberations shall be conducted in private, with all individual views kept strictly confidential. The Dispute Resolution Board's recommendations, together with an explanation of its reasoning, shall be submitted as a written report to both parties. The recommendations shall be based on the pertinent Contract requirements, applicable Governmental Rules, and the facts and circumstances involved in the dispute. The Dispute Resolution Board shall make every effort to reach a

unanimous recommendation. If this proves impossible, the dissenting member may prepare a minority report.

2.9.3 COMPENSATION, COOPERATION, PROVISIONAL REMEDIES, AND PARTICIPATION IN THE PROCEEDINGS

A. **Compensation:** Fees and expenses of all three members of the Dispute Resolution Board shall be shared equally by the Department and the Design-Builder. The Department will prepare and mail minutes and progress reports, will provide administrative services such as conference facilities and secretarial services, and will have the right to require the Design-Builder to pay for half of the cost of these services. If the Dispute Resolution Board desires special services such as legal consultation, accounting, data research, and the like, both parties must agree, and the costs will be shared by them as mutually agreed. The Design-Builder shall pay the invoices of all Dispute Resolution Board members after approval by both parties. The Design-Builder will then bill the Department for 50 percent of such invoices.

B. **Cooperation:** The parties shall diligently cooperate with one another and the Dispute Resolution Board, and shall perform such acts as may be necessary to obtain a prompt and expeditious resolution of the Dispute.

C. **Provisional Remedies:** No party shall be precluded from initiating a proceeding in a court of competent jurisdiction for the purpose of obtaining any emergency or provisional remedy which may be necessary, and which is not otherwise available under this Section 2.9, to protect its rights, including temporary and preliminary injunctive relief, attachment, Claim and delivery, receivership and any extraordinary writ.

D. **Participation in Other Proceedings:** The Design-Builder agrees that, at the Department's request, the Design-Builder will allow itself to be joined as a participant in any arbitration or other proceeding that involves the Department and any other participant in the design or construction of any part of the Project. This provision is for the benefit of the Department and not for the benefit of any other party.

2.10 MEASUREMENT AND PAYMENT

2.10.1 SCOPE OF PAYMENT

A. Department will fully compensate Design-Builder as provided in the Contract for:

1. Furnishing all materials, labor, equipment, tools, transportation and incidentals required for completion of the work.
2. All loss or damage due to the nature of the work, action of the elements and unforeseen difficulties until final acceptance by the Department, subject to the provisions of Section 2.5.12, Design-Builder's Responsibility for Work.
3. All costs arising from any infringement of a patent, trademark, or copyright.

B. Lump sum: Complete payment for the work described in the Contract when used as an item of payment.

C. Design-Builder will not be paid for:

1. Work that is in excess of that contained in the Contract Documents.
2. Removal and replacement of defective work.
3. Loss of anticipated profits.

D. Neither partial payment nor release of retainage will relieve the Design-Builder of the obligation to correct all defective work or materials.

2.10.2 SCHEDULE AND PAYMENT

2.10.2.1 General Description of Scope

Meet all Project completion deadlines as specified in the Contract Documents.

Project Schedule. Develop a Project Schedule in accordance with Section 2.8.4 that is adequate to meet Contract requirements and Department reporting and invoicing requirements. Format the Project Schedule so it supports other documentation and reports required under this Subsection.

2.10.2.2 Scheduling Requirements and Documents

For all scheduling requirements and documents, see Section 2.8 (Prosecution and Progress).

Utilities. Include in all schedule submittals and additional, separate Work segments, activities, and sub-activities of the Project for coordinating with and accomplishing Work associated with Utilities, including completing Utility Agreements and executing change orders.

2.10.2.3 Invoicing Requirements

Submit monthly invoices to the Department by the first day of each month, unless otherwise agreed in writing with the Department.

Partial Payments. Do not include any payment item on an invoice for Work that has been documented as deficient by the DPOQ staff or the CPOQ staff, or Work that is not being performed in accordance with the Contract. Note the provisions for partial payments for deficient Work or for payment at a reduced price in Section 2.6 (Control of Work).

Reimbursement. If requested by the Department, provide separate invoices for work subject to reimbursement by the Federal government or third parties. Organize such invoices to meet all applicable reimbursement requirements and to facilitate the reimbursement process.

2.10.2.3.1 Maximum Rate of Payment

Due to the rate at which funding will become available for this project, payments to the Design-Builder will not exceed $35,000,000.00 prior to July 1, 2004.

If the Design-Builder invoices for amounts exceeding $35,000,000.00 prior to July 1, 2004, payment will be brought current on the first pay estimate to occur after July 1, 2004. The Department's inability to pay more than $35,000,000.00 prior to July 1, 2004 shall not absolve the Design-Builder of responsibility to make timely payment to subcontractors.

2.10.2.3.2 Payment for Mobilization

Payment for mobilization, when identified as discrete activities in the CPM schedule, shall not exceed 5% of the total contract amount during the first six months of the project.

2.10.2.3.3 Invoicing Documents

No invoice will be processed until the Department has received the documents listed in Section 2.10.2.

The invoice value will be based on the agreed-upon progress for the cost-loaded schedule activities.

Submit the following documents with each invoice:

- Invoice cover sheet
- Progress report
- Corrected monthly plan update
- Certification by design and construction independent quality managers
- Invoice data sheet(s) and supporting documents based on the cost loaded schedule
- Monthly design exception report

The invoice data sheets shall show line entries for each active activity on the project schedule showing total percent complete, percent complete this period, and total billing for the activity.

Make all invoices and progress reports consistent with the current, approved Project Schedule and the current, corrected Monthly Plan Update.

Obtain the signatures of the Design-Builder's Project Manager, the DPOQ Design Quality Manager and the CPOQ Construction Quality Manager on the progress report.

2.10.2.3.4 Invoice Cover Sheet

Indicate the following on the invoice cover sheet:

- Project number and title SP-0201(5)13, SR-201 Design-Build)
- Invoice number (numbered consecutively, starting with "1")
- Period covered by the invoice (specific beginning and ending calendar days)
- Total amount earned to date for the project as a whole and for each Work segment (as required to calculate, withhold, deposit, or release retainage on each Work segment Schedule of Values, depending on the percentage complete for each Work segment)

- Authorized signature, title of signer, and date of signature
- Signature of the Independent Quality Manager

2.10.2.3.5 Progress Report

Include in the progress reports the following sections:

- Brief narrative description of activity and progress for each Work element and the project as a whole, including design and construction
- Update of progress with respect to utilities
- Identification of any significant milestones achieved during the period
- Summary of QMP activities, including result of design reviews
- Identification of problems and issues that arose during the period and remaining issues to be resolved
- Summary of resolution of problems and issues raised in the previous progress report or resolved since
- Summary of project accidents involving Design-Builder equipment and personnel (frequency and severity) and corrective actions taken
- Identification of critical schedule issues and proposed resolution
- Identification of requested and/or required department actions for the next period, including oversight reviews and oversight visits
- Self-assessment of performance relative to the criterion to be evaluated for incentives during the current incentive determination period
- Sign-off sheet from the DPOQ Manager and CPOQ Manager verifying documentation control, as indicated in Subsection 1.7.4 (Department Electronic Communications)

Organization. Organize the progress reports. To effectively track open items, maintain their original number in subsequent invoices, as well as referencing the originating invoice (by number) and progress report (by date).

2.10.2.3.6 Certification by Design and Construction Quality Managers

Submit a certificate signed by the DQM and CQM that certifies:

- All work (including that of designers, subcontractors, suppliers, fabricators, and builders) has been tested and/or inspected by the Design-Builder's DPOC and CPOC staff;
- All work, except as specifically noted in the certification, conforms to the requirements of the Contract; and
- The design and construction QMPs and all of the measures and procedures provided therein are functioning properly and are being followed.

2.10.2.3.7 Invoice Data Sheets and Supporting Documents

General. The Department will base payments on an estimate of the percentage of Work completed, as mutually agreed with the Design-Builder, and not on measured quantities, except for cost-plus or unit-price Change Order Work. Facilitate this method by correlating the schedule and invoice data sheets so that the invoice data sheets have an individual line entry for each project schedule activity. For each activity, show the total percent compete, the percent completed this period, and the total dollar billing for the activity.

Format. Present the format of the Invoice Data Sheets for Department approval at least 14 calendar days before the submittal of the first invoice. Once the Department has approved the invoice format, do not change the format unless the change is subsequently approved.

The Department will pay to the Design-Builder the amount shown on the Design-Builder's invoice, less retainage and any deductions or increases as described in the RFP.

2.10.2.4 Payment

General. The Department will simultaneously review each invoice and progress report in detail and process the invoice for payment. The Department will pay the Design-Builder within 14 calendar days of receipt of the invoice and supporting documents required by the Contract. If the Department questions or disputes any item, it will redline the item and refer the item back to the Design-Builder for resolution before payment. The Department will deduct from the payment the value of the items not resolved to its satisfaction before the payment date.

Incorrect Invoices. If problems persist in obtaining correct invoices and the required accompanying documents from the Design-Builder, the Department reserves the right to withhold payment until correct and complete invoices and documents have been submitted.

2.10.3 PAYMENT FOR DIFFERING SITE CONDITIONS, CHANGES, EXTRA WORK

The Department will pay for differing site conditions, changes, and extra work performed under Section 2.5.3 (Differing Site Conditions) and Section 2.5.4 (Changes) at unit price or lump sum as stipulated in the order authorizing the work.

2.10.4 FORCE ACCOUNT

Reference Section 2.5.4.8 (Time and Materials Change Orders).

2.10.5 PROGRESS PAYMENTS

A. Department will make progress payments at least once each month when the work is progressing.

B. More frequent payments may be made during any period when the Department determines that the value of work performed during the period is of sufficient amount to warrant a payment.

C. Payments will be based on progress invoices prepared by the Design-Builder and approved by the Department of the value of the work performed and materials in place under the Contract and for materials delivered under this Section 2.10.6, Payment for Material on Hand.

D. Department will make no progress payment when the total value of the work done since the last invoice is less than $1,000.

2.10.5.1 Retainage

A. From the total of the payable amounts, the Department will deduct and retain 5 percent until after the entire Contract has been completed in an acceptable manner. When no less than 95 percent of the work has been completed, and with the consent of the Surety, the Department may reduce the retention to 1-1/2 percent of the original contract amount.

B. The Design-Builder may enter into an addendum agreement providing for the payment of retained monies into an escrow account, or the Department will do so automatically.

1. These monies are to be applied toward the purchase of approved securities that are to be held by an escrow agent until satisfactory completion of the construction Contract.
2. The value of the securities placed in escrow will have a minimum value equal to or greater than the amount that would otherwise be retained.
3. The addendum agreement must be executed concurrently with the execution of the construction Contract. Agreement forms are available in the office of the Department's Engineer for Construction and Materials.

2.10.6 PAYMENT FOR MATERIAL ON HAND

A. When the Design-Builder presents delivery copies of invoices, the Department may include in the partial payment invoice, advance payments for acceptable nonperishable materials purchased expressly to be incorporated into the work when delivered in the vicinity of the project, or stored in approved storage place.

1. The Engineer will determine the amount to be included in the estimate, but in no case will the amount exceed the value of the materials as shown on the delivery invoice, or 75 percent of the in-place price, whichever is less.
2. When the approved storage location is other than the project site, furnish evidence that the stockpiled materials are irrevocably obligated to the project.
3. Payment will not be made when the invoice value of such materials, as determined by the Engineer, amounts to less than $2,000 or if materials are to be stored less than 30 calendar days.
4. Within 60 calendar days following the date of the estimate invoice on which the stockpile material is to be paid by the Department, furnish to the Engineer certified paid invoices or a certified statement with a copy of the check showing payment.
5. The material will be removed from the next Progress Invoice as stockpiled materials if proper invoices showing payment to the supplier is not received.

B. Department will make no partial payment on living or perishable materials until incorporated as specified in the Contract.

C. Department will make no payment for materials brought onto the site at the Design-Builder's election that may be incorporated into the project such as fuels, supplies, metal decking forms, ties, or supplies used to improve efficiency of operations.

D. Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing items of work.

E. Department will purchase at actual cost and without any percentage allowance for profit, materials delivered to the project in compliance with the Contract or left unused due to changes in plans or variation in quantities, if the materials are not practicably returnable for credit.

1. Purchased materials will become the property of the Department.
2. Actual costs will be based on invoice price plus transportation costs to the work.

F. Payment will be limited to contract quantities unless ordered by the Engineer. Assume responsibility for excess materials delivered to the project, or aggregate produced beyond the contract amount without authority from the Engineer.

G. At the option of the Department, surplus aggregates up to the contract quantities may be purchased provided:

1. The material is stockpiled where directed, and
2. The material meets specification requirements when stockpiled.

H. Department will pay for material accepted on an agreed price basis, which price will normally be Design-Builder's production cost. In addition, the Department will pay the cost to haul the materials to the stockpile site and place in pile at the rate of 13 cents per ton-mile, or 24 cents per cubic yard mile.

2.10.7 ACCEPTANCE AND FINAL PAYMENT

A. When the project has been accepted as provided in Section 2.6.18, Final Owner Acceptance, the Design Builder will prepare the final progress invoice of work performed.

1. If the Department approves the final progress invoice, the final payment will be processed.
2. After approval of the final progress invoice the Department will pay for the entire sum due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the Contract.

B. If additional payment is due from the Department, file with the Department a full, complete, and itemized written statement justifying the adjustment within 30 calendar days after the final invoice is submitted for approval.

1. All disputes not itemized in said statement are waived by the Design-Builder.
2. Submission of disputes by the Design-Builder will not be reason for withholding full payment of the total value of work shown on the Engineer's final estimate.
3. The Department will evaluate the dispute. If it is determined that additional payment is due, the final invoice will be revised accordingly, under the terms of the Contract. If not, the invoice as submitted will be final.

C. All prior progress invoices and payments will be subject to correction in the final progress invoice and payment.

D. The Design-Builder will have the final documentation, including all project certifications, complete and to the Department before the final progress invoice will be processed for payment.

2.10.8 ADJUSTMENTS FOR FUEL COST

A. This price adjustment provision is intended to minimize risk to the Design-Builder due to potential volatile price fluctuations for fuel that might occur throughout the duration of the Contract.

1. The Design-Builder may invoke this provision at any time during the Contract by written notification to the Department.
2. Adjustments will then be made on all prior and future Progress Invoices. When this provision becomes effective, it shall remain in effect for the duration of the Contract.

B. This provision is not designed to estimate actual quantities of fuel used in construction operations, but to provide a reasonable basis for calculating a fuel price adjustment based on average conditions.

C. Department will determine compensation adjustments under the provisions of this Section 2.10.8, and will presume that the Design-Builder has relied on these provisions for compensation adjustments when determining unit bid prices.

D. Terms for calculating adjustments for fuel costs:

1. Fuel Progress Invoice Base Price (EP): - The average of all base prices determined during the Progress Invoice period.
   a. The Department will determine the base price per barrel for crude on the first working day of each week, using postings from the commodities and futures section of the Wall Street Journal for West Texas Intermediate (WTI) crude using the spot price for that date as a basis.
   b. A conversion factor of 42 gallons per barrel will be used.

2. Fuel Contract Base Price (CP): The base price determined for the week during which the bid opening is held. The source of the price will be the same as that used for the (EP).
3. Fuel Usage Factors (FU): A combined diesel and gasoline factor. Table 1 contains the items for which adjustments may be made, and the fuel usage factors upon which the adjustment will be based.

E. Determining Adjustments (AF): The Department will compute the adjustments separately for each Progress Invoice period. The adjustment will be determined on appropriate items in Table 1 using the formula with the following constraints.

1. The Progress Invoice Base Price must change plus or minus 15 percent from the Contract Base Price before an adjustment will be made; then add or deduct 5 percent per the formula.
2. The Department will adjust only those contract items that have an individual value of $100,000 or more based on the original costs to do the work as defined in the escrowed proposal documents.
3. Adjustments in compensation may be either plus or minus depending on the differences between the Contract Base Price and the Progress Invoice

Base Price.

F. Work Beyond Contract Time: Department will not adjust for any Progress Invoice falling wholly after the expiration of contract time plus approved time extensions.

G. Upward Ceiling: If the Progress Invoice Base Price increases by more than 50 percent from the Contract Base Price for an adjustable bid item, the Department will determine whether it is feasible for the remainder of the project to proceed, and will notify the Design-Builder in writing if the project is to be terminated.

H. Adjustment Formula:

EP greater than CP:

$$AF = \frac{[(EP - CP) - 0.05\ CP]\ Q\ (FU)}{42}$$

EP less than CP:

$$AF = \frac{[(EP - CP) + 0.05\ CP]\ Q\ (FU)}{42}$$

Where:

EP	=	Progress Invoice Base Price per barrel (dollars)
CP	=	Contract Base Price per barrel (dollars)
Q	=	Quantity of Acceptable Work Performed on Item
FU	=	Fuel Usage Factor for that Item
AF	=	Adjustment for Fuel Costs in Dollars
42	=	Gallons per Barrel of Crude

Table 1

Adjustable Items and Fuel Usage Factors		
Item of Work	**Quantity of Work (Q)**	**Combined Diesel & Gasoline Usage Factor FU***
Roadway Excavation, Borrow, Embankment, Granular Borrow, Top Soil	Cubic Yard Ton	0.45 0.25
Loose Riprap	Cubic Yard	0.57
Underdrain Granular Backfill	Cubic Yard	1.16
Untreated Base Course	Ton	0.84
Hot Mix Asphalt Mix	Cubic Yard	7.56
Hot Mix Asphalt	Ton	3.60
Plant Mix Seal Coat	Cubic Yard Ton	7.20 3.6
Cover Material: Produced and Placed on Roadway Produced and Stockpiled	 Ton Ton	 0.64 0.36
Portland Cement Concrete Pavement Lean Concrete Base Course	1-inch Thick Sq Yard	 0.048
Structures (includes: Concrete, Piles, Reinforcing Steel, Structural Steel) Pipe Culvert Special Pipe Culvert (includes excavation for structures) Underdrains Right-of-Way Fence & Gates Seeding Concrete Small Structures Portland Cement Concrete Highway Traffic Paint Precast Concrete Barrier Guardrail	 $	 0.038 gal
* Fuel Usage (FU) factor is based on gallons. Tonnage items will be converted to volume for payment and measurement purposes.		

2.10.9 ADJUSTMENTS FOR ASPHALT MATERIALS

A. This price adjustment provision is intended to minimize risk to the Design-Builder due to potential volatile price fluctuations for asphalt materials that might occur throughout the duration of the Contract.

1. The Design-Builder may invoke this provision at any time during the Contract by written notice to the Department.

2. Department will then adjust future Progress Invoices. When this provision becomes effective it will remain in effect for the duration of the Contract.

B. Department will adjust the price of asphalt materials for work done on items that contain asphalt materials, including asphalt cement, liquid asphalt, and emulsified asphalt.

C. Department will determine compensation adjustments under the provisions of this Section 2.10.9, and will presume that the Design-Builder has relied on these provisions for compensation adjustments when determining the proposal price.

D. Terms for calculating adjustments for asphalt materials are as follows:

1. Asphalt Progress Invoice Base Price (EP): The average of all the base prices determined during the Progress Invoice period.
   a. On the first working day of each week, the Department will determine the base price per barrel for crude oil using postings from the commodities and futures section of the Wall Street Journal for West Texas Sour (WTS).
   b. A conversion factor of 5.6 barrels per ton will be used.

2. Asphalt Contract Base Price (CP) - The base price determined for the week during which the bid opening is held will be the Contract Base Price. The source of the price will be the same as that used for the (EP).

E. Determining Adjustments (AF): The Department will compute the adjustments separately for each Progress Invoice period. The adjustment on each item will be determined using the formula with the following constraints.

1. The Progress Invoice Base Price of asphalt materials must change plus or minus 15 percent from the Contract Base Price before an adjustment will be made; then add or deduct 5 percent per the formula.

2. Adjustments in compensation may be either plus or minus depending on the differences between the Contract Base Price and the Progress Invoice Base Price.

3. The Design-Builder will provide to the Department the quantities of asphalt materials used during the Progress Invoice Period. If the Design-Builder invokes the provision, daily records of the quantities of asphalt materials placed will be given to the QO and the Department for verification. Only verified quantities will be used for the Adjustment for Asphalt Materials.

F. Work Beyond Contract Time: Department will not adjust for any Progress Invoice falling wholly after the expiration of contract time plus approved time extensions.

G. Upward Ceiling: If the Progress Invoice Base Price increases by more than 50 percent from the Contract Base Price for an adjustable bid item, the Department will determine whether it is feasible for the remainder of the project to proceed and will notify the Design-Builder in writing if the project is to be terminated.

H. Adjustment Formula

EP greater than CP:

$$AF = [(EP - CP) - 0.05\ CP]\ (5.6)\ Q$$

EP less than CP:

$$AF = [(EP - CP) + 0.05\ CP]\ (5.6)\ Q$$

Where:

EP	=	Progress Invoice Base Price per barrel (dollars)
CP	=	Contract Base Price per barrel (dollars)
Q	=	Quantity in megagram of Asphalt Materials used
AF	=	Adjustment for Asphalt Costs in dollars
5.6	=	Barrels per ton of Asphalt

The ENGINEER will calculate the tons of asphalt product that will be Q in the above equation for the following:

Hot Mix Asphalt

Plant Mix Seal Coat

Emulsified Asphalts

Cutback Asphalts

2.10.10 UTILITIES

The risk for all costs of utility relocations shall be on the Design-Builder, and these costs shall be included in the Lump Sum Price Proposal Amount.. The Design-Builder shall include the cost of relocating all utilities requiring relocation in the Proposal Price, regardless of whether these are relocated by the Design-Builder or agents of the utility company. When the utilities are relocated by the utility company, the Department will reimburse the Utility Company in accordance with State law, and the Department will then backcharge the Design Builder for the amount equal to that paid to the utility company. In addition to the construction costs of relocating utilities, the Design-Builder shall include in their proposal price all other costs, incurred by the Design-Builder or the Utility Company, in any manner whatsoever associated with utility relocations, including but not limited to administrative and overhead costs, traffic control, surveying, inspection, testing, and design.

2.10.11 RIGHT OF WAY

The Department will pay the purchase price for Right of Way required for Construction directly to the property owner. The Design-Builder will include in the Price Proposal all other costs including but not limited to Surveys, Right of Way Plans, Right-of-Way instruments and legal descriptions, appraisals, negotiations, reviews, coordination with the Department, relocation services, condemnation support to the Attorney General's Office, recording the legal documents with the County, and delivery to the Right-of-Way documents to the Department.

2.11 INCENTIVES AND PRICE REDUCTIONS

2.11.1 INCENTIVES

2.11.1.1 Purpose and Amount of Incentive Award

General. The incentive program was established to provide the Design-Builder the opportunity to earn awards commensurate with superior performance in certain components of the Project. The program is designed to encourage and reward consistent excellent achievement of both technical specification and administrative program requirements. The Incentive Award will be earned only by clear and constant superior performance over the term of the Contract. It is the Department's desire that the Design-Builder perform in such a superior manner as to ultimately earn the maximum possible Incentive Award.

Total Incentive Award. The maximum pool of the Incentive Award under this Contract is one million dollars ($1,000,000). This amount will not be increased if work is added to the Project, but may be reduced if work is deleted. Incentive Awards not earned because of less than superior performance in any measured period will result in reduction of the Contract Price.

Incremental Award Earnings. The Incentive Award may be earned by the Design-Builder in whole or in part, based upon the Department's periodic evaluations of the Design-Builder's performance. This program allows incremental portions of the Incentive Award to be earned and paid monthly. The DQO, CQO, and Department personnel will compile performance records based on DQO and CQO documentation from the measurement of Project components as the basis of all Incentive Award payments.

Incentive Criteria. The incentive criteria established herein are objective, definable, and quantifiable, and will measure the actual achievements of the Design-Builder. The various incentive criteria are predefined and weighted appropriately to encourage Design-Builder achievements in the Project elements that are the most critical to the Department.

For planning purposes, the first planned Incentive Period will be the first full month following NTP.

Determination and Payment of Incentive Fee

General. The Incentive Award evaluation process shall have a two-tiered organization: the Award Determination Official (ADO) and the performance evaluation team (UDOT project staff).

Award Determination Official: The UDOT Region 2 Director has been designated as the Award Determination Official (ADO). The ADO reviews the findings and recommendations of the performance evaluation team and determines the amount of earned award for each period of Project activities. No changes to the evaluation criteria or Incentive Award assignments can be made without the approval of the ADO.

Performance Evaluation Team: The Performance Evaluation Team personnel, directly associated with the Project, will prepare Evaluation Reports for all performance areas and will evaluate the Design-Builder's performance using the Incentive Award Program criteria. The Design-Builder's performance and activities will be observed and continuously evaluated. The Department will prepare periodic Incentive Award Performance Reports and provide the Design-Builder with a copy for comment and corrective actions, if any. The Design-Builder shall prepare a self-assessment regarding performance relative to Incentive Award criteria and submit a written summary with each invoice.

Evaluation Reports and Review Schedule.

Evaluation Reports: The Incentive Award Performance Evaluation Report, prepared by the Department, shall include a recommendation for the Incentive Award amount, the rationale supporting the evaluation and assessment of each Incentive Award criteria, and identification of areas of performance that need improvement. Within five (5) working Days of the Design-Builder's submitted request for payment, the Department will prepare the evaluation report and submit it to the Design-Builder and the ADO.

Evaluation Review Schedule: Within five (5) Working Days of receiving the Evaluation Report, the ADO will review the recommendations and other pertinent information and determine the amount of the earned Incentive Award. Within seven (7) Working Days after the ADO receives the recommendations, the Design-Builder will be notified in writing.

2.11.1.2 Project Measures

Key Measures. All Incentive Award payments will be based on the key measures and maximum possible award shown in Table III-41 (Allocation of Incentive Award Among Key Measures).

The "Periodic Incentives" may be earned as the project progresses. The design-builder will be evaluated on a periodic basis to be determined by the Department. The amount allocated for each week will be determined by dividing the total amount available by the total number of weeks of project duration (NTP to completion date). Payment for the "Periodic Incentives" will be made on a quarterly basis. The "Project Incentives" will be determined at the completion of the project.

TABLE III-41
ALLOCATION OF INCENTIVE AWARD AMONG KEY MEASURES

Key Measure	*Maximum Possible Award*
Periodic Incentives	
Construction Quality / Workmanship	$150,000
Utility	$100,000
Environmental Compliance	$100,000
Administration / Organization / Supervision	$100,000
Public Involvement / Public Relations	$100,000
Maintenance of Traffic / Work Zone Traffic Control	$200,000
Subtotal	**$750,000**
Project Incentives	
Schedule – Early completion (final owner acceptance) $5,000/ calendar day, 30 day maximum	$150,000
Pavement Smoothness	$100,000
Lane Rental	$100,000
Subtotal	**$350,000**
TOTAL	**$1,100,000**

2.11.1.2.1 Construction Quality / Workmanship

General. The portion of the Incentive Award allocated to Construction Quality / Workmanship is $150,000. This is the total amount that can be earned from all construction quality criteria combined. The amount is divided among the six construction quality criteria, as shown in Table III-42.

Table III-42

Incentive Awards and Criteria for Construction Quality / Workmanship

	Criteria	*Test Criteria*	*Maximum Possible Award*
A.	Provide adequate time for inspection and testing of work.	Pass / Fail	$30,000
B.	Materials installed or placed in accordance with specification or manufacturer's requirements.	Pass / Fail	$30,000
C.	Protect existing facilities or accepted work from damage during construction.	Pass / Fail	$30,000
D.	Price reductions for non-specification materials required.	Pass / Fail	$15,000
E.	Cooperation to resolve non-specification work.	Pass / Fail	$30,000
F.	Issues resolved prior to succeeding work performed.	Pass / Fail	$15,000
	Total Maximum Award:		***$150,000***

Evaluation of Construction Quality / Workmanship Criteria

General. The construction quality criteria will be measured weekly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder "fail" 2 or more criteria, no award will be earned for that week in the category of Construction Quality / Workmanship.

Period Incentive Award Earned. The following example represents this calculation:

sum weekly incentive amounts = Period Incentive**.**

2.11.1.2.2 Utilities

General. The portion of the Incentive Award allocated to Utilities is $100,000. This is the total amount that can be earned from all utility criteria combined. The amount is divided among the four utility criteria, as shown in Table III-43.

TABLE III-43
INCENTIVE AWARDS AND CRITERIA FOR UTILITIES

Criteria	*Test Criteria*	*Maximum Possible Award*
Accommodate Utility Companies Schedules	Pass / Fail	$20,000
Coordinate utility work to minimize impacts to public	Pass / Fail	$20,000
Cooperate with utility companies	Pass / Fail	$20,000
Minimize utility delays.	Pass / Fail	$40,000
TOTAL		**$100,000**

Evaluation of Utilities Criteria.

General. The utilities criteria will be measured weekly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder fail 2 or more criteria, no award will be earned for that week in the category of Safety.

Period Incentive Award Earned. The following example represents this calculation:

sum weekly incentive amounts = Period Incentive**.**

2.11.1.2.3 Environmental Compliance

General. The portion of the Incentive Award allocated to Environmental Compliance is $100,000. This is the total amount that can be earned from all environmental compliance criteria combined. The amount is divided among the six environmental compliance criteria, as shown in

Table III-44.

Table III-44

Incentive Awards and Criteria for Environmental Compliance

	Criteria	*Test Criteria*	*Maximum Possible Award*
A.	Met hazardous waste requirements.	Pass / Fail	$10,000
B.	Met air quality requirements.	Pass / Fail	$10,000
C.	Provide needed environmental clearances timely.	Pass / Fail	$10,000
D.	Wash equipment prior to bringing onto project.	Pass / Fail	$10,000
E.	Satisfy requirements outlined in UPDES Permit.	Pass / Fail	$10,000
F.	Implement and maintain Best Management Practices for temporary erosion control.	Pass / Fail	$50,000
	Total Maximum Award:		***$100,000***

Evaluation of Environmental Compliance Criteria

General. The environmental compliance criteria will be measured weekly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder fail 2 or more criteria, no award will be earned for that week in the category of Environmental Compliance.

Period Incentive Award Earned. The following example represents this calculation:

sum weekly incentive amounts = Period Incentive**.**

3.21.1.2.4 Administration/Organization/Supervision

General. The portion of the Incentive Award allocated to Administration / Organization / Supervision is $100,000. This is the total amount that can be earned from all administration/ organization/supervision criteria combined. The amount is divided among the six criteria, as shown in Table III-45.

Table III-45

Incentive Awards and Criteria for Administration/Organization/Supervision

	Criteria	*Test Criteria*	*Maximum Possible Award*
A.	Delays dealt with in quick and efficient manner.	Pass / Fail	$20,000
B.	Advance the work in organized efficient manner.	Pass / Fail	$20,000
C.	Material ordered timely to avoid delays.	Pass / Fail	$10,000
D.	Provide adequate supervision and coordination of subcontractors, utility work.	Pass / Fail	$30,000
E.	Prompt payment of subcontractors and material suppliers.	Pass / Fail	$10,000
F.	Change of supervision negatively impact the project.	Pass / Fail	$10,000
	Total Maximum Award:		***$100,000***

Evaluation of Administration/Organization/Supervision Criteria

General. The administration/organization/supervision criteria will be measured weekly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder fail 2 or more criteria, no award will be earned for that week in the category of administration/organization/supervision.

Period Incentive Award Earned. The following example represents this calculation:

sum weekly incentive amounts = Period Incentive**.**

2.11.1.2.4 Public Involvement / Public Relations

General: The CCC will evaluate the Design-Builder's public involvement activities, with input from the Department, and will pay to the Design-Builder a performance-based award of up to $100,000 as an incentive to optimize its public involvement program. The payment of incentive awards is contingent upon compliance with contractual requirements and performance that exceeds the minimum standards specified in this Section.

Evaluation. The Design-Builder including the Public Information Manager and Construction Design-Builder will be evaluated quarterly, based on the performance of the previous three months.

Criteria for Public Involvement Evaluations: The portion of the Incentive Award allocated to the Public Involvement / Public Relations is $100,000. This is the total value that can be earned from all community involvement program criteria combined. The Public Involvement / Public Relations criteria are listed below in Table III-46 (Incentive Awards and Criteria for Public Involvement / Public Relations Program).

TABLE III-46
INCENTIVE AWARDS AND PUBLIC INVOLVEMENT / PUBLIC RELATIONS PROGRAM

	Criteria	*Maximum Possible Award*
A.	Public Information Manager and Construction Design-Builder work effectively with internal UDOT staff to provide information, address needs and maximize public relations efforts for the Project.	$20,000
B.	Public Information Manager and Construction Contractor are responsive to concerns of local businesses and residents.	$20,000
C.	Public Information Manager and Construction Contractor are responsive to concerns of the traveling public.	$20,000
D.	Information and materials provided to the public are timely, complete, accurate, and easy to understand.	$10,000
E.	Information and materials provided for media are timely, complete, accurate, and easy to understand.	$10,000
F.	Public Information Manager effectively coordinates and facilitates CCC and sub committees to coordinate information, address committee needs, and maximize public relations efforts for the Project.	$10,000
G.	The public is kept informed of construction work schedules, and in advance of traffic impacts.	$10,000
Total Maximum Award:		***$100,000***

Evaluation of Public Involvement / Public Relations Criteria

General. The Public Involvement / Public Relations criteria will be measured quarterly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder fail 2 or more criteria, no award will be earned for that three-month period in the category of Public Involvement / Public Relations.

2.11.1.2.5 Maintenance of Traffic / Work Zone Traffic Control

General: The Department will evaluate the Design-Builder's public involvement activities and pay a performance-based award of up to $200,000 to the Design-Builder as an incentive to optimize its MOT program. The payment of incentive awards is contingent upon compliance

with contractual requirements and performance that exceeds the minimum standards specified in this Section.

Evaluation. The Design-Builder will be evaluated weekly on the performance of the previous week.

Criteria for Maintenance of Traffic / Work Zone Traffic Control Evaluations: The portion of the Incentive Award allocated to the MOT and WZ traffic control is $200,000. This is the total value that can be earned from all MOT/WZ traffic control criteria combined. The criteria are listed below in Table III-47

TABLE III-47
INCENTIVE AWARDS AND CRITERIA FOR MAINTENANCE OF TRAFFIC / WORK ZONE TRAFFIC CONTROL PROGRAM

Criteria	*Maximum Possible Award*
A. Maintain and implement traffic control plan in compliance to UDOT standards in all areas of traffic control operations.	$60,000
B. Problems promptly identified and immediately corrected.	$60,000
C. Minimize traffic impacts.	$60,000
D. Traffic control devices removed when not needed.	$20,000
Total Maximum Award:	***$200,000***

Determination and Payment of Incentive Fee for Maintenance of Traffic.

General. The Maintenance of Traffic and Work Zone Traffic Control criteria will be measured weekly as work progresses. Each criteria will be rated pass or fail. Should the Design-Builder fail 2 or more criteria, no award will be earned for that week in the category of Maintenance of Traffic and Work Zone Traffic Control.

Period Incentive Award Earned. The following example represents this calculation:

sum weekly incentive amounts = Period Incentive**.**

2.11.1.2.6 Pavement Smoothness

General. The Incentive Award for Pavement Smoothness will be paid upon the completion and documentation of the requirements of this section. This criteria is intended to measure and reward the quality of geotechnical, pavement and roadway design and construction near substantial completion.

Requirements. Measurement for Ride Smoothness shall be to the requirements of Standard Specification-(DB) 01452 (Profilograph), but shall be measured for the entire length of the project and shoulders. Further, the pavement shall be measured and documented within 60 calendar days of substantial completion.

Quality of Work. This criteria is intended to measure the quality of the end product of the geotechnical, pavement and roadway components of the project. Documentation will also serve as the baseline for specific warranty measurements and timing, per Section 3.20 (Warranty).

Incentive Award Earned. The Incentive Award for this criteria will be distributed based on the formula in 01452 (Profilograph) of the Standard Specifications (DB). The incentive award will be capped at the amount shown in Table III-42.

2.11.1.2.7 Changes to Evaluation Criteria

General. The Engineer may unilaterally change the incentive fee evaluation criteria. Changes to the criteria may be made without executing Change order(s) or any other formal modification of the Contract. The Engineer will notify the Design-Builder of any changes in the evaluation criteria at least ten (10) Working Days before implementation. If the Engineer does not so notify the Design-Builder, the existing evaluation criteria will continue in effect until the end of the period.

2.11.1.2.8 Early Completion

General. An Incentive Award will be given for early completion as defined in table III-41.

2.11.1.2.9 Disincentives

SR-201 Mainline and Redwood Road. Liquidated damages of $10,000 per day will be charged for any closures other than those defined in Section 3.7.3.4 (Limitations).
SR-201 Ramps. The Design-Builder will be charged a lane rental fee for any day that a ramp is closed.
ATMS. Unplanned disruptions to the ATMS will result in impacts to the traveling public far in excess of those resulting from most projects primarily because the TOC is located in the project vicinity and all communications from devices statewide to the TOC are delivered over the fiber backbone that traverses segments of the project corridor. Accordingly, the Design-Builder agrees:

- 1. To pay $25,000 liquidated damages per hour for each hour that the backbone communications is not operational, starting with the third hour after notification by the Department.
- 2. To pay $1,000 liquidated damages per hour for each hour that any communications subsystems on or off the project corridor are not operational, starting with the 25th hour after notification by the Department.

2.11.1.3 Appeal Process and Payment Procedures

2.11.1.3.1 Appeal Process

General. Within five (5) Working Days of receipt of notification of determination of the Incentive Award earned, the Design-Builder may submit a written appeal. Such an appeal shall include a full explanation of the reasons, facts, and circumstances upon which the request for redetermination is based. The Design-Builder may also request a meeting with the ADO to discuss the appeal. If an appeal is submitted to the ADO, the ADO will consider the appeal and make a Final Award Determination within five (5) Working Days. If no appeal is filed, the ADO's initial determination shall be considered the Final Incentive Award determination for that period.

2.11.1.3.2 Payment

General. Each installment of the Incentive Award will be approved by the Department for payment upon the final Incentive Award Determination for that period. No payment of Incentive Award will be made prior to the final decision of the ADO each period.

Periodic Incentive Award Amounts. Payment of periodic Incentive Award amounts will lag one full period after submittal of invoices. Except for this lag payment provision, no unearned Incentive Award will be carried over into subsequent periods. The contract price will be reduced by the amount of unearned incentive in each period.

2.11.2 LANE RENTAL

2.11.2.1 Assessment and Accrual of Lane Rental Charges

2.11.2.1.1 Description of Lane Rental Work

Lane Rental charges will be assessed against the Design-Builder for all times when lanes or shoulders are closed during times allowed for lane closures in the contract, and will accrue throughout the life of the contract. Lane Rental charges will be assessed for closure of lanes and shoulders that pre-existed the contract and also those that are constructed under this contract.

Closure of lanes outside of the hours provided for Lane Rental will result in liquidated damages being assessed at 1.5 times the highest Lane Rental rate for that day of the week. These liquidated damages are for the recovery of the cost to the public for increased user costs and contract administration.

2.11.2.1.2 Conditions Applicable During The Performance Of Work To Which Lane Rental Applies

2.11.2.1.3 Measurement of Lane Rental

The Design-Builder shall be responsible for documenting Lane Rental on a form approved by the Engineer, and for submitting this documentation to the Engineer for approval. These documents will be the source documents for measurement of Lane Rental assessed and accrued. The Engineer's decision shall be final in resolving disputes regarding Lane Rental.

This documentation shall be submitted to the Engineer every Monday, covering lane Rental usage for the previous week. As a minimum, the documentation shall include the following:

1. Every day of the week shall be shown separately, and every day shall be documented, whether Lane Rental is used or not.
2. For each lane rental location, show the hour and minute the lane rental began, the hour and minute the lane rental ended, the total duration of the lane closure in hours and minutes recorded to the nearest minute, the total duration of the lane closure in hours rounded up to the nearest 0.25 hours, the lane affected, the centerline designation of the roadway, the starting station of the closure, the ending station of the closure, the Lane Rental Rate, and the extended lane rental charge.
3. Measure Lane Rental by the hour, rounded up and recorded to the nearest 1/4 hour.
3. The cumulative Lane Rental accrued to date.
4. The balance of Lane Rental remaining, calculated as the difference between the Lane Rental Bid Item and the Lane Rental accrued to date.

2.11.2.1.4 Assessment of Lane Rental Charges

Lane Rental charges will be determined by multiplying the number of rental hours by the appropriate rental charge for each closure specified in the contract and summing the products. For the purpose of determining rental charges, a fraction of each 15 minute increment shall be considered a whole 15 minute increment.

2.11.2.1.5 Accrual of Lane Rental Charges

A tally of cumulative Lane Rental charges shall be kept throughout the life of the project, and subtracted each month from the original lump sum bid for this item.

2.11.2.1.6 Lane Closures Prohibited

In order to provide for the efficient flow of public traffic on the ramps in the project vicinity, there are times when the Design-Builder shall keep all lanes open without restrictions of any kind. Therefore, the Design-Builder shall not obstruct, divert, delay, detour, or in any other way hinder the flow of any lane or shoulder of the ramps listed in the tables in Section 2.3.4.6.3.3 at any location during the time periods shown in the following table. During the time periods listed in the table below, Lane Rental will not be allowed. Failure by the Design-Builder to keep all lanes open as described will result in assessment of liquidated damages in the amount of 1.5 times the maximum lane rental fee for that day of the week for every 15 minutes or fraction thereof, at each location.

	FROM	TO	Occasion
1	*This table is incomplete*	*This table is incomplete*	*Holiday*
2	*This table is incomplete*	*This table is incomplete*	*Holiday*
3	*This table is incomplete*	*This table is incomplete*	*Holiday*
4	*This table is incomplete*	*This table is incomplete*	*Holiday*
5	*This table is incomplete*	*This table is incomplete*	*Holiday*
6	*This table is incomplete*	*This table is incomplete*	*Holiday*
7	*This table is incomplete*	*This table is incomplete*	*Holiday*
8	*This table is incomplete*	*This table is incomplete*	*Holiday*

2.11.2.2 Lane Rental Incentive/Disincentive

A. Payments/deductions to the Design-Builder will be based on the difference between the Lane Rental bid amount and the actual lane rental charges assessed. Payment for the incentive, or a credit for the disincentive, will be made administratively in the project accounting system by an administrative incentive/disincentive detail.

B. **DISINCENTIVE** - PAYMENTS DEDUCTED FROM THE DESIGN-BUILDER – if applicable, by lump sum. If the accrued Lane Rental charges exceed the amount of Lane Rental bid by the Design-Builder, the Department will deduct the difference from moneys due the Design-Builder. These deductions will begin on the first progress payment when the accrued lane rental charges exceed the Lane Rental bid by the Design-Builder.

C. **INCENTIVE** - PAYMENTS TO THE DESIGN-BUILDER - if applicable, by lump sum. If the actual lane rental charges accrued after completion of the project are less than the Lane Rental bid amount, UDOT will pay the Design-Builder the difference. The maximum payment shall not exceed $100,000.00.

D. If liquidated damages are assessed to the Design-Builder for failure to complete the project on time for the same day that lane rental charges are assessed, the Design-Builder will be charged the higher of the two amounts, not both.

2.11.3 PRICE REDUCTIONS

General Scope. Price reductions for non-conforming work will be assessed in accordance with this Section. A quality value of various materials has been established based on Section 2.6 (Control of Work), Section 2.6.12 (Correction of Nonconforming Work). Deviations from these

specifications, if accepted by the Department, will result in a requirement to reimburse the Department a portion of the Contract price based on the price reductions specified herein below. Incentives, as may be applicable, for portions of the work, are as specified above in Section 2.11.1 (Incentives).

Where price reduction is determined by the use of a pay factor, the amount of price reduction will be computed by the following formula: price reduction = (unit price) x {1.0 – (pay factor)}.

2.11.3.1 Traffic Control

Specification Reference: Standard Specification-(DB) 01554

Unit: Daily Charge

Unit Price: $8,000 per day will be used as the price reduction determination.

2.11.3.2 Driving Piles

Specification Reference: Standard Specification-(DB) 02455

Unit A: Cubic yard (yd^3) of concrete, in place

Unit Price: $300 per cubic yard will be used in the price reduction determination.

Unit B: Lineal Foot (LF) of driven pile, in place

Unit Price: $30 per lineal foot will be used in the price reduction determination.

2.11.3.3 Drilled Caissons

Specification Reference: Standard Specification-(DB) 02466

Unit: Cubic yard (yd^3) of concrete, in place

Unit Price: $300 per cubic yard will be used in the price reduction determination.

2.11.3.4 Lean Concrete Base Course

Specification Reference: Standard Specification-(DB) 02712

Unit: Square feet (ft^2), in place

Unit Price: $1.50 will be used in the price reduction determination.

Price Adjustment – Reduction for Cement Content: Price reduction for cement content under 98 percent of mix design requirements will be assessed at $120/yd.

2.11.3.5 Untreated Base Course (UTBC)

Specification Reference: Standard Specification-(DB) 02721

Unit: Ton, in place

Unit Price: $8 will be used in the price reduction determination.

2.11.3.6 Hot Mix Asphalt

Specification Reference: Standard Specification-(DB) 02741

Unit: Ton, in place

Unit Price: $38 will be used in the price reduction determination.

Price Adjustment – Rejected Lots: The Department will deduct $13.70 per ton if a rejected lot is allowed to remain in place.

2.11.3.7 Portland Cement Concrete Pavement

Specification Reference: Standard Specification-(DB) 02752

Unit: Square yard (yd^2), in place

Unit Price: $30 will be used in the price reduction determination.

2.11.3.8 Pavement Marking Paint

Specification Reference: Standard Specification-(DB) 02765

Unit: Gallons, in place

Unit Price: $420 will be used in the price reduction determination.

2.11.3.9 Plant Mix Seal (Open Graded)

Specification Reference: Standard Specification-(DB) 02786

Unit: Ton, in place

Unit Price: $41 will be used in the price reduction determination.

Price Adjustment – Rejected Lots: Department will deduct $13.70 per ton if a rejected lot is allowed to remain in place.

2.11.3.10 Structural Concrete

Specification Reference: Standard Specification-(DB) 03055

Unit: Cubic yard (yd^3) of Concrete, in place

Unit Price: $300 per cubic yard will be used in the price reduction determination.

2.11.3.11 Prestressed Concrete

Specification Reference: Standard Specification-(DB) 03412

Unit: Cubic yard (yd^3) of Concrete, in place

Unit Price: $300 per cubic yard will be used in the price reduction determination.

2.11.3.12 MSE Walls – Single Stage

Specification Reference: Standard Specification-(DB)s 02831 through 02836

Unit: Square feet (ft^2), in place

Unit Price: $32 will be used in the price reduction determination.

2.11.3.13 MSE Walls – Two Stage

Specification Reference: Standard Specification-(DB) 02837

Unit: Square feet (ft^2), in place

Unit Price: $40 will be used in the price reduction determination.

2.12 INSURANCE - DESIGN-BUILDER PROVIDED

2.12.1 RESPONSIBILITY FOR DAMAGE CLAIMS

A. Protect, indemnify, and hold the State of Utah, UDOT, and their officers, agents, and employees (State) harmless from and against all claims, demands, damages, and causes of action of every kind or character on account of bodily injuries, disease, sickness, death, or damage to property arising out of, resulting from, or in any way connected with, the performance of the Contract. However, when injury, disease, sickness, death, or damage results only from the willful misconduct of the State, this indemnification and hold harmless agreement does not apply.

B. Defend all suits brought upon such claims and pay all costs and expenses incidental to them. The Department has the right, at its option, to participate in the defense of any such suit without relieving the Design-Builder of any obligation under the Contract.

C. Provide liability, loss, and expense insurance from a reliable insurance company authorized to do business in Utah, rated "A" or better and with a financial size category of Class VII or larger by A.M. Best Company, at the time of contract execution.

D. Comply with the following insurance claims notification and processing procedures.

1. Notify the Department of any claims submitted, within 48 hours of written submission.

2. Provide weekly written notification of all pending claims, with notification ceasing only upon execution of settlement documents or an unappealed final judgment.

3. Incorporate into its policy an agreement with its insurance carrier that, with every denial or partial denial, the carrier shall notify the claimant of his or her right to request re-examination of the claim by the Department Claims Re-Examination Board. The information provided to the claimant shall include a time deadline for filing the request, an address, name of a person to whom it should be directed, and general information that would be helpful in making a determination. The Board may waive the time deadline. Neither the insurance carrier nor the Design-Builder has any right to intervene in a re-examination before the Board.

4. Cooperate with the UDOT Claims Re-examination Board in resolving disputes regarding denials or partial denials from a contractor's insurance carrier. Cooperation includes provision of any information possessed by the carrier that the Board believes is pertinent to the determination. Reviews are made without deferring to an insurance carrier's decision, but the Board may review it and the reasons for it. The determination shall be based on generally applicable standards of insurance adjusting. The Board will not grant in-person hearings, but will rely on documentation prepared by the Design-Builder, the insurance carrier, the claimant, and Department. The Board shall decide the claim as expeditiously as possible. There is no appeal by any party.

5. The Department will deduct from the Design-Builders progress payment claims that the Design-Builders liability insurance carrier denied, but that the Departments Claim Re-Examination Board concludes should be paid up to a maximum of $5,000 per occurrence.

2.12.2 INSURANCE POLICY REQUIREMENTS

A. Provide insurance at the time the contract is executed and maintain the policy in force during the entire period of this Contract as described.

1. Provide Workers' Compensation Insurance and Employers' Liability Insurance, with statutory benefits.
   a. The Best's rating requirements are waived for coverage provided by the Workers' Compensation Fund of Utah.
   b. Require all subcontractors at any tier to take and maintain similar policies of Workers' Compensation Insurance.
2. Provide Comprehensive General Liability Insurance or Commercial General Liability Insurance or both.
   a. Include coverage for premises and operations, explosion, collapse and underground hazards, products and completed operations and hazards, contractual (including this contract), and personal injury (including employees).
   b. With limits of not less than $2,000,000 combined single limit per occurrence, and not less than $5,000,000 aggregate.
   c. If this insurance coverage is written on a "claims-made" basis, include in the certificate of insurance required below and provide in the policy an extended reporting period provision or similar "tail" provision such that claims reported up to 3 years beyond the date of Final Owner Acceptance (FOA) of this Contract are covered for insurance coverage.
3. Provide Comprehensive Automobile Liability Insurance, including owned, hired, and non-owned automobiles with limits not less than $3,000,000 combined single limit per accident.

B. Maintain Aircraft Liability Insurance, with a combined single limit of not less than $3,000,000 per occurrence when using Design-Builder-owned aircraft, or employing aircraft in connection with the work performed under this Contract.

C. All required liability insurance policies will require that:

1. The State of Utah and all institutions, agencies, Departments, authorities and instrumentalities, and while acting within the scope of their duties, all of its elected or appointed officers, agents, employees, and authorized volunteers as well as members of governing bodies, boards, commissions and advisory committees, are named as insureds, but only in respect to the work to be performed under this Contract.
2. Coverage for the above insureds is primary and not contributing.
3. Incorporate into the insurance policy this statement: “Insurance coverage is extended to include claims reported up to 3 years beyond the date of final owner acceptance of this Contract.”

D. Any policy required by this paragraph may be arranged under a single policy for the full limit required, or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

E. Irrespective of the requirements as to insurance to be carried by the Design-Builder as provided herein; insolvency, bankruptcy or failure of any insurance company to pay all claims accruing, do not relieve Design-Builder of any obligations hereunder.

F. Before beginning the work, furnish to the Department insurance certificates evidencing that coverage as specified above is in effect.

1. Such insurance certificates shall contain provisions that no cancellation, material change therein or non-renewal become effective except upon 30 calendar days prior written notice to the Departments Contracts, Estimates & Agreements Manager, as evidenced by return receipt, certified mail sent to the Departments Contracts, Estimates & Agreements Manager.

2.12.3 INSURANCE THIRD PARTY BENEFICIARY CLAUSE

A. It is specifically agreed between the parties executing this Contract that it is not intended by the contract provisions:

1. To create in the public or any member thereof a third party beneficiary hereunder.
2. To authorize anyone not a party to the Contract to maintain a suit for personal injuries or property damage pursuant to the Contract.

2.12.4 INSURANCE PROFESSIONAL AND TECHNICAL ERRORS AND OMISSIONS AND/OR MISCELLANEOUS LIABILITY

A. Provide Policy coverage for all claims that the Design-Builder will become legally obligated to pay resulting from any actual or alleged negligent act, error, or omission related to the Design-Builder's professional services required under this Contract. On request, the Design-Builder must submit a financial statement signed by a certified public accountant that provides evidence that the Design-Builder has adequate assets to cover any deductible amount that applies to this policy.

B. Unless otherwise specified within this Contract, the Design-Builder insurance minimum limits will be as follows:

1. $3,000,000 per claim
2. $5,000,000 annual aggregate

C. If this insurance coverage is written on a “claims-made” basis, include in the certificate of insurance required below and provided in the policy an extended reporting period provision or similar “tail” provision such that claims reported up to 3 years beyond the date of Final Owner Acceptance (FOA) of this Contract are covered for insurance coverage.

CHAPTER 3
WORK REQUIREMENTS

3.1 GENERAL REQUIREMENTS

Design-Build Flexibility. The Department's intent is to permit flexibility in design and subsequent construction to accommodate processes, procedures, and innovative techniques that are preferred by the Design-Builder, as long as they are consistent with site conditions; good engineering practices; and the standards, guidelines, and procedures identified in the Contract Documents.

Other Agencies. The Department has briefly reviewed the Project with the local municipalities and has incorporated some of those agencies' feedback into this chapter and Appendix J (Conceptual Plans and Survey Information). The Department does not guarantee that the agencies will not impose additional requirements with their review of the Design-Builder's Project design.

For any such change that is outside the requirements of the RFP, negotiate that work with the appropriate agency (ies).

3.1.1 PROJECT-WIDE COMPONENTS

3.1.1.1 Use of English Units

Design, construct, and document the Project in English units of measure.

3.1.1.2 Conceptual Plan Package

Requirements. Develop the Project design so as to meet all requirements of the Contract Documents. The Conceptual Plan in Appendix J (Conceptual Plans and Survey Information) was developed only to a limited level. If the Design-Builder adapts the Conceptual Plan as a basis of its design:

- Ensure the resulting design meets the requirements of the Contract Documents, and
- Diligently review and verify the Conceptual Plan prior to use; assume responsibility for any Project requirements arising out of such review and pay any related costs.

3.1.2 GENERAL SCOPE

Complete all work necessary to design, construct, and safely and effectively operate the completed interchanges, roadways, and other components per the requirements of the Contract Documents. Comply with all Project requirements as specified in this RFP.

3.1.3 PROJECT MANAGEMENT

Manage the entire Project and coordinate all activities necessary to accomplish the requirements of the Contract Documents.

3.1.3.1 Management Criteria

3.1.3.1.1 Management

Achieve organizational performance that is consistent with the goals and direction of the Department's organization. As primary management goals, provide to the public a roadway system that incorporates Context Sensitive Solutions, meets the quality described herein at a fair cost, addresses the transportation need, and minimizes the Project impacts on the environment.

Keep communications with the Department continually open to promote betterment opportunities. Continuously look for opportunities to improve efficiency, and at the same time, meet the goals and quality needs described in the RFP. Empower personnel at all organizational

levels to meet these goals and their associated tasks.

3.1.3.1.2 Key Personnel

Key Personnel Directory. Within seven calendar days of the Notice To Proceed (NTP) and monthly thereafter, provide a comprehensive Project directory, including the names of the previously committed Key Personnel; their Project office address and location, e-mail address, office and residence telephone numbers, fax number, cellular and/or pager number(s); and their Project title and area(s) of responsibility.

On an organization chart, graphically represent the Project hierarchy and, as a minimum, identify personnel with responsibility for the following functions:

- Project management
- Quality
- Quality management
  - Construction
  - Design
  - Environmental
- Environmental compliance
- Subcontracts and procurement
- Design
  - Roadway
  - Structures
  - Utilities
  - Drainage
  - Geotechnical
  - Advanced Traffic Management System
  - Materials
  - Pavement
  - Traffic
  - Coordination
  - Utilities
  - Agencies
- Safety
- Project control
- Public involvement/CSS
- Right-of-way (ROW)

Design

Appraisal

Negotiation

Relocation

Changes. Update directory throughout the course of the Project. Key personnel cannot be replaced without Department approval. Notify the Department at least 28 calendar days in advance of intent to replace any of the Key Personnel assigned to these functions. Submit the names and qualifications of the proposed replacement(s) to the Department for advance approval.

3.1.3.2 Communications

3.1.3.2.1 Systems

General. Establish the communication systems necessary to control all facets of the Project. Maintain communications with the Department, the Federal Highway Administration (FHWA), the Utah Division of Air Quality (UDAQ), the Utah Division of Water Quality (UDWQ), other State of Utah agencies as appropriate; Salt Lake City and West Valley City; and local or regional emergency response agencies or entities (including the Utah Highway Patrol), in accordance with the requirement of the Contract Documents. See also Section 3.1.3.5 (Facilities and Space Requirements).

Utah Web Site and WAN. Provide e-mail addresses for the major Project offices and maintain capability to access the State web site. For details of system requirements, see Section 3.1.5 (Software).

3.1.3.2.2 Meetings and Coordination

Weekly Meetings. Plan for weekly meetings with the Department Project representatives to discuss Project progress, issues, and planned Work for all phases of design and construction. Develop the meeting agendas with the Department. Provide meeting facilities unless otherwise agreed. Record minutes of each coordination meeting and distribute copies to the Department participants within five calendar days of the meeting date for the Department's information and confirmation.

Specialty Meetings. Plan also for specialty meetings for safety, quality, and environmental issues.

3.1.3.2.3 Public Information and Public Relations

See Section 3.16 (Public Involvement) for staffing and requirements.

3.1.3.2.4 Public Involvement Groups

Participate in public involvement groups pertaining to Work on the Project.

Interface with advisory committees, whose meetings will continue throughout the design and construction phases.

See Section 3.16 (Public Involvement) for additional information.

3.1.3.2.5 Emergencies

Emergency Actions. In any emergency affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, act to prevent any threatened damage, injury, or loss. If the Design-Builder believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof, give the

Department prompt written notice.

3.1.3.3 Subcontracts

General. Within 28 calendar days of NTP, the Department will provide the Design-Builder with comments on the subcontracting plan in the Proposal based on the plan's consistency with the Department's requirements for subcontracts. Incorporate into each subcontract the provisions specified in Section 2.8 (Prosecution and Progress).

Procurement Procedures. For each subcontract with a value in excess of $5,000,000, use competitive procurement procedures for obtaining goods and services from all subcontractors, including suppliers, except do not use price competition as the basis of selection of professional engineering services. Do not use any subcontracting procedure that would inhibit participation by or show preference to local subcontractors or suppliers. Note that the results of the subcontractor procurement process will be public information.

Communication. Require all subcontractors, suppliers, and other such individuals or entities performing or furnishing any of the Work to communicate with the Department only through the Design-Builder.

Coordination. Accept sole responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other such individuals or entities performing or furnishing any of the Work under direct or indirect contract with the Design-Builder.

Commercial Motor Carriers. Use only commercial motor carriers with a satisfactory rating as assigned by the Motor-Carriers Division.

3.1.3.4 Document Control

For all documents, conform to standards as set forth by Department policies and the Contract Documents.

Establish and maintain an electronic document control system in accordance with Section 3.1.4 (Project Documentation).

Records. Maintain in good order, in a secure and protected place at the site, one (1) record copy of all drawings, specifications, addenda, written amendments, change orders, Work change directives, field orders, and written interpretations and clarifications. Annotate them to show changes made during construction. Make these record documents, together with all approved samples and approved shop drawings, available to the Department for reference.

3.1.3.5 Facilities and Space Requirements

Provide and pay for all office and other building space, facilities, equipment, and vehicles necessary to construct the Project and meet the requirements of the Contract and of this Section.

Locate the main Project office within 25 miles of the Project site.

Locate offices for all design firms working on the Project within 60 miles of the main Project office.

3.1.3.5.1 Department Staff Facilities

Provide for the Department's staff a minimum of two office spaces of 100 square feet each that are co-located with the Design-Builder's design staff and computers with at least the following software and connections:

- Microstation V8
- InRoads Version 8.4

- Microsoft Word
- Microsoft Excel
- High speed internet connection

Provide three field offices, two of which are at least 100 square feet, and three computers with at least Microsoft Word and Excel as well as a high speed internet connections, and with sufficient exterior security lighting to maintain 2 foot-candles of lighting with automatic activation at low light levels. Locate field offices within 1 mile of the project site.

Provide the field staff facilities 14 calendar days before starting fieldwork.

General Requirements.

Include desks, chairs, and phones in all offices.

Secure sites, obtain all site permits, install and pay for all utility services, and maintain the facilities as part of the Work.

Include in the offices at least two exits from each building or trailer and secure each entrance with a door lock plus a deadbolt lock.

Provide daily janitorial service (except Saturdays, Sundays, and holidays) and maintain trash containers and trash pickup service.

Maintain the exterior areas of office spaces, including access to parking areas and snow removal.

In all interior spaces, include overhead lighting that meets the requirements of U.S. Occupational Safety and Health Administration (OSHA) and building and electrical codes for office space that has a minimum circuit capacity of 20 amperes, and provide at least two duplex receptacles for each office space.

Provide restrooms until FOA of the Project, unless otherwise agreed by the Department in writing.

Meet all access requirements of the Americans with Disabilities Act.

Provide heating, ventilation, air conditioning, and cooling systems capable of maintaining temperatures between 65 and 75 degrees Fahrenheit in all spaces throughout the year.

Meet all local building code requirements.

Provide and pay for an integrated services digital network (ISDN) or DSL telephone line between the field office facilities it provides for the Department and the main Project office. Provide telephone service with at least four outside lines for each Department facility (with at least one line dedicated to fax service) and voice mail service at each extension.

Provide one touch-tone speaker telephone for each office, each with a status indicator and access to all outside lines and conference call systems.

Dispose or remove all Design-Builder-provided facilities and perform any required site restoration work prior to FOA.

For all Department offices that are provided, maintain them for at least 30 Calendar Days after Final Owner Acceptance (FOA) of the Project, unless otherwise agreed by the Department in writing.

3.1.4 PROJECT DOCUMENTATION

3.1.4.1 General

Accept sole responsibility for the documentation of all project work activities.

3.1.4.1.1 Format

Maintain all files in both the electronic media indicated in Section 3.1.5 (Software) and as hard copies.

3.1.4.1.2 Communications Distribution

As a minimum, prepare and circulate to the Department Project Manager, Resident Engineer, and attendees of all meetings, hard copies and electronic files of all correspondence, minutes of meetings, etc., developed as a result of any and all communications with:

- The Department
- Utility owners
- Communities
- Agencies
- Members of the public

Accept sole responsibility for ensuring that all communications are distributed to the appropriate parties.

3.1.4.1.3 Electronic Files

Backups. Back up all electronic files partially every day and fully every week. Store all back-up tapes and compact disc (CD) ROMs in a secure area that has been approved by the Department. See Section 3.1.5 (Software) for software requirements.

3.1.4.2 Design Documentation

3.1.4.2.1 Communication and Submittal Documentation

Maintain throughout the course of the Project, in the Design-Builder's engineer's office two (2) complete sets (at a minimum) of:

Contracts

- Calculations
- Reports
- Studies and investigations
- Plans
- Communications
- Minutes of meetings
- Review comments
- Permits
- ROW Agreements

At the completion of the Project, submit one set of documents to the Department for its retention and use.

3.1.4.3 Field Documentation

3.1.4.3.1 Communication and Submittal Documentation

Maintain in the on-site Project office, and make available for Department review, two (2) complete hard copy sets of orderly files (at a minimum) that include the following:

- Contracts
- Subcontracts
- Change orders
- Shop drawings
- Pay invoices
- Minutes of meetings
- Field directive changes
- Claims
- Calculations
- Reports
- Tests
- Drawings. Do not mark on one set of the drawings, and use the other set as the master copy for As-Built control records.

At the completion of the Project, submit one (1) set of the documents listed above to the Department for its retention and use.

3.1.4.3.2 Record Drawing Documentation

Work In Progress. Maintain in the field office a complete, neatly marked-up set of drawings upon which daily changes, alterations, and deletions are made to the "approved for construction" drawings. All mark-up revisions shall be made with a red pencil and dated for correlation with field directive changes and change orders.

Work Finalized. Within 28 calendar days of completion of a work component, provide the Department with the following:

- As-built documents (computer-aided drafting and design [CADD] files and a signed hard copy)
- Relevant data not previously submitted
- Summary of As-Built quantities

Take special care to ensure that all construction changes have been entered on all As-Built documents affected by the change.

Include in the As-Built documents all changes and corrections to the plans that depict the final completed component, with relevant data showing (including copies of calculations not previously submitted with shop drawings or final design documents):

- Electrical systems
- Drainage systems
- Lighting systems
- Aboveground and underground utilities

- Traffic signal systems
- Signing placement
- Highway alignment and grade revisions
- Roadway embankment
- Bridge detail changes
- Bridge settlement reference elevations
- Joint seal measurements
- Typical sections and cross sections
- Retaining wall details
- ATMS equipment and conduit systems

In the summary of As-Built quantities, separate each work activity and provide a total for the Project. Use the pricing elements that are indicated on Form F (Price Proposal) and Form G (Construction Price Elements), in Appendix P.

Format. Submit the As-Built documents in the Department's standard format, organized in accordance with standard Department numbering and naming conventions. Make all electronic files consistent with the software requirements of Section 3.1.5 (Software Requirements). Submit two (2) complete electronic sets on CD ROM (using the CADD standards on the Department web site) and as specified in Section 3.1.5, as follows:

- Enclose an accompanying index and instructions

Attach a cover sheet to the As-Built documents of each constructed Work component. On the cover sheet, include a written certification by the DQO Manager that the As-Built documents accurately and completely indicate all changes and corrections made during construction.

- Obtain the signature, certification, and stamp of the DQO manager on the cover sheet of the As-Built documents for each constructed work component.
- Stamp or otherwise clearly mark each sheet of the As-Built documents "AS-BUILT."
- Submit a final copy of Right of Way drawings signed and stamped by a Utah Licensed Registered Land Surveyor.

3.1.4.4 Document Control Verification

General. Monthly, or more often as the situation may warrant, the Department will review the Design-Builder's document control performance. Develop a sign-off sheet that is filled out monthly, signed by the DQO Manager and CQO Manager, and submit it with each monthly invoice as indicated in Section 2.10.2.3.3 Progress Report. The Department, as indicated in Section 2.10.2.4 (Payment), may withhold payment until documentation issues are corrected as specified herein.

3.1.5 SOFTWARE

Submit all design documentation, whether it is in process, final, or As-Built, to the Department as both hard-copy printouts and electronic files on CD ROMs, using MicroStation and InRoads.

3.1.5.1 General

Acquire, use, and maintain for Project Work the software as specified in this Section.

Version. Use the current version of the specified software in effect as of NTP, unless otherwise called for in this Section.

Updates. Update software programs throughout the Contract within six (6) months of release of a software update, or earlier if mutually agreed to with the Department. The Department will similarly update its software.

File Server. Store all data files for the applications included in this Section on, or have them accessible through, the Design-Builder's central file server.

3.1.5.2 Required Project Software

Use the following software programs for Project Work:

Roadway.

- InRoads Version 8.4 (by Bentley)
- MicroStation V8 (by Bentley)

Drainage.

HEC-1, Flood Hydrograph Package

- HEC-11, Design of Riprap Revetment
- HEC-12, Drainage of Highway Pavements
- HEC-13, Hydraulic Design of Improved Inlets for Culverts
- HEC-14, Hydraulic Design of Energy Dissipaters for Culverts and Channels
- HEC-15, Design of Roadside Channels with Flexible Linings
- HEC-18, Evaluating Scour at Bridges
- WSPRO Backwater/Surface Water Computation

The Department has the sole discretion to approve any proposed drainage software.

As an option, propose other software than the above.

Geotechnical.

- GINT
- LPILE
- COM-624
- CAPWAP (by Globle, Rausche, Likens and Associates)

Lighting.

- AGI32 or Lumen Micro 2000

Obtain Department approval before using other programs. Contact Larry Montoya at 965-4924

Pavement.

- DARWIN (pavement design software)
- PAS (Pavement Analysis Software) American Concrete Pavement Associations, 1993

Structures.

- MicroStation V8 (by Bentley)

Traffic Signals.

- Traf Netsim (by McTrans)
- HCM/Cinema (by KLD Associates; signal capacity, cycle length, splint timing, and Level of Service [LOS])
- Synchro V (signal coordination timing, including cycle length, phase sequence, and offsets)
- CORSIM or VISSIM (complex signal coordination, queuing, and turn-bay storage)

Advanced Traffic Management System and Maintenance of Traffic.

- ArcView (by ESRI)

Scheduling.

- Primavera product

Project Management.

- Design-Builder's choice

Viewing of CAD Files.

- MicroStation Power Scope

Word Processing and Spreadsheets.

- Microsoft Word 2000 (for word processing)
- Microsoft Excel 2000 (for spreadsheets)

3.1.5.3 RFP Software Programs

Text Documents. Text documents generated in the RFP were produced in Microsoft Word 2000. The filenames are designated by a ".doc" extension.

Spreadsheets. All spreadsheet files in the RFP were created in Microsoft Excel 2000. The filenames are designated by a ".xls" extension.

CADD Drawings. All CADD files in the RFP were created in MicroStation. The filenames are designated by a ".dgn" extension.

Scanned Documents. The filenames of scanned documents are designated by a ".pdf" extension.

3.1.5.4 Department Electronic Communications

The Department uses the following software for its electronic communications, but use by the Design-Builder is optional.

Network Communications. Novell Network (4.1 or later) (running Netware)

E-mail and Scheduling Software. Novell GroupWise (4.1a or later) for e-mail and personal scheduling of staff. To set up a new account, contact the Department's help desk at (801) 965-4901.

Document Control. The Design-Builder and the Department shall share project data. The

Department's document control system software is Hummingbird DM5. The Design-Builder's document control system must be able to be integrated into the Department's system; implementation details will be arranged after Contract award.

3.2 ROADWAY

General Scope. Design and construct the roadways in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and required submittals.

Warranty. Warrant roadway work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the roadways during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

Project Changes. Have the flexibility to make Project changes that produce benefits or savings to the Department or the Design-Builder without impairing the essential functions and characteristics of the Project, such as safety, traffic operations, desired appearance, maintainability, environmental protection, drainage, and other permitted constraints.

3.2.1 REFERENCED STANDARDS AND PUBLICATIONS

3.2.1.1 Referenced Standards

General. Design and construct the roadway in accordance with the relevant requirements of the standards listed by priority in Table III-1.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Design-Builders Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of the initial Publication Date of this RFP unless modified by addendum or change order.

TABLE III-1
REFERENCED STANDARDS FOR ROADWAY

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	FHWA	*Manual on Uniform Traffic Control Devices* (Millennium Edition)	n/a	Dec. 2000	MUTCD
5	AASHTO	*Standard Specifications for Highway Bridges, 16th edition*	S99 HB16, HB 197, 98, 99	1996-1999	n/a
6	AASHTO	*Roadside Design Guide*	S99-RSDG-3	2002	n/a
7	AASHTO	*Guide for the Development of Bicycle Facilities*	I-GBF-3	1999	n/a
8	UDOT	*Standard Drawings*	n/a	*	RFP

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*
AASHTO = American Association of State Highway and Transportation Officials
FHWA = Federal Highway Administration

3.2.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-2 as supplementary guidelines for the design and construction of the roadway. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-2
REFERENCED PUBLICATIONS FOR ROADWAY

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*Model Drainage Manual*	n/a	1991	n/a
TRB	*Highway Capacity Manual*	Special Report 209-	1994	n/a
TRB	*Single Point Urban Interchange Design and Operations Analysis*	Report 345, NCHRP	*	n/a
UDOT	*Computer-Aided Drafting and Design Standards Manual*	n/a	*	n/a
UDOT	*Construction and Maintenance of Right-of-Way Fence*	Policy 08A-10	*	n/a
UDOT	*Construction Manual of Instruction*	n/a	2000	n/a
UDOT	*Design Process*	n/a	Nov. 2001	n/a
UDOT	*Engineering Consultant CADD Guidelines*	n/a	*	n/a
UDOT	*InRoads Design Standards Manual*	n/a	*	n/a
UDOT	*Manual for the Accommodation of Utilities and the Control and Protection of State Highway Right-of-Way*	n/a	Mar. 6, 2001	n/a
UDOT	*Manual of Instruction, Geotechnical*	n/a	Feb, 2002	n/a
UDOT	*Manual of Instruction* (Surveying, Part 6)	n/a	*	n/a
UDOT	*Materials Manual of Instruction*	n/a	2002	n/a
UDOT	*Project Work Flow for CADD Manual*	n/a	*	n/a
UDOT	*Roadway Drainage Manual of Instruction, Part 4 (Supplement to AASHTO Model Drainage Manual)*	n/a	*	n/a
UDOT	*Steel and Concrete Construction Manual*	n/a	*	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
TRB = Transportation Research Board

3.2.2 PERFORMANCE REQUIREMENTS

General. Design and construct all roadways to meet the following performance requirements:

- Maintain a safe environment for motorists and give special consideration to avoiding potentially hazardous situations.
- Meet all UDOT roadway design standards.
- Provide an LOS appropriate for the characteristics of the traffic that will be using the facility.

3.2.3 DESIGN AND CONSTRUCTION CRITERIA

The electronic files provided in Appendix J (Conceptual Plans and Survey Information) were prepared for the Evironmental Assessment and are conceptual in nature. All designs must meet UDOT design standards.

Horizontal Alignment. The "2977phase1main.alg" file provides the horizontal alignment in English units of measurement. Use this file when making modifications to the horizontal alignments, if deemed necessary.

Lane Configuration. The "2977_designph1.dgn" file provides lane configuration information. This file was created in English units.

Typical Section Information. The 2977_TS-01.dgn, 2977_TS-02.dgn, 2977_TS-03.dgn, and

2977_TS-04.dgn files provide typical section information.

3.2.3.1 Local Roadway Design

Obtain all necessary approvals for design elements outside the ROW limits identified in Appendix E (Environmental Information), as well as for any facilities to be owned or maintained locally.

Coordinate the roadway design with local governing agencies as appropriate and to the satisfaction of the Department.

3.2.3.2 Limits of Improvements

Determine the construction limits of all improvements required on SR-201, associated ramps, Collector/Distributor road, Redwood Road, Bangerter Highway, 3200 West, and frontage roads and include said limits in the design documents.

Provide continuity of the Project facilities based on the Project limits defined in Appendix J (Conceptual Plans and Survey Information).

3.2.3.3 Temporary Realignment

General. Furnish all necessary design documents and obtain all necessary permits for temporary traffic detours, temporary realignments of existing local roadways, and access roads affected by Project construction. Coordinate the design of these elements with affected local agencies to the satisfaction of the Department.

3.2.3.4 Design Exceptions

General. The Department has not approved any design exceptions but may consider exceptions from standards or criteria on a case-by-case basis. Such exceptions would be at specific locations where the Design-Builder has demonstrated an exception would accrue substantial benefit to the Department and the public. The Department discourages creating exceptions and will not consider exceptions for modest benefits.

Changes. Obtain Department approval of any such changes to the design standards or criteria. Fully and clearly document any changes from the UDOT design standards and criteria and maintain a complete record of all such changes for Department reference; see Section 2.5.4 (Changes).

3.2.3.5 Design Changes

Level of Service. Make no basic configuration change that reduces the LOS below the LOS in the conceptual plan or LOS D which ever is higher, and to demonstrate this, develop a detailed operational and LOS analysis to the satisfaction of the Department.

A basic configuration change is any departure from the Conceptual Plan, such as additions or deletions of any lane, ramp, arterial, or road in its entirety or in part.

Ramp Adjustments. The on-ramp configurations presented in Appendix J (Conceptual Plans and Survey Information) may not adequately accommodate the requirements to meter traffic entering SR-201 from Redwood Road or Bangerter Highway as part of the ATMS. Evaluate the interchange on-ramp configurations and adjust the ramp geometric design to effectively accommodate metered ramps as specified in Appendix F (ATMS Requirements).

3.2.3.6 Roadway Type

Design all new or redesigned roadway improvements to meet the following standards for new construction:

SR-201 Mainline.

- UDOT design standards for freeways, except as modified in this Section 3.2 (Roadway)
- Standard Drawing DD-4 (Geometric Design for Freeways) and AASHTO (A Policy on Geometric Design of Highways and Streets 2001) (Geometric Design Standards for Freeways)

SR-201 Ramps and Collector/Distributor Road.

- UDOT design standards for freeways, except as modified in this Section
- Standard Drawing DD4 (Geometric Design for Freeways)
- AASHTO (A Policy on Geometric Design of Highways and Streets 2001, Chapter 10, "Grade Separations and Interchanges"

Redwood Road, Bangerter Highway, and 3200 West.

- UDOT design standards for urban arterial streets, except when noted otherwise
- AASHTO (A Policy on Geometric Design of Highways and Streets 2001)

Frontage Roads.

- UDOT design standards for urban collector streets, except when noted otherwise
- AASHTO (A Policy on Geometric Design of Highways and Streets 2001)

3.2.3.7 Design Vehicle

Design Vehicle Type. The design vehicle type for SR-201, ramps, arterials, and frontage roads is an interstate semi trailer (WB60) or bus, whichever vehicle governs a particular roadway element; see AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

3.2.3.8 Design Speeds

Design Speeds. Design speeds are defined as follows:

- Mainline. 70 mph. For related information, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).
- Ramps (exclude their intersections with crossroads). 50 mph at mainline gore area, 40 mph through main body of ramp, 25 mph at ramp terminal with crossroad. For related information, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).
- Redwood Road and 3200 West. 50 mph. For related information, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).
- Collector/Distributor Road and Bangerter Highway. 60 mph. For related information, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).
- Frontage Roads. 30 mph except for the northeast frontage road, which is 25 mph unless superelevation is used.

- Temporary Roads (for Maintenance of Traffic). 10 mph lower than the above design speeds.

3.2.3.9 Typical Sections

General. Conceptual plans for the SR-201 mainline, ramps, Collector/ Distributor, Redwood Road, Bangerter Highway, 3200 West, and frontage roads are provided in Appendix J (Conceptual Plans and Survey Information). For related information, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

3.2.3.10 Lanes

Number of Lanes. For the anticipated number of lanes on all roadways, see the typical sections in Appendix J.

Lane and Shoulder Widths. See the typical sections in Appendix J (Conceptual Plans and Survey Information).

3.2.3.11 Medians

SR-201 Mainline Median Width. For new or reconstructed segments, see the Typical Sections in Appendix J.

SR-201 Mainline Median Types. Use two general types of medians: 1) depressed, and 2) with barrier; see typical sections in Appendix J. For the typical median, use the depressed type, except when barriers are required as in Section 3.2.3.14 (Roadside Barriers and Curbing). For new or reconstructed segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Median Barriers. For median barriers between the Jordan River and I-215, match the median barrier and use the same architectural treatment that is used on the section of SR-201 adjacent to the Project. On superelevated roadway sections, provide the full height above the higher shoulder and extend the barrier to account for the difference in elevation between shoulders. Median barrier in other areas of the project must comply with the details shown on the SR-201 Typical Sections.

Ramp Terminals and Intersecting Roadways. See Standard Drawing ST5 and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

3200 West Median. A raised island must be installed on 3200 West south of SR-201 through the existing frontage road intersection. Use Type M2 curb. See UDOT Standard Drawing GW1.

3.2.3.12 Alignment

3.2.3.12.1 Vertical Alignment

SR-201 Mainline. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Ramps and Collector/Distributor. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001)"

Redwood Road, Bangerter Highway, and 3200 West. For new and redesigned segments, use UDOT design standards for urban arterial streets and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Frontage Roads. For new and redesigned segments, use UDOT design standards for urban collector streets and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Profile Grade Line. See typical sections in Appendix J (Conceptual Plans and Survey Information).

3.2.3.12.2 Horizontal Alignment.

SR-201 Mainline. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Ramps and Collector/Distributor. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001). Design ramp terminal intersection movements to accommodate the Project design vehicle; see above Section 3.2.3.7 (Design Vehicle).

Redwood Road, Bangerter Highway, and 3200 West. For new and redesigned segments, as a minimum use UDOT design standards for urban arterial streets and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Frontage Roads. For new and redesigned segments, as a minimum use UDOT design standards for urban collector streets.
Tangent Length. Provide adequate length for standard tangent runout of superelevation between curves. Calculate the tangent runout in accordance with the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001). Also, see Section 3.2.3.12.3 (Superelevation).

3.2.3.12.3 Superelevation

SR-201 Mainline. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Ramps and Collector/Distributor. For new or redesigned segments, see the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Redwood Road, Bangerter Highway, and 3200 West. For new and redesigned segment, as a minimum use UDOT design standards for urban arterial streets.

Frontage Roads. For new and redesigned segment, as a minimum use UDOT design standards for collector streets.

3.2.3.12.4 Pavement Cross Slopes

SR-201 Mainline. See the typical sections in Appendix J (Conceptual Plans and Survey Information).

Three-Lane Section. On a three-lane tangent section and on the outside shoulder, provide a normal slope of 2% downward to the driver's right. On the inside shoulder, provide a normal slope of 2% downward to the driver's left.

Ramps and Collector/Distributor. See typical sections in Appendix J (Conceptual Plans and Survey Information). On a tangent section, provide a normal slope of 2% downward to the driver's right for the full pavement width.

Ramp Terminals and Intersecting Roadways. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Redwood Road, Bangerter Highway, 3200 West, and Frontage Roads. See typical sections in Appendix J (Conceptual Plans and Survey Information).

3.2.3.13 Clearances

Falsework. Obtain written approval from the Department for any proposed falsework clearances that are less than the standard clearances for lateral and vertical clearance referenced below.

Canals. Coordinate lateral and vertical clearance for canal crossings with the owner of the canal, to the satisfaction of the Department; see Appendix O (Utilities and Third Party Agreements).

Powerlines. Obtain approval from the governing utility owner for all necessary utility clearances.

Lateral Clearance.

SR-201 Mainline, Ramps, and Collector/Distributor. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Redwood Road, Bangerter Highway, 3200 West, and Frontage Roads. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Vertical Clearance.

SR-201 Mainline, Ramps, Collector/Distributor, Redwood Road, Bangerter Highway, 3200 West, and Frontage Roads. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

3.2.3.14 Roadside Barriers and Curbing

3.2.3.14.1 Roadside Barriers

SR-201 Mainline and Ramps. Wherever the minimum width for clear zones, slope safety, or hazard protection is not provided, place concrete barrier along the shoulder of all embankment sections; see the AASHTO *Roadside Design Guide*. The Roadside Design Guide provides guidance to the maximum necessary distance for clear-zone, however, further re-location and/or attenuation may be required beyond the clear zone if the context of the roadside features indicate the need to do so and as required by the Department. For roadside barriers on SR-201 between the Jordan River and I-215, SR-201 ramps at Redwood Road, and the Collector/Distributor Ramp match the median barrier and use the same architectural treatment that is used on the section of SR-201 adjacent to the Project. For roadside barriers on the remainder of the project, use the UDOT standard Precast Concrete Barrier. See UDOT Standard Drawing BA1A, BA2A, and BA2.

3.2.3.14.2 Curbing

SR-201 Mainline. Do not use curbs.

Ramps. Add curb and gutter to ramps as needed for drainage purposes. See UDOT Standard Drawings GW2 and GW3.

Redwood Road and 3200 West. See Standard Drawings GW2, GW3, and AASHTO (A Policy on Geometric Design of Highways and Streets 2001). For curbs constructed in raised medians use type M2 curb.

Bangerter Highway and Frontage Roads. See Standard Drawings GW2, GW3 and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Pedestrian Ramps. All pedestrian ramps within the project limits must be replaced. See Standard Drawing GW5.

3.2.3.15 Cut and Fill Slopes and Slope Rounding

SR-201 Mainline and Ramps. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

Redwood Road, Bangerter Highway, and Frontage Roads. See the UDOT Standard Drawings and AASHTO (A Policy on Geometric Design of Highways and Streets 2001).

3.2.3.16 Sidewalks

Minimum Width. Provide Portland cement concrete (PCC) sidewalks on Redwood Road, 3200 West, and the frontage roads that are at least 5 feet wide or as wide as the existing sidewalk, whichever is wider if there is a park strip. If there is not a park strip, the sidewalk must be at least 6 feet wide. See Appendix J (Conceptual Plans and Survey Information), Standard Drawings GW4, GW5, AASHTO (*A Policy on Geometric Design of Highways and Streets 2001).*

3.2.3.17 Surveying

Construction Surveying. Provide construction surveying in accordance with Section 2.6 (Control of Work), Section 2.6.9 (Design-Builder-Provided Construction Stakes, Lines, and Grades), and Section 3.15 (Survey).

3.2.3.18 Right-of-Way Fencing

Provide ROW fencing in accordance with Standard Specification-(DB) 02822 (Right-of-Way Fences and Gates). Provide temporary and property fencing in accordance with Section 3.14.8 (Property Fence Requirements).

3.2.4 SUBMITTALS

Roadway Design Documents. Prepare design documents for roadway improvements at 1 inch = 100 feet. See Appendix J (Conceptual Plans and Survey Information).

3.2.4.1 Design Changes

Submit any proposed design change to the Department for review and approval per the requirements of Section 3.18 (Quality).

3.2.4.2 Final Design

General. The Design-Builder shall designate the name of the engineer in responsible charge for the design of each work activity. The engineer in responsible charge shall be the engineer who is personally responsible for directly supervising the design and who will sign and seal the design plans, reports, specifications, etc., for a given activity. The engineer in responsible charge shall be a Utah licensed professional engineer. All plans, specifications, and reports shall be signed and sealed by the engineer in responsible charge. Such plans, specifications, and reports are not final until accepted by the Department; see Sections 3.2.2 (Performance Requirements) and 3.2.3 (Design and Construction Criteria) for final design requirements.

3.2.4.3 Documentation Requirements

General. Organize, file, and submit all applicable Project documents in accordance with Section 3.1.4 (Project Documentation).

Calculations. For all calculations, number them consecutively and provide a table of contents. For each calculation, identify which standards were used and reference the appropriate section of the standard in the right-hand column. Reference computer software used in the calculations, including the name of the program, vendor, version, and release date. Provide a record of software verification with manual calculations or other recognized program; clearly identify input and output values and meanings; and provide check of input and verification of output.

3.3 GEOTECHNICAL

General Scope. Conduct geotechnical investigations, analyses, and design for all components of the Project. Include additional investigations to supplement the current available information and to properly characterize the site for the design and construction of the Project.

Conduct all geotechnical work in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals.

Geotechnical Services.

- Investigations to supplement Department-supplied geotechnical information as required to meet all design, construction, and maintenance needs of the Project;
- Analysis of information, both Department-supplied and that obtained by the Design-Builder;
- Preconstruction surveys of all adjacent facilities to document existing conditions;
- Design of construction support systems, and underpinning and protection of existing and new structures and utilities;
- Recommendations and design of foundation systems consistent with the requirements and acceptable systems described in the Contract Documents;
- Soil stabilization and densification measures;
- Analysis and design of embankments and walls; and
- Instrumentation for Project monitoring.

Previous Studies. Geotechnical data from previous construction in the Project area are available for review by the Design-Builder by contacting the UDOT Geotechnical Division at (801) 965-4234.

Bridge Site Studies. The Department has completed soil borings and cone-penetration soundings at the locations of the Project's major bridge structures. This information is provided in Appendix G (Geotechnical Information).

Warranty. Warrant geotechnical work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. There are no maintenance during construction requirements for the geotechnical work.

3.3.1 REFERENCED STANDARDS AND PUBLICATIONS

3.3.1.1 Referenced Standards

General. Perform the geotechnical work in accordance with the relevant requirements of the standards listed by priority in Table III-3.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial

publication date of this RFP.

TABLE III-3
REFERENCED STANDARDS FOR GEOTECHNICAL

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date**	*Comments, Short Forms*
1**	Design-Builder	*Proposal for the SR-201 Design-Build Project*	n/a	- -	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	UDOT	*Geotechnical Manual of Instruction*	n/a	July 03	n/a
4	AASHTO	*Load Resistance Factor Design (LRFD) Bridge Design Specifications, Standard (English Units) 2nd Edition*	LRFD-US-2	1998 & Interims to 2002	n/a
5	AASHTO	*Standard Specifications for Highway Bridges, 17th edition*	HB 17	2002	n/a
6	FHWA	*Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Design and Construction Guidelines*	FHWA NHI-00-043	Mar. 2001	n/a
7	AASHTO	*Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*	LTS-4	2001 & 2002 Interims	n/a
8	FHWA	*Manual for Design & Construction of Soil Nail Walls*	FHWA-SA-96-069R	1996 w/ 1998 revision	n/a
9	AREMA	*Manual of Recommended Practice*	n/a	2000	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*
AREMA = American Railway Engineering and Maintenance-of-Way Association

3.3.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-4 as supplementary guidelines for the geotechnical work. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-4
REFERENCED PUBLICATIONS FOR GEOTECHNICAL

Author or Agency	*Title*	*Document or Report Number*	*Date*	*Comments, Short Form*
FHWA	*Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes*	FHWA NHI-00-044	Sept 2000	n/a
FHWA	*Drilled Shafts for Bridge Foundations*	RD-92-004	1993	n/a
FHWA	*Drilled Shafts: Construction Procedures and Design Methods,* Volumes 1 and 2	IF-99-025	Aug. 1999	n/a
FHWA	*Geosynthetic Design and Construction Guidelines*	HI-95-038	May 1995	n/a
OSHA	*Excavation*	29 CFR, Part 1926, Sub. P	Aug. 1994	n/a
UDOT	*NPDES Guidelines for Compliance with the General Permit for Construction Activities*	n/a	*	n/a
USGS	*National Earthquake Hazards Reduction Program (NEHRP), National Seismic-Hazards Maps, Website: Http//geohazards.cr.usgs.gov/eq/*	Open File Report 96-532	June 1996	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
OSHA = Utah Occupational Safety and Health Administration

3.3.1.3 Geotechnical Investigations

Previous Studies. **Two** geo-investigations for the Project (Surface Fault Rupture Hazard Evaluation, Report dated Feb. 13, 2003; and Preliminary Geotechnical Field and Laboratory Investigations, Report dated April 4, 2003) have been completed for the Department, and are provided in Appendix G (Geotechnical Information). Subsurface information generated from these investigations may be used by the Design-Builder for the evaluation of geotechnical conditions at the Project sites.

Site Specific Studies. The Design-Builder shall conduct additional geotechnical investigations as required to properly characterize the site, in accordance with exploration frequency guidelines presented in the UDOT *Geotechnical Manual of Instruction*. The investigations and testing shall be conducted in accordance with the *Geotechnical Manual of Instruction*. The presence of soil borings or other explorations at the locations of the various Project elements will not relieve the Design-Builder of the requirements for adequate exploration depths, nor for sampling and testing frequencies, as presented in the *Geotechnical Manual of Instruction*.

3.3.2 PERFORMANCE REQUIREMENTS

General. Conduct all geotechnical work in accordance with the following performance requirements:

- Perform analyses, prepare design, and construct the Project to limit the longitudinal and transverse settlement of the roadway, structures, embankments, and other Project facilities, both during and after construction, as specified in Section 3.20 (Warranty).
- Be responsible for all distress to structures and properties adjacent to the corridor that is caused by the Project, as specified in Section 3.20 (Warranty).

Department Evaluation. The Department will evaluate the Design-Builder's compliance with these performance requirements based on the profilograph measurements, as required in Section

3.6 (Pavement) and the allowable settlement values specified in Section 3.20 (Warranty).

3.3.3 DESIGN AND CONSTRUCTION CRITERIA

The following design and construction criteria apply to foundations; retaining walls and earth embankments; instrumentation; utilities; and temporary structures.

Review the existing geotechnical data and undertake independent analyses to:

- Compute settlements of the new fills along the entire alignment and develop measures to mitigate these settlements. Use any of a wide range of measures, including, but not limited to, surcharging, wick drains, lightweight fills, chemical treatments, stone columns, and deep soil mixing;
- Demonstrate that all settlements will be within specified tolerances before proceeding with construction of permanent work affected by settlements;

Establish a baseline to monitor distress (e.g., settlements, lateral movements) of structures and properties adjacent to the corridor; and

- Install permanent settlement monuments and benchmarks, and perform all surveys.

3.3.3.1 Foundations

3.3.3.1.1 Foundation Types and Materials

Acceptable Types. Use the following acceptable foundation types to support heavy structural loads:

- Concrete-filled steel pipe piles
- Steel H-piles
- Caissons (drilled shafts)
- Prestressed concrete piles

Do not use auger-cast piles, geopiers, timber piles, or spread footings to support bridge foundations.

Materials. See corresponding foundation specifications and Section 3.4.3 (Design and Construction Criteria) for material requirements of foundations.

3.3.3.1.2 Pile-Driving and Load Supporting Capacity

Initial Driving. For the initial driving of the first pile in each group, perform the dynamic monitoring using a pile-driving analyzer (PDA). Optionally, to utilize the increase in capacity due to setup, take PDA measurements on a re-struck pile to determine the revised criteria. Apply the PDA results and revised criteria for the restrike to only the piles in that group.

PDA Firm. Structure the Project team so that the PDA firm reports directly to the Design-Builder's Geotechnical Engineer. Use a PDA firm with at least five (5) years of experience in monitoring the driving of piles with the PDA and in performing analyses with the Case Analysis of Pile Wave Analysis Program (CAPWAP).

Equipment and Accessories. Use a Model PAK PDA, manufactured by Pile Dynamics, Inc. Ascertain that all equipment and accessories are in good working condition and so maintained. Use the most recent version of the CAPWAP and a full computer graphics package.

Use CAPWAP analyses to verify the ultimate pile capacity at each bent and abutment location.

Pile Load Tests. The Department does not require pile load tests for the Project.

Alternately, to allow the use of a lower factor of safety that is specified by AASHTO, perform pile load tests and conduct a minimum of two (2) tests per structure in accordance with the ASTM Standard D1143. Verify that the load-carrying capacities of the piles meet or exceed the design values using the AASHTO minimum factors of safety. Furnish all equipment to perform the load tests, including the load frame, reaction piles and structural connections, dial gauges, an independent reference beam for the support of the dial gauges, and methods of protection from weather.

The assessment of load-supporting capacity of driven piles for applying a reduced factor of safety through the use of a Statnamic test or the Osterberg cell will not be accepted.

Pile Load Test Frame. A pile load test frame is available from Brigham Young University (BYU) for use on the Project. It is located at a BYU storage facility in Provo, Utah. At least two (2) months in advance, schedule use of the load frame with Kyle Rollins at BYU, at (801) 422-6334. The Design-Builder shall be fully responsible for loading, transporting, and handling the load frame.

Bond. Obtain and deliver to BYU a bond for $30,000 for use of the load frame. Return the load frame and all of its components within 14 calendar days of the scheduled return to the designated BYU storage facility in the same condition as or better than when the frame was borrowed, or forfeit the bond amount.

3.3.3.1.3 Tip Elevation of Piles

General. The Department will allow the Design-Builder to modify the driving criteria based on field performance, but requires the submittals listed in Section 3.3.4.2 (Construction Phase) before allowing piles to be stopped at a higher tip elevation than is shown on the Design-Builder's foundation plans. The potential implication of stopping above the required bearing stratum is that even though the pile blow-counts have indicated the pile has achieved its individual pile capacity, the capacity of the group can be less than the sum of the individual pile capacities due to the group capacity and settlement effects.

3.3.3.1.4 Allowable Settlements

Allowable settlements of foundation elements are presented in Section 3.20 (Warranty).

3.3.3.1.5 Downdrag

Design Criteria. Design for downdrag forces if foundation settlement is expected to continue after the installation of deep foundations. Optionally, use corrugated metal sleeves or bituminous coatings to reduce downdrag forces. Do not use friction-reducing rings welded on steel pipe piles to reduce downdrag.

3.3.3.1.6 Pile Driving Records

Create a hand-written record of pile driving. For the entire length of each pile, record blows and delivered energy for each foot of penetration.

Use the saximeter as a supplementary, not alternative, method to record the blows and estimate the fall of the ram. Include the driven capacity for each pile on the As-Built Documents prepared by the Design-Builder based on the PDA results.

3.3.3.1.7 CQO's Pile Inspector and the Design-Builder's Geotechnical Engineer

Record the driving of each pile by an inspector, provided by the CQO, who has:

- At least one (1) year of pile inspection experience while working under the supervision of a registered civil engineer specializing in foundations and geotechnical engineering, or
- At least 2 months of inspection experience and at least one of the following, at no expense to the Department:
    1. One-day of training provided by GRL and Associates, Inc., or
    2. Training from the National Highway Institute or another similar organization

Assign one inspector for each pile-driving rig in use.

Ensure that the Geotechnical Engineer is on-site during the complete driving of the first pile at each support and during the monitoring with the PDA.

3.3.3.1.8 Acceptance of Driven Piles

Prior to beginning the placement of concrete in or around the piles:

a) Submit for Department review and approval the complete driving records for all piles in each pile group, and

b) Receive written sign-off from the Department of the piles through the CQO Quality Check Point.

3.3.3.1.9 Foundations for Signs and High-Mast Lighting

Design Procedure. Use the AASHTO design procedure in *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* for the design of roadway signage foundations. Optionally, use the computer programs LPILE4.0 or the latest version of COM624 for design of deep foundation systems.

Method of Support. Depending on the magnitude of loading and the soil and groundwater conditions, use caissons (drilled shafts) or driven steel piles to support signage. Do not use helical-screw anchors or SAFE foundations to support signs and lighting.

See Sections 3.8 (Lighting) and 3.9 (Signing) for details of the design and construction of the lighting system and signs.

3.3.3.1.10 Lateral Deflection of Piles and Caissons

Evaluate the lateral load response of piles and caissons under dead, live, and seismic loading and allow a maximum deflection at the top of the pile (TOP) or caisson as follows:

Dead and live loading. TOP = 0.25 inch.

Seismic loading. TOP for the seismic case of 10% exceedence in 250 years (0.72 g for Phase I-Redwood Road Interchange portion of the project) will be a function of the pile type and size rather than a value of absolute deflection. The maximum allowable lateral deflection in this seismic case is the deflection that corresponds to the maximum allowable stress for the pile (see Section 3.3.3.3 Design Accelerations).

3.3.3.2 Retaining Walls and Earth Embankments

Design Criteria. All retaining walls and soil slopes located within 50 feet of a bridge foundation and/or that affect the performance or structural integrity of the bridge, shall be designed for the seismic case of the peak horizontal ground surface acceleration corresponding to a 10% exceedence in 250 years (see Section 3.3.3.3 Design Accelerations). All other walls shall be designed for the seismic case of earthquake acceleration corresponding to a 10% exceedence in

50 years (see Section 3.3.3.3 Design Accelerations). Refer to the current UDOT *Geotechnical Manual of Instruction* for the minimum required factors of safety.

3.3.3.2.1 Acceptable Wall Types

Mechanically Stabilized Earth Walls. The following mechanically stabilized earth (MSE) wall systems are acceptable by the Department for use as retaining wall:

- Reinforced Earth Company retaining wall system
- Tensar ARES retaining wall system
- VSL Foster Geotechnical retaining wall system
- SSL MSE Plus retaining wall system
- GENESIS modular block wall system
- Tensar Mesa modular block wall system
- Keystone KeySystem I modular block wall system

Soil Nail Walls. Soil nail walls are also an accepted wall system by the Department, and shall be designed in accordance with the FHWA Manual for Design & Construction of Soil Nail Walls (FHWA-SA-96-069R, 1996 with Oct. 1998 revisions).

Other Wall Systems. Other acceptable wall systems are presented in Section 3.4.3.5 (Retaining Walls). These systems shall be designed in accordance with the applicable AASHTO specifications.

3.3.3.2.2 General/Internal and External Stability of Walls

MSE Walls (including modular block MSE walls). Use FHWA-NHI-00-043, FHWA-NHI-00-044, and FHWA-HI-95-038 from the FHWA as guidance for design requirements. Construct all MSE wall panels using reinforced concrete. Provide corrosion protection for prestressing or post-tensioning steel. Provide at least 2 inches of cover to reinforcing steel. Design and construct panel joints to accommodate differential settlement. Design the connection between MSE panels and reinforcing straps considering both the design pullout load and the additional load on the strap due to the maximum anticipated settlement of the wall. For reinforcing straps, provide continuous straps, with a maximum vertical spacing of 20 inches for the 1st stage of 2-stage MSE wall systems. For soil reinforcement of MSE walls, use galvanized steel, or geogrids meeting creep requirements of AASHTO *LRFD Bridge Design Specifications*, and as indicated in the applicable MSE wall specification. In the design, account for any item projecting through the soil reinforcement as described in the applicable MSE wall specification. Do not place culverts perpendicular to soil reinforcement within the reinforced soil mass.

Design the internal reinforcement to accommodate the anticipated total and differential movements. Consider the total estimated settlement in the selection of walls (single-stage versus two-stage). The criteria for the selection of the wall system shall be included in the proposal. (Use the selection criteria for the wall system that are specified in the Proposal.)

For modular block MSE wall systems, provide a mechanical connection to the wall facing; do not use friction connections relying on gravity. Modular block retaining walls without the use of an approved soil reinforcement system are not permitted on the project.

Plans and Calculations. Provide engineer's sealed plans and design calculations meeting AASHTO *LRFD Bridge Design Specifications*, including a global stability and seismic analysis.

Backfill. See Specification 02832- Select Material for MSE Walls for backfill requirements.

External

The global stability of the wall system(s) shall be determined with the use of an approved limit equilibrium program that estimates the minimum factor of safety along the critical failure surface. Slope stability analyses and the minimum required factors of safety shall be in accordance with the UDOT *Geotechnical Manual of Instruction*. The minimum required factors of safety for sliding, overturning, and bearing capacity of retaining walls shall be computed in accordance with the AASHTO specifications.

For temporary walls, the minimum required factor of safety against global instability shall be 1.2.

3.3.3.2.3 Embankments

Analyze and design embankments in accordance with the UDOT *Geotechnical Manual of Instruction.*

Allowable Slopes. Earth slopes on embankments steeper than 2:1 (horizontal:vertical) will not be allowed, unless specifically authorized at isolated locations by the Department. Temporary cut slopes for excavations can be as steep as is allowed by OSHA and as indicated by the geotechnical analysis. Slopes of 1.5:1 with concrete paving will be allowed only on spill-through abutments for bridges.

Embankment slopes shall be protected from erosion in accordance with UDOT *NPDES Guidelines for Compliance with the General Permit for Construction Activities.*

3.3.3.2.4 Walls

Settlement (General). Consider the maximum total estimated settlement in the selection of wall type (single-stage versus two-stage). The criteria with respect to the estimated settlements, for the selection of the wall type shall be included in the proposal, and the Design-Builder will be required to adhere to the stricter of the selection criteria for the wall type as indicated in the Proposal, or with the criteria slated below.

Maximum Total Settlement (measured at the wall face).

Single-Stage Walls. In no case shall single-stage MSE walls be used where the total settlement at any one location beneath the proposed wall is estimated to be at or above 15 inches, or to any stricter criteria identified in the proposal. However, the preloading and/or surcharging of any wall areas may be employed prior to beginning wall construction in order to sufficiently reduce total post-construction settlement to tolerable levels, thereby allowing the use of single-stage MSE walls.

Two-Stage Walls. Total settlement of the first stage of two-stage walls is not limited.

Either System. Design the internal reinforcement to accommodate the anticipated total differential movements.

3.3.3.2.5 Slope Stability (Factor of Safety)

Perform global stability analyses for all fill slopes and retaining walls in accordance with the UDOT *Geotechnical Manual of Instruction.*

3.3.3.2.6 Liquefaction

General. Evaluate liquefaction potential in accordance with UDOT *Geotechnical Manual of*

Instruction. Incorporate the impacts of liquefaction into the design of foundations, retaining walls, and embankments that impact structures and walls. Liquefaction treatments required as a result of the evaluation will be considered Changes (Section 2.5.4) and will be paid for in accordance with the requirements of the RFP.

3.3.3.2.7 Settlement and Damage to Adjacent Properties

Monitoring. Monitor movements of structures, utilities, and other features within a zone extending a minimum horizontal distance of H from the toe of the embankment, where H is the height of the embankment including surcharge. For retaining walls, this monitoring distance from the toe shall be a minimum of 2H (twice the height). Monitor ground vibrations from construction activities in accordance with Section 2.7 (Legal Relations and the Responsibility to the Public) and the UDOT *Geotechnical Manual of Instruction*. The Design-Builder is responsible for any damage or settlement to adjacent property, structures, or utilities.

3.3.3.2.8 Acceptable Fill Materials

General. Provide suitable materials for the construction of earth fills in accordance with the Specifications and the UDOT *Geotechnical Manual of Instruction*. Submit information to the Department as to the source, quality, pertinent physical and chemical properties, and availability of all materials before their use. These materials include soils and aggregates for embankments, subgrade, granular backfill, and other borrow materials; select aggregates for drainage purposes; and lightweight fills.

Do not use shredded tires, fly ash, bottom ash, or wood fibers in fills.

The use of broken concrete in fills will be permitted under certain circumstances, as follows:

- The maximum allowable size will be 12 inches in the maximum dimension.
- The placement of the broken concrete will be limited to the lower one-third of the embankment, and will not be allowed in embankments of less than 12 feet in height.
- Broken concrete shall not be placed below the water table.
- Broken concrete pieces shall be arranged as to prevent nesting and shall be sufficiently spread out to allow the placement and compaction of soil fill between adjacent pieces.
- Broken concrete shall not be used as backfill for retaining walls and in MSE fills.
- Rebar will not be allowed in the concrete used in fills.

Lightweight Fill. The Design-Builder will be allowed to use lightweight materials at its discretion, subject to Department review and approval. The use of lightweight fill will reduce the magnitude of foundation settlement and will likely reduce the consolidation period.

The following lightweight materials have a UDOT special provision specification, and may be considered as a replacement for conventional earth fill:

- Expanded polystyrene (Geofoam)
- Steel slag aggregate

With the Department's approval, the following additional lightweight materials may be considered for use on the Project:

- Expanded shale/ ceramic aggregate

- Foamed concrete, such as Elastizell and Northeastern Soltite
- Scoria

Shredded tires, ash (fly ash, bottom ash, etc.) wood chips or other organic lightweight materials will not be considered for use on the Project.

Submission for Review. Submit technical information (both physical and chemical) that clearly demonstrates that the proposed material can withstand exposure to the elements without a loss of integrity over a period of 50 years. If the selected lightweight material is determined to be susceptible to degradation, the proposed method(s) of protection and other details shall be submitted for review.

3.3.3.2.9 Minimum Limits of Granular Fill

Place Granular Backfill Borrow a minimum of:

- 3 feet behind abutments
- 3 feet around footings
- 2 feet behind wingwalls

3.3.3.3 Design Accelerations

The following design peak horizontal ground acceleration (PHGA) values have been determined for the Phase I Project, and are based upon the USGS- NEHRP (1996) mapping system (see citation under Reference Publications).

<u>10% exceedence in 250 years</u>

- Bridge foundations, retaining walls and embankments in the foundation zone of influence (see Geotech MOI) for the Redwood Road structure: 0.72 g
- Bridge foundations, retaining walls and embankments in the foundation zone of influence (see Geotech MOI) for all other Phase I structures: 0.60 g
- All other designated Project elements for the Phase I work: 0.27 g

3.3.3.4 Instrumentation

Instrumentation Plan. Develop an instrumentation plan for Department review before starting any earthwork. In accordance with the plan, install instruments to monitor: a) settlements of embankments and structures, b) stability of walls and slopes, and c) vibration (within and outside the planned ROW limits). Document all information obtained from the instrumentation and make it available to the Department before starting any paving operations or bridge foundation construction.

Develop the instrumentation plan both to provide construction-related control information and to accommodate the collection of long-term performance data (provide specifics regarding long-term instrumentation arrays).

Replacement. At no cost to the Department, replace any instruments that are damaged during construction. For instruments that do not need to be replaced, obtain approval of the Design-Builder's Geotechnical Engineer and a review by the Department before abandoning them.

Submit the instrumentation plan for Department approval as required in Section 3.3.4.1.2 (Construction Elements).

3.3.3.5 Utilities

Identify all new and existing utilities crossing embankments, evaluate settlement impacts on

these lines, and evaluate the impacts of abandoned lines on settlements.

Design new and relocated utilities to accommodate the anticipated settlements and to operate effectively during and after construction.

If any Utility line is to be abandoned, abandon it in such a way that the abandonment does not contribute to any future settlements.

3.3.3.6 Temporary Structures

For temporary excavation support such as sheeting, soldier piles and lagging, and bracing, use a professional engineer licensed in Utah to meet all requirements of the State and the U.S. OSHA.

3.3.4 SUBMITTALS

3.3.4.1 Design Phase

3.3.4.1.1 To Be Submitted Within Three Weeks after NTP

Submit all analysis and design methodologies including, but not limited to, the following:

[1] Identification of the manuals and specific methodologies to be used for the analysis and design of foundations, retaining walls, and embankments

[2] Identification of the methods of analysis and all computer programs proposed for use

[3] For any spreadsheets or computer programs that are not included in the UDOT *Geotechnical Manual of Instruction* or in the RFP; submit background information, hand-calculated verification, and other pertinent data on the program

3.3.4.1.2 Construction Elements

For each of the following construction elements, the following items shall be submitted no later than:

- With the first design submittal (such as the 50% level, or the Level 2) for the element, <u>and</u>
- Two weeks prior to issuing the RFC drawings for the element.

(a) ***Foundations***

[i] Copies of the boring logs and laboratory test data performed for the structure

[ii] Pile design calculations, including the required pile type, size, and length to achieve the required pile capacities (including any effects of liquefaction or downdrag); pile group analyses (program output where appropriate) for vertical, lateral, and uplift capacity; estimated pile group settlement; and a listing of all design parameters and assumptions; and site-specific description of subsurface conditions relative to each bridge

[iii] Calculations of embankment settlement (magnitude and time rate) and downdrag forces on the pile, depths to zero or negligible settlement, and the proposed means to mitigate the downdrag

[iv] Thorough evaluation of the potential for liquefaction and lateral spreading for each bridge site, including a geologic study of the site and surrounding area, and the proposed means to mitigate the impacts, as appropriate

[v] Draft foundation recommendations memo from the Design-Builder's Geotechnical Engineer, summarizing the items listed above. The final foundation

recommendations memo shall be submitted to the Department for approval not later than 3 calendar days prior to issuing the RFC drawings.

(b) ***Retaining Walls***

[i] Wall design calculations, including the results of the global and internal stability analyses; analyses of total, differential, and secondary settlements; a listing of all design parameters and assumptions; and, for MSE walls, calculations for analyses of sliding, overturning, and bearing pressure for live and seismic loading

[ii] The general description of the sequence and schedule of wall construction

[iii] Thorough evaluation of the potential for liquefaction and lateral spreading for each wall over 10 feet in height, including a geologic study of the site and surrounding area, and the proposed means to mitigate the impacts, as appropriate

(c) ***Embankments***

[i] The results of the slope stability analyses, including external loading from live and seismic loading, the recommended side-slopes of all embankments, and a listing of all design parameters and assumptions

[ii] The results of settlement analyses, including predictions of the magnitude and duration of primary, secondary, and post-construction settlements

[iii] The type(s), location(s), and pertinent physical and chemical properties of lightweight fill, if proposed

[iv] The results of the liquefaction analyses and the proposed methods of mitigation for any location deemed necessary to protect the integrity of bridges and walls

[v] The locations, depth, and spacing of other mitigation measures, if proposed for use

[vi] The proposed method(s) of protecting and abandoning utilities

(d) ***Instrumentation***

[i] A site plan showing the locations and types of the proposed instrumentation; the limits of the proposed construction; the locations of adjacent properties, structures, utilities; and other features that may be affected by the proposed construction

[ii] A table or other summary of the proposed instrumentation parameters, such as types, sizes, elevations, and frequencies of readings

[iii] Details of each instrument proposed for use

3.3.4.1.3 After Installation of the Instrumentation

Instruments and Monitoring

[i] As-built details of all instruments

[ii] Location plan for instruments

[iii] Monitoring reports

3.3.4.2 Construction Phase

General. Submit the following information to the Department:

(a) ***Materials.*** Compile information, including test data, on materials proposed for use in the Project.

(b) ***Foundations.***

[i] At least seven calendar days prior to driving piles, the results of wave equation analysis of piles (WEAP) on the hammer-pile-soil systems proposed for the Project and the proposed method of installation. Perform WEAP for all hammers proposed for use and for each bridge foundation.

[ii] At least seven calendar days prior to driving piles, required qualifications (see Section 3.3.3.1.7 CQO's Pile Inspector and the Design-Builder's Geotechnical Engineer) of each pile inspector.

[iii] At least three calendar days before any PDA or field load tests, notification to the Design-Builder's Geotechnical Engineer and the Department, and adequate information to ensure that the estimated load-carrying capacities have been obtained by appropriate factors of safety.

[iv] Where pile load tests are to be performed: At least seven calendar days prior to driving load-test piles, submit proposed configuration for pile load tests, including the structural calculations for the reaction beam, piles, and connections; calibration results for the loading jack and gages before the tests; and other pertinent details.

[v] At the completion of pile driving for each foundation, and prior to conducting the post-pile Quality Check Point (required before filling the piles with concrete):

- All PDA results performed for the pile group, and driving criteria
- Complete driving records for all piles driven for the group, including all pile plumbness and location measurements

[vi] If the Design-Builder proposes to stop driving piles above the required tip shown on the plans, in addition to those requirements described above, prior to conducting the post-pile QCP, the Geotechnical Engineer shall prepare an evaluation memo presenting all pertinent information with a statement that the proposed change in pile tip elevation will not detrimentally affect the performance of the foundations.

(c) ***Settlement.*** Before releasing any fill surcharges and proceeding with any related construction prepare, compile, and submit to the Department the settlement data, including proof that all settlements necessary to meet the warranty requirements, together with any approved and accepted Design-Builder's criteria, have occurred. The Department will be given a minimum of 24 hours for review.

Where embankments or walls are to be constructed in the vicinity of existing structures, develop and implement a program to conduct preconstruction surveys and monitor the settlement of the structures as follows:

- Estimate settlement influence zone from embankment loads and other significant loads that could possibly extend beyond the ROW. The settlement limit for the zone will be site specific depending on the sensitivity of the adjacent structures. For routine projects, the zone will be inclusive of all settlements that exceed approximately ½ inch.

- Conduct site reconnaissance of adjacent properties during site investigations to determine the sensitivities of adjacent structures to settlement.
- Provide the Department with either zone of settlement influence, or site-specific properties that are anticipated to be adversely effected by settlement.
- Conduct preconstruction survey of each structure determined to have even a slight level of susceptibility to settlement. Conduct the surveys in accordance with the special provision, Preconstruction Survey.
- Provide the Department with recommendations to mitigate or take property affected by settlement.
- Modify the special provision for monitoring settlement of adjacent structures, as necessary for specific elements of the Project.

(d) ***MSE Retaining Walls***

[i] The results of corrosivity testing of the backfill soils (pH, resistivity, and chlorides)

[ii] The submittals required for MSE walls presented in Standard Specification-(DB) 02831 through 02837.

(e) ***Embankments***

[i] Source and material properties of all fills proposed for use, including the results of gradation tests (ASTM D422) and plasticity tests (ASTM D421)

[ii] Compaction test results

[iii] Field settlement results, as plots of the measured settlement of each instrument and embankment height-versus-time, and (if pore pressure readings were taken in this area) pore pressure readings on the plots (converted to head of water in feet)

(f) ***Temporary Excavations***

[i] Locations of all structures supporting temporary excavations

(g) The Design-Builder is responsible for any and all vibration-related damages to existing structures located in the vicinity of construction-related activities. Where vibration-inducing construction activities are to be performed in the vicinity of existing structures, develop and implement a program to conduct preconstruction surveys, and to monitor and control vibrations as follows:

- Conduct site reconnaissance of adjacent properties during site investigations to determine the sensitivities of adjacent structures to vibrations.
- Provide the Department with site-specific properties that are anticipated to be adversely affected by vibrations.
- Conduct preconstruction survey of each structure determined to have even a slight level of susceptibility to vibrations. Conduct the surveys in accordance with Standard Specification-(DB) 02325 (Preconstruction Survey).
- Provide the Department with recommendations to mitigate or take property affected by vibrations.
- Modify Special Provision 02327S (Vibration Control During Construction Related Activities) for vibration control during construction-related activities,

as necessary for specific elements of the Project. The special provision will place vibration limits on the Design-Builder's operations at the ROW line, or other line designated for the Project. Appropriate limits will be set for high frequency dynamic loads, such as compactors and single high-impact loads such as pile driving hammers.

- Measurement of vibrations will be included in Special Provision 02327S (Vibration Control During Construction Related Activities). Locations of measurements will be defined. For most cases, the Design-Builder will be required to measure the vibrations as required in the special provision. UDOT will provide occasional side-by side QA vibration measurements

3.4 STRUCTURES

General Scope. Design and construct the required structures in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals. This specification covers the design and construction of temporary structures; permanent bridges; retaining walls; barriers; sign structures, luminaires, and traffic signals; and box culvert drainage structures.

Bridges. Design and construct the following bridges:

- SR-201 over Redwood Road (New Construction)
- SR-201 WB Collector over Redwood Road (New Construction)
- Bangerter Highway over SR-201 (Widening and Rehabilitation)

Warranty. Warrant structures work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the structures during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.4.1 REFERENCED STANDARDS AND PUBLICATIONS

3.4.1.1 Referenced Standards

General. Design and construct all components of the temporary and permanent structures in accordance with the relevant requirements of the standards listed by priority in Table III-5, and as needed for construction staging and a complete and operational highway system.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-5
REFERENCED STANDARDS FOR STRUCTURES

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date**	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a		Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*Load and Resistance Factor Design (LRFD) Bridge Design Specifications Standard (English Units),* 2nd edition	LRFD-US-2	1998; Int's to 2003	n/a
4	AASHTO	*Standard Specifications for Highway Bridges, 17th Edition*	HB-17	2002	n/a
5	AASHTO	*Guide Specifications for Horizontally Curved Steel Girder Highway Bridges*	GHC-4	2003	n/a
6	AASHTO	*A Policy on Geometric Design of Highways and Streets, 4th Edition*	GDHS-4	2001	"Green Book"
7	AASHTO	*Guide Specifications for Design and Construction of Segmental Concrete Bridges,* 2nd edition	GSCB-2	1999	n/a
8	AASHTO	*Guide Specifications for Design of Pedestrian Bridges*	GSDPB	1997	n/a
9	AASHTO	*Guide Design Specifications for Bridge Temporary Works*	GSBTW	1995	n/a
10	AASHTO	*Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*	LTS-4	2001, 2002 Interim	n/a
11	AASHTO / AWS	*Bridge Welding Code, D1.5M / D1.5:2002*	BWC-4	2002	n/a
12	AREMA	*Manual of Recommended Practice*	n/a	2002	n/a

** If no date is given, the most current version as of 10-17-03 is specified*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*
ANSI = American National Standards Institute
AWS = American Welding Society
UPRR = Union Pacific Railroad

3.4.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-6 as supplementary guidelines for the design and construction of the structures. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-6
REFERENCED PUBLICATIONS FOR STRUCTURES

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*Guide Specifications for Fatigue Design of Steel Bridges*	n/a	1989, Int's to 1995	n/a
AASHTO	*Guide Specifications for Thermal Effects on Concrete Bridge Superstructures*	GSCBS	1989	n/a
AASHTO	*Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members*	n/a	1978, Int's to 1986	n/a
AASHTO	*Guide Specifications for Structural Design of Sound Barriers*	GSSB	1989 (2002 Interim)	n/a
AASHTO	*Manual for Condition Evaluation of Bridges*	MCEB-2	2000, 2001 Interim	n/a
AASHTO	*Guide Specifications for Seismic Isolation Design*	GSID-2	1999, 2000 Interim	n/a
ATC	*Improved Seismic Design Criteria for California Bridges*	ATC-32	June 1996	n/a
FHWA	*Drilled Shafts*	RD-92-042	1988	n/a
FHWA	*Drilled Shafts for Bridge Foundations*	RD-92-004	1993	n/a
FHWA	*Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, Demonstration Project 82, Ground Improvement*	FHWA NHI-00-043	Mar. 2001	n/a
FHWA	*Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes*	FHWA NHI-00-044	Sept 2000	n/a
UDOT Engin-eering Services Division	*Life Cycle Cost Analysis, Value Engineering*	n/a	(not dated)	n/a
UDOT Struc-tures Division	*Design and Detailing Standards*	n/a	April 1996, latest ed.	n/a

ATC = Applied Technology Council
CalTrans = California Department of Transportation

3.4.2 PERFORMANCE REQUIREMENTS

Design and construct all structural components necessary to provide a complete and functional system that meets the following performance requirements:

- Provide functionality, durability, ease of maintenance, safety and aesthetics.
- Ensure the long life of this facility by designing all permanent structures for a 75-year service life.
- Comply with seismic stability requirements.
- Meet the traffic performance requirements as stated in Section 3.2 (Roadway).
- Limit structural settlements in accordance with Section 3.3 (Geotechnical).

- Provide a surface smoothness for bridge decks and approach slabs in accordance with Standard Specification-(DB) 01452 (Profilograph).

3.4.3 DESIGN AND CONSTRUCTION CRITERIA

3.4.3.1 Materials (General)

3.4.3.1.1 Concrete

For concrete in structural components, meet the following minimum requirements:

Type and Class.

Cast-in-place concrete. Class AA(AE). See Section 03310 (Structural Concrete) of the Standard Specifications (DB).

Precast concrete. Class AA(AE). See Section 03310 (Structural Concrete) of the Standard Specifications (DB). Type III cement may be used.

Prestressed Concrete. Class 4A(AE). See Section 03412 (Prestressed Concrete) of the Standard Specifications (DB).

Bridge Decks & Approach Slabs. Class 3A(AE). See Section 03412 (Structural Concrete) of the Standard Specifications (DB).

Filling postholes of post-and-panel noise walls. Class B(AE)

Piles, drilled caissons, and slope protection. Class A(AE)

All other bridge, box culvert, wall, and barrier components. Class AA(AE)

Chloride Ion Penetrability. Concrete for cast-in-place decks will exhibit low chloride ion penetrability (100-1,000 coulombs) when tested in accordance with ASTM C1202, Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration. Testing will be performed at 56 days. If the test results do not meet the requirements, an overlay will be required. The requirement for low chloride ion penetrability in bridge decks is not necessary if an initial bridge deck overlay is used.

Lightweight Concrete Aggregate. Furnace-surface-sealed and coarse nonreactive per AASHTO M 195.

Strength.

Minimum specified concrete strengths. Sections 02861 (Precast Retaining/Noise Walls), 03055 (Portland Cement Concrete), 03310 (Structural Concrete) and 03412 (Prestressed Concrete) of the Standard Specifications (DB).

Maximum specified concrete strengths.

Cast-in-place: $f'c = 5$ ksi

Precast: $f'c = 8.5$ ksi

Lightweight: $f'c = 5$ ksi

3.4.3.1.2 Prestressing Steel

For prestressing steel in structural components, meet the following requirements for minimum spacing of prestressing steel strands:

- For 0.6-inch strands: 2 inches
- For 0.5-inch strands: 1.75 inches

Prestressing tendons. AASHTO M203 Grade 270 from Precast/Prestressed Concrete Institute (PCI) certified plants.

3.4.3.1.3 Post-tensioning Steel

For post-tensioning steel in structural components, provide corrosion protection consisting of grout-filled galvanized or nonmetallic ducts. Use grout that contains a minimum of 5% silica fume by weight of cementicious material.

3.4.3.1.4 Reinforcing Steel

For reinforcing bars in structural components, use English sizes and meet the following requirements:

- Use reinforcing steel conforming to ASTM Designation A615 Grade 60 (Fy=60Ksi), except as noted below,
- For substructure elements, including internal bent caps where plastic moment capacity is required by design, use low-alloy steel deformed bars conforming to ASTM Designation A706,
- Hot-dip galvanize after fabrication or epoxy-coat per Section 03211 (Reinforcing Steel and Welded Wire) of the Standard Specifications (DB) except for bars used in caissons or piles,
- For minimum concrete cover, comply with AASHTO LRFD Bridge Design Specifications, except as noted. Use 2 inches minimum cover for concrete exposed to weather. Use 2-1/2 inches minimum cover to top bars in decks that do not use an initial deck overlay.

3.4.3.1.5 Structural Steel

General. For structural steel, use AASHTO M270, Grade 36, Grade 50, or Grade 70 and paint in accordance with Section 05120 (Structural Steel) of the Standard Specifications (DB). Over a stream with sufficient clearance that the girders can air dry from any water spray or high-water events, steel may be AASHTO M270, Grade 50W or Grade 70W.

Splices. The maximum change in thickness of any web or flange plate at any splice is a factor of two.

Welded Plate Girders. Use the welding details and requirements shown on UDOT Structures Division *Design and Detailing Standards* Standard Drawing, "Steel Details". When using unpainted weathering steel, paint girder ends and provide drip plates at all deck expansion joints and abutments, and paint expansion bearings.

Steel Plate Size Parameters.

Provide the following minimum plate dimensions:

- Thickness of any steel girder flange plate: ¾ inch
- Thickness of any steel plate or shape to which shear studs are welded: ½ inch
- Thickness of any girder stiffener or web plate: 7/16-inch
- Minimum width of any girder flange: 10 inches
- Bottom flange of steel plate girders: Constant width

Shear Studs and Connectors. Shear connectors shall penetrate at least 3 inches into the slab and shall be not less than 3 inches from the top of the slab. Do not place shear studs on splice plates except to comply with AASHTO minimum spacing requirements. Extend shear studs the full length of the girders and support diaphragms to assist in transferring seismic forces to the supports.

Fatigue. Do not use cover plates, pins, or hangers.

Field Welds. Do not field-weld to girders without Department approval, except for bearing sole plates as specified by UDOT standards.

Diaphragms. Provide steel diaphragms at the centerline bearing of abutments.

Bolts. Use direct-tension indicator washers for structural steel field splices. Follow Standard Specification (DB) 05120 (Structural Steel).

Miscellaneous Steel Items. Galvanize all miscellaneous steel items permanently cast into structural concrete elements.

3.4.3.2 Design (General)

3.4.3.2.1 General

Design structures in accordance with AASHTO *LRFD Bridge Design Specifications*, except as otherwise noted herein.

Units of Measure. Show only English units on the plans.

Retaining Walls. In all retaining wall designs, address internal stability, external stability, liquefaction, and seismic loading.

3.4.3.2.2 Loads and Forces

Determine all structure loads and forces in accordance with the AASHTO *Load and Resistance Factor Design (LRFD) Bridge Design Specifications*, or the AASHTO design specification applicable to the structure type. (In addition, structures adjacent to or over railroad tracks shall be designed to comply with AREMA and UPRR-specific requirements.)

Live Loads. HL-93.

Dead Loads. Add a unit dead load of 35 pounds per square foot (psf) to all bridge structures.

Load Rating. Load rate all bridges using methods described in the AASHTO *Manual for Condition Evaluation of Bridges*. The final inventory load rating shall meet or exceed HS-25. Provide both inventory and operating ratings to the Department.

Uplift. Proportion bridge spans to avoid uplift at supports due to non-seismic loads.

Thermal Forces. Design for moderate-climate temperature ranges in accordance with AASHTO *LRFD Bridge Design Specifications*.

Earthquake Response. Design all new bridges for seismic forces resulting from the earthquake response corresponding to 10% exceedence in 250 years. See Section 3.3.3.3 (Design Accelerations) for horizontal ground accelerations. Design all retaining walls in accordance with requirements in Section 3.3.3.2 (Retaining Walls and Earth Embankments). In all cases, design retaining wall panel connections to not fail during a seismic event corresponding to 10% exceedence in 250 years.

3.4.3.2.3 Widening and Rehabilitation of Structure F-522

The following requirements apply to the widening and rehabilitation of Structure F-522, Bangerter Highway over SR-201 South:

- Use similar girder type for the widened sections as was used in the existing bridge.
- Maintain the relative stiffness between new and existing bridge sections.
- Make the widened sections of the bent shall be aesthetically consistent with the existing bent.
- Use service load design according to AASHTO *Standard Specifications for Highway Bridges* and HS-20 live load.
- Design the widened bridge (complete bridge after widening) for seismic forces resulting from the earthquake response corresponding to 10% exceedence in 50 years (A = 0.27g). This may require retrofitting of the existing bridge.
- Provide a polymer deck overlay on the widened bridge sections that complies with Standard Specification-(DB) 03371. Tie the new overlay into the existing overlay at the interface between the new and existing sections of the deck.
- Reseal deck to approach slab and approach slab to pavement joints.
- Fill voids under the approach slabs and jack the approach slabs as necessary to meet project requirements.
- Reseal all slope paving joints.

3.4.3.2.4 UDOT Structure Numbers

Obtain from the UDOT Structures Division a UDOT structure number for each permanent bridge, retaining wall, overhead sign structure, and major drainage structure such as a box culvert or headwall. Modifications to existing structures also require a new UDOT drawing number. Cast the structure number into the structure concrete in accordance with standard UDOT details.

3.4.3.2.5 Plan Organization and Content.

Provide structure design plans that comply with the following:

- Provide structure design plans that include all design details necessary to construct the structure. This includes but is not limited to conduit, inserts and attachments, the location of lighting fixtures attached to the structure, and approach slab drains. For structures where design details are developed and provided by a supplier (such as MSE retaining walls and structural plate arches), include the supplier's design details in the final structure plan set.

- Use the standard UDOT Structures Division border and title block on all plan sheets. Replace the State Bridge Engineer signature with the signature of the Design-Builder's Structure Design Manager. Supplier-detailed drawings that are included in the final plan set may use the supplier's border and title block
- Provide Situation and Layout plan sheets for all bridges, box culverts and rigid frame drainage structures, retaining walls, and sound walls. Provide Situation and Layout plan sheets that meet the requirements in the "Situation and Layout Sheet Requirement Check List" included in the *UDOT Structures Division Design and Detailing Standards*.
- When corridor standard plans are used to replace details typically included in the structure plan set, include the applicable corridor standard plan sheets with each structure plan set and list them in the Index of Sheets on the Situation and Layout Sheet.
- Include in the bridge plan set a soil boring location plan and the soil boring logs used in the geotechnical design of the bridge.
- Organize the plan sheets in the bridge plan set in the general order of construction.
- Include in the final retaining wall plan set a location plan showing the location of all retaining walls pertaining to the structure number. Include for each individual retaining wall the situation and layout plans prepared by the designer and the detailed drawings prepared by the wall supplier.

3.4.3.2.6 Design Calculations

Organize the final design calculations and independent review calculations as follows:

- Title page with bridge number, bridge name, "Design Calculations" or "Independent Review Calculations," designer's name and PE Stamp
- Table of contents
- Brief statement that the structure is designed according to AASHTO LRFD Specifications or other applicable specification.
- List of any deviations from project design criteria.
- Use standard letter-sized calculation sheets for handwritten calculations and sketches.
- Use standard letter-sized paper for computer generated calculations.
- Number all pages with a numbering scheme that covers the entire set of calculations.
- Identify the appropriate code references as necessary.
- Reference computer programs and indicate appropriate code section.
- Computer documentation includes: program name, vendor, version and release date.
- Reference to software verification of spreadsheets used.
- Bridge Load Rating summary and calculations.

3.4.3.3 Aesthetics

See Section 3.12 (Landscape and Aesthetics) for aesthetic requirements for structures.

3.4.3.4 Bridges

3.4.3.4.1 Bridge Geometry

Slopes. Limit the steepness of all fill and cut slopes adjacent to bridges to 1.5:1 (horizontal:vertical). Slopes steeper than 2:1 require concrete slope protection. Place a one foot level area at the top of slopes in front of abutments of new bridges to facilitate inspection access.

Vertical Clearance. Provide the following minimum vertical clearances:

- 16.50 feet for all highway grade separations
- 23.50 ft for bridges over railroads
- 17.50 ft for pedestrian structures

Horizontal Clearance. Provide a minimum distance of one foot between the back face of fixed roadway barriers and structural elements such as bent caps, columns, abutments and retaining walls. Between the back face of non-fixed or flexible roadway barrier or guardrail and structural elements, provide a minimum distance of one foot plus the expected barrier or guardrail deflection, or two feet, whichever is greater.

Horizontally Curved Bridges. Design horizontally curved bridges in accordance with the AASHTO *Guide Specifications for Horizontally Curved Highway Bridges*. Use HS-25 live loading. Where practical, locate supports radially for curved structures.

Skew. Where practical, the maximum bridge skew should be less than 30 degrees. Bridges skewed more than 45 degrees require either a finite element or grillage method of analysis.

Bridge Cross-Sections. For facilities carried and crossed, provide the full cross-sections as shown in the environmental document. Where a bridge includes a median parapet, provide a longitudinal joint in the center of the median parapet to separate the cross-section into two bridges.

3.4.3.4.2 Bridge Type

Type. The following bridge types are considered acceptable for this project:

- Pretensioned concrete I-girders with a cast-in-place concrete deck
- Structural steel I-girders with a cast-in-place concrete deck.

Other bridge types may be used, but only if approved in writing by the Department. The Department reserves the right to accept or reject proposed alternate bridge types. The Department will not consider experimental bridge types, timber bridges, or masonry bridges. For the Department to consider alternate bridge types, supply information that demonstrates the following:

- The bridge type is accepted for general use by other transportation authorities. Include project contact information.
- The bridge type and components will perform well under the environmental conditions of the Project, including frequent freeze-thaw cycles and heavy road salt use.
- The value to the Department for using the proposed alternate bridge type.
- The bridge deck can be completely removed and replaced with minimal impact to cross-traffic.

Corrosion. The Department uses large quantities of salt and de-icing chemicals in the winter, which accelerate corrosion of bridge structures. Address this concern in bridge design and construction.

Expansion Joints. Incorporate as few deck expansion joints as possible. Make bridges continuous over supports, and use integral or semi-integral abutments wherever possible. When expansion joints are required, locate them at supports.

3.4.3.4.3 Seismic Requirements

Design and Analysis. Perform all seismic design of new bridges in accordance with AASHTO *LRFD Bridge Design Specifications*, as modified herein. Follow the requirements for Seismic Zone 4. Use the multimode spectral analysis method for all bridges except single-span bridges. For single-span bridges without integral abutments, use the single-mode spectral analysis method. Determine earthquake loading according to Section 3.4.3.2.2 (Loads and Forces). For Extreme Event Load Combination I, use a load factor of 0.50 for live load applied simultaneously with seismic loads (Y_{eq}). Provide adequate gap between barriers and structural elements such as columns and retaining walls to accommodate the design seismic movement.

Seat Widths. Provide minimum bridge seat widths for expansion bearings that accommodate the larger of (1) the displacements predicted by the mode analysis, and (2) the minimum seat width requirements of AASHTO *LRFD Bridge Design Specifications*, Section 4.7.4.4.

Seismic Strategy. Develop a seismic strategy for each bridge type. Include descriptions of expected damage, the locations of plastic hinging, the redistribution of forces, the mobilization of backfills, and the function of bearings, as appropriate.

Moment and Shear Connections. Provide adequate moment and shear connections in accordance with the joint shear requirements of the ATC-32. Design the vertical acceleration of cantilever and outrigger supports in accordance with ATC-32.

3.4.3.4.4 Inspection Access

General. Make all bridge superstructures, expansion joints, and bearings accessible for long-term inspection. Make open-framed superstructures accessible with walkways or ladders, or by use of a snooper truck. Box girders with an inside depth of 5 feet or more require access through the box girder for interior inspection. In all box girders, provide an opening that is at least 3 feet by 3 feet, has a hinged metal door that swings into the box girder, and has a padlock. Where required, provide a method of ladder support for inspection access.

3.4.3.4.5 Bridge Components

Parapets and Pedestrian Fencing. Provide bridge parapets that are consistent with Section 3.2 (Roadway). On bridges that carry pedestrian traffic, provide fencing using details from the UDOT Structures Division's *Design and Detailing Standards*, Standard Drawing FG6 "Chain Link Fence." The fence may be upgraded as a betterment to the city(ies). Provide one three-inch and one 1-1/2 inch spare conduit in each outside parapet on all urban bridges.

Approach Slabs. At the end of each bridge, provide an approach slab that is at least 25 feet long (measured along the control line of the bridge), is the same width as the bridge deck, and extends over the abutment wingwalls. Make allowance for settlement between the approach slab and wingwall by using details typically used on UDOT-designed structure projects, which provides a minimum five-inch gap between the top of the wingwall and the approach slab. Provide for expansion and contraction at the approach slab to pavement interface. Use a sleeper slab and a joint type that accommodates the maximum anticipated movement. For skews at the approach slab to pavement interface greater than 20 degrees, provide for a stepped joint or other means of

preventing lateral movement of the approach slab due to expansion and contraction. When a stepped joint is used, match step widths to those defined by Standard Drawing PV-2.

Decks. Use deck slab concrete that exhibits low chloride ion penetrability, as defined in Section 3.4.3.1.1 (Concrete). Provide a minimum deck thickness of 8 inches. Include a minimum depth of ½ inch as a sacrificial wearing surface or use an initial bridge deck overlay. Do not use open or filled grating decks, orthotropic decks, or precast deck slabs. Do not use pretensioned, precast concrete deck panels or stay-in-place metal deck forms. Design bridge decks according to AASHTO *LRFD Bridge Design Specifications*. Limit top and bottom reinforcement to at least #5 at 9 inches transversely and #5 at 12 inches longitudinally. Where weathering steel is used for bridge girders, provide a waterproofing membrane. The interface between the deck and approach slab requires a formed construction joint. Design the superstructure to allow for future deck replacement with minimal impact to cross-traffic and without adversely affecting the superstructure. Provide a complete and detailed deck replacement plan for each bridge type that allows for the deck to be completely removed and replaced with minimal impacts to cross-street traffic and without shoring the girders.

Deck Drains. Paint drain pipes to match the color of the adjacent structural members.

Deck Expansion Joints. Where possible, avoid or minimize expansion joints. Eliminate expansion joints in bridges shorter than 360 feet, unless the bridge is skewed more than 30 degrees or located on a sharp curve. Use only strip seal, modular, or steel finger joints. In the design and location of joints, provide for maintenance accessibility and future replacement. Do not use aluminum joints. Design modular joints for high-cycle fatigue loading.

Overlays. Provide an initial bridge deck overlay when using segmental systems and concrete box girders. Acceptable overlay types include dense-bonded low-slump concrete, latex-modified concrete, or silica fume concrete. Do not use thin-bonded overlays such as epoxy or polyester. Do not consider concrete overlays as part of the structural component of the deck. Extend overlays to include approach slabs.

Superstructures. Meet the requirements for redundancy and fatigue in AASHTO *LRFD Bridge Design Specifications*. Limit live load deflections to 1/1000 of span length for bridges that carry pedestrian traffic and 1/800 for all other bridges. Do not use steel box girders with an inside depth less than 5 feet as fracture-critical members.

Provide sufficient internal post-tensioning for segmental box girders to support dead loads for a design seismic event using ultimate capacity.

For graffiti protection, provide flange guards to all steel and concrete exterior girders that are accessible without a ladder to prevent pedestrian access along the exterior girders. Install steel plate flange guards to exterior steel plate girders where necessary. Provide steel guard plates or concrete guard blocks to the tops of exterior concrete girder bottom flanges flatter than 45 degrees.

Utilities. Do not place utilities on structures unless no reasonable alternative exists. Utilities placed on structures require the approval of the Department and a Utah-licensed Professional Engineer. If utilities must be placed on a structure, hide them from view. Attaching utilities to the visible exterior of the superstructure is not permitted.

Bearings. Design and locate bearings to provide for maintenance accessibility and future replacement. Elastomeric bearings are the preferred type. For sole plates, provide a minimum thickness of ¾-inch. At expansion bearings, do not permit the edge of the sole plate to slide past the edge of the elastomeric pad. Provide at least 6 inches of cover between anchor bolts and the edge of the concrete pedestal. Reinforce pedestals taller than 3 inches. Seismic isolation

bearings conforming to AASHTO *Guide Specifications for Seismic Isolation Design* are acceptable if their use does not increase the number of joints required on a structure.

Pier Caps. Make the type of pier cap consistent with the bridge system and aesthetic strategy proposed for the Project. The Department will accept drop caps or internal caps, but the Department prefers integral caps when concrete box section systems are used. The use of integral steel pier caps is not permitted without Department approval. The Department will only approve the use of integral steel pier caps when no other alternative exists. If used, provide interior inspection access. Protect pier caps and columns from weathering steel staining during construction.

Abutments. Unless a bridge is skewed more than 30 degrees or is on a sharp curve, use integral or semi-integral abutments for structures up to 360 feet long. Do not use MSE walls to support abutments. Use wingwalls at all abutments.

Slope Protection. Provide concrete slope protection for all bridges with spill-through abutments. Make slope protection consistent with the aesthetic strategy in Section 3.12 (Landscape and Aesthetics), and in conformance to details in the UDOT Structures Division *Design and Detailing Standards*, Standard Drawing , "Concrete Slope Protection."

Foundations. Use approved deep foundations as described in Section 3.3.3.1 (Foundations).

Drainage. See Section 3.5 (Drainage).

3.4.3.4.6 Maintenance Plan

General. Provide a maintenance plan for each bridge type used. Describe routine maintenance procedures as well as items specific to all components of the bridge type. Include a detailed list of all maintenance and rehabilitation work, and the number of times each procedure is anticipated over the 75-year structure life (itemized by the year in which the procedure is to be performed). Make the items on this maintenance list the same as that for life cycle costs.

3.4.3.5 Retaining Walls

3.4.3.5.1 Approved Wall Systems

The following wall systems are acceptable for use as permanent retaining walls on the project:

- Mechanically stabilized earth (MSE) walls
- Cast-in-place concrete retaining walls
- Soil nail walls

3.4.3.5.2 Other Wall Systems

The following wall systems are only acceptable when the approved wall systems will not meet design requirements and with prior written approval of the Department:

- Concrete cribwalls – not allowed within 50 feet of bridges.
- Wire Enclosed Riprap (Gabions) of limited height, stream banks only

The approved and other wall systems are acceptable, provided that it is demonstrated that the wall can accommodate the anticipated total and differential settlements over the life of the structure.

The use of binwalls or permanent wire-face wall systems is not permitted.

3.4.3.5.3 General

Slopes. Address slope maintenance above and below the wall in the retaining wall layout. At retaining wall ends, where possible, provide returns into the retained fill or cut. Where a minimum 15 feet of generally level terrain is not available between the wall and ROW line for maintenance, locate the wall adjacent to the ROW line.

Drainage. Consider surface and subsurface drainage in design and construction. Refer to Section 3.5 (Drainage.) Provide a system to intercept or prevent surface water from entering behind walls.

Pedestrian Protection. Where access is open to the public, provide a pedestrian railing or six-foot fence at the top of walls.

Retaining Walls at Abutments. Provide a minimum clear distance of 5 feet between precast wall panels and bridge abutments.

3.4.3.5.4 Seismic Requirements

See Section 3.4.3.2.2 (Loads and Forces) for seismic criteria.

3.4.3.5.5 Characteristics

MSE Walls. See Section 3.3.3.2 (Retaining Walls and Earth Embankments).

Cast-in-Place Concrete Walls. Design and construct cast-in-place concrete walls in accordance with AASHTO *LRFD Bridge Design Specifications*. Account for differential settlement in the construction joint spacing. The Department will accept the standard concrete retaining walls shown in the UDOT Structures Division *Design and Detailing Standards*, Standard Drawings. Account for global stability as described in Section 3.3.3.2 (Retaining Walls and Earth Embankments).

Soil Nail Walls. See Section 3.3.3.2 (Retaining Walls and Earth Embankments).

Concrete Cribwalls. May be used when other wall types will not meet design requirements. Provide concrete coping at top of wall.

Wire Enclosed Riprap (Gabion) walls. Acceptable for use adjacent to streams only when other wall types cannot meet all design requirements. Height is limited to 15 feet unless approved by the Department.

Temporary Retaining Walls. Bear sole responsibility for the type, material, performance, and safety of temporary retaining structures. Temporary structures supporting excavations or embankments such as sheeting or bracing shall be designed by a Registered Professional Engineer licensed in the State of Utah to meet all State and OSHA requirements. The Department reserves the right for oversight review of these structures.

3.4.3.6 Sound Walls

Design and construct sound walls in accordance with AASHTO *Guide Specifications for Structural Design of Sound Walls*. Sound walls shall be designed for an 80 mph wind with additional 30 mph gusts. Final tolerances shall be 0.25 inch in 10 feet for level and plumb. Height and grade changes shall satisfy the aesthetic guidelines in RFP Section 3.12 (Landscape and Aesthetics). The design of sound walls shall provide for adequate surface drainage. Wall types shall have been successfully used in geotechnically similar locations and environmental conditions.

3.4.3.6.1 Geometry

When placed behind barrier, sound walls shall be offset a minimum of 10 feet from the barrier; except across bridges, transitioning from bridges, or where it would be necessary to purchase right of way to meet this requirement.

3.4.3.6.2 Components

Panels. Panels shall be constructed of reinforced masonry blocks, bricks or concrete. Brick shall not come in contact with soil. Brick and masonry block shall have a cap. Panels may be cast-in-place or precast. Use full-height panels when using concrete panels. Panels on bridges shall be cast-in-place concrete and jointed from longitudinal structural elements of the bridge. Panel design and construction shall consider ease of replacement and/or repair.

Posts. Posts shall be reinforced concrete, prestressed pile or galvanized steel H-pile.

Foundations. Foundations shall be posts set in concrete, caissons or cast-in-place or precast reinforced concrete footings. The bottom of all spread footing foundations shall be placed a minimum of one meter below finished grade. Uncoated reinforcing steel may be used for caissons.

3.4.3.7 Sign, Signal and Lighting Structures

General. Design and construct sign, signal and lighting structures in accordance with UDOT Standard Drawings and AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2001*.

Clearance. Provide a minimum vertical clearance of 17.5 feet from the highest point of the road surface to the bottom of any sign panel.

Loadings. For loadings, consider the natural period of vibration from vortex shedding and upward wind pressures from passing trucks. Use Fatigue Category I for overhead sign structures, and lighting supports taller than 98 feet. Use Fatigue Category II for all other structures.

Material. For overhead sign structures use galvanized structural steel tubing.

Foundations. Use caissons to support overhead and cantilever sign structures. Only cast-in-place retaining walls may provide support for sign and lighting foundations. Isolate sign and lighting loads from all other wall systems.

Connections. Make connections with A325 bolts. Make shop splices and base connections with full-penetration butt welds. Galvanize all connection hardware. Strengthen structural tubing at electrical connection openings.

Bridge-Mounted Signs. Do not mount signs on bridges unless no alternative exists.

3.4.4 SUBMITTALS

Submit the following to UDOT:

3.4.4.1 Initial Project Submittals:

- List of computer software used in structural design
- Documentation of computer software verification
- Project structure design criteria

3.4.4.2 Review Submittals:

- Plans and special provisions
- Design checklists
- Documentation that QC/QA process is complete
- Documentation verifying completion of Independent Review
- Seismic Strategy Memos
- Foundation Recommendations Memos

3.4.4.3 Release For Construction:

- Sealed plans and special provisions
- Approved shop drawings
- Formwork and shoring drawings (Sealed)

3.4.4.4 Final Design Submittal:

- Sealed plans and specifications (hard copy and electronic files (pdf))
- Final design calculations
- Independent review calculations
- Bridge load ratings
- Maintenance Plan for each bridge type
- Seismic Strategy Memo for each bridge
- Detailed Deck Replacement Plan
- Electronic files of plans and specifications

3.4.4.5 End of Project Submittal

- Sealed As-Built Plans (Hard copy and electronic files)
- All field changed and field change calculations organized by structure
- Final approved shop drawings

3.5 DRAINAGE

General Scope. Design and construct a drainage system in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals.

Warranty. Warrant drainage work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the drainage and irrigation systems during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.5.1 REFERENCED STANDARDS AND PUBLICATIONS

3.5.1.1 Referenced Standards

General. Design and construct the drainage system in accordance with the relevant requirements of the standards listed by priority in Table III-7.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-7
REFERENCED STANDARDS FOR DRAINAGE

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, *SR-201* Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	UDOT	*Roadway Drainage Manual of Instruction*	n/a	Nov. 1998	n/a
5	AASHTO	*Model Drainage Manual*	n/a	1991	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.5.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-8 as supplementary guidelines for the design and construction of the drainage system. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-8
REFERENCED PUBLICATIONS FOR DRAINAGE

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*Improved Surface Drainage of Pavements*	NCHRP Project I-29	1993	n/a
AASHTO	*Roadside Design Guide*	S99-RSDG-3	2002	n/a
AASHTO	*Standard Specifications for Transportation Materials, 19th edition*	S99 HB 19, HM 191	1998	n/a
CalTrans	*Pumping Plant Design Manual*	n/a	Aug. 1990	n/a
FEMA	*Flood Plain Insurance Maps for Salt Lake County*	n/a	*	n/a
FHWA	*Design of Riprap Revetment*	HEC-11	1989	n/a
FHWA	*Design of Urban Highway Drainage*	n/a	Aug. 1979	n/a
FHWA	*Hydraulic Design of Highway Culverts*	HDS No. 5	91-85	n/a
FHWA	*Hydraulic Design of Improved Inlets for Culverts*	HEC-13	1981	n/a
FHWA	*Drainage of Highway Pavements*	HEC-12	1984	n/a
FHWA	*Urban Drainage Design Manual*	HEC-22	2001	n/a
UDOT	*Temporary Erosion and Sediment Control Manual*	n/a	April 1999	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
FEMA = Federal Emergency Management Agency

3.5.2 PERFORMANCE REQUIREMENTS

Design and construct the drainage system that meets the following performance requirements:

- Provide a Design-Life of 50 years on all drainage or irrigation facilities passing under the roadway, whether or not the system is being modified by the project drainage needs.
- Effectively and efficiently remove and treat stormwater from within the roadway corridor. Do not allow drainage from ROW to run onto private property.
- Address functionality, durability, ease of maintenance, safety, aesthetics, protection from vandalism, water quality, wetland impacts, and environmental compliance.
- Convey subsurface flows through the Project so they are not materially changed.
- Meet water quality requirements.
- Promote a safe environment for those who use and maintain the Project.

Size all drainage facilities designed for the conveyance of off-site flows for the lesser of 0.2 cubic feet per second (cfs) per acre or existing land use conditions as determined by an approved hydrologic model, disregarding artificial restrictions in the existing conveyance capacity of streams in the upstream watershed.

- Locate existing facilities and identify conduit and pipe materials.
- Design facilities to minimize impacts on existing facilities.

- Provide construction dewatering to keep excavation free from surface- and groundwater during all phases of construction.
- Control erosion as specified in Section 3.12 (Landscape and Aesthetics).
- Prepare hydrologic and hydraulic models and obtain Department approval of them before beginning any storm drainage construction. The storm drainage system may be subdivided as appropriate into the following basins: Redwood Road, I-215 Interchange, 3200 West, Bangerter Hwy. and surface streets. Modeling must include hydrologic flows, routing through the detention ponds and discharge facilities, pipe sizes and retention pond sizes.
- Accommodate current regional and municipal master plans for Salt Lake City, West Valley City, and Salt Lake County.
- Meet Section 404 permit requirements of the U.S. Army Corps of Engineers (COE).
- Prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the environmental documentation in Appendix E (Environmental Assessment), and UPDES permit requirements.
- Prepare and meet all Utah Pollution Discharge Elimination System (UPDES) permit requirements for surface water discharge and construction including flow, oil and grease monitoring, total suspended solids (TSS), pH, and other water quality monitoring requirements for stormwater discharge, groundwater and construction dewatering, and hydrostatic testing discharge.
- Obtain and comply with any additional required permits.

3.5.3 DESIGN AND CONSTRUCTION CRITERIA

3.5.3.1 Hydrology

Canal Crossings. Design canal crossings to pass the existing required capacities. The 3200 West frontage road crossings of the Brighton canal will be 4.5 foot by 12 foot concrete box culverts. The existing metal culvert will be removed and replaced with a concrete box where the frontage road ties into the industrial park access. No drainage from the UDOT right-of-way will enter the Brighton Canal. The cross sectional area of the pipe culvert passing the Brighton ditch at Redwood Road may be reduced by no more than 4 inches to allow for a liner. See the provisions of the agreement with the The Brighton Canal Company (Elliot Christensen (801) 321-7831) and UDOT in Appendix O (Utility and Third Party Agreements) and in Section 3.13 (Utility and Third Party Agreements).

Other Cross Drains. Design all other cross drains for the 50-year storm event. All cross drains will be evaluated whether or not they need to be modified for project drainage. For backwater and water surface computation, use the WSPRO or other Department-approved program. When using the rational method to determine storm flows, use the intensity-duration-frequency (IDF) curve data as provided in Appendix L (Hydrology Report). When using hydrograph routing procedures, use the precipitation events also in Appendix L.

Hydrologic Data. Refer to Appendix L for basic hydrologic data. Refer to the Drainage Report in the Environmental document for preliminary drainage basin delineation. (This information is provided as a basis of bid only, and is subject to the final evaluation and engineering of the Design-Builder.)

3.5.3.2 Pavement Drainage

Standards. Design all onsite storm drain items and appurtenances for a minimum 10-year storm event, unless otherwise stated herein. Design the pavement drainage and inlet design in accordance with HEC-12, *Drainage of Highway Pavements* (FHWA). To minimize hydroplaning, optimize roadway geometric component configurations as outlined in the National Council of Highway Research (NCHRP) Project I-29, *Improved Surface Drainage of Pavements*.

Sag Locations. Design the low point or sag of the vertical curve inlets in cross streets and mainlines for a 50-year storm.

Inlets. Provide bicycle-safe combination curb-and-grate for all inlets.

Concentrating Runoff. Construct the Project with curb-and-gutter or with concrete barriers with scuppers so that runoff will be concentrated to catch basins except on SR-201 and the interchange ramps. Do not allow this concentrated stormwater to discharge directly into wetlands or streams; instead, discharge concentrated discharges to a detention or retention basin, as discussed in Section 3.5.3.9 (Detention Basin -- Retention Basin).

UDWQ Construction Permit. If, at any time, stormwater is discharged from the ROW in excess of 5 cfs for the 10-year 24-hour-duration Type 2 storm, using the TR55 Basin Modeling Methods, obtain a water quality construction permit from the UDWQ. (Note that this is in addition to the UPDES Stormwater Permit for construction activities.)

Connecting Streets. Waterways across connecting streets are not allowed. Intercept runoff above connecting streets for sub-surface conveyance.

3.5.3.3 Pavement Runoff Treatment

General. Treat all runoff of stormwater generated from areas of pavement before discharging it to receiving streams, canals, or ditches. Treatment shall include detention and or retention basins in accordance with Section 3.5.3.9 (Detention Basin – Retention Basin).

3.5.3.4 Bridge Deck Drainage

General. Where spread limits are exceeded during the design storm, provide a deck drainage system that is compatible with the structural reinforcement, components, and aesthetics of the bridge.

Inlets. Use bicycle-safe grates in accordance with Section 3.5.3.6 (Storm Drain Systems). Bicycle-safe grates are not required on I-215 or SR-201 including their ramps.

Outfalls and Downspouts. Position outfalls to avoid corrosion of structural members, erosion of embankments, and splash on moving traffic and sidewalk areas below the bridge. Install downspout discharge not greater than 4 feet above the finish grade of surface; use galvanized steel pipe with a minimum diameter of 8 inches and a minimum wall thickness of ⅛ inch. Provide cleanouts for downspout systems.

3.5.3.5 Bridge Approach Drains

Intercepts. Intercept pavement drainage at both ends of bridges. For stormwater flowing toward the bridge, intercept it before the approach slab; for stormwater leaving a bridge, intercept it before it leaves the approach slab. Direct and disperse this water per the requirement of Section 3.5.3.4 (Bridge Deck Drainage).

Inlets and Catch Basins. Design the inlets and catch basins to conform to Section 3.5.3.6 (Storm Drain Systems).

3.5.3.6 Storm Drain Systems

General. Collect runoff falling within the limits of the Project and convey it to a storm drain

system for the 10-year storm of a duration causing maximum peak flow as provided in Appendix L (Hydrology Report). The storm drain system will consist of gutters, inlets, ditches, pipe and other appropriate fixtures designed to convey storm runoff to the receiving waters. Detention and retention ponds will be discussed in section 3.5.3.9 (Detention Basin – Retention Basin).

Configuration. Configure the storm drain system as provided in the Appendix L (Hydrology Report) and the environmental documentation.

Ponding. With the exception of planned retention and detention facilities, do not allow any ponding within the Planned ROW Limits as provided in the EA.

Design. Design storm drains using Manning's equation. Do not use pressure flow analysis methods to size the system. Plot the hydraulic grade line with the storm drain profile. Keep the hydraulic grade line 1 foot or more below the top of pavement. Use a design velocity of not less than 3 feet per second (fps), nor more than 15 fps. Do not decrease the storm drain size in the downstream direction. Do not allow sump or inverted siphon conditions.

Grates and Frames. To determine inlet efficiency, use HEC-12 procedures, P-1⅞-4 for bicycle-safe grates. Include bypass flows in the storm drain calculations. Where the cross street has been designed for less than a 10-year storm flow, size grates and frames intercepting the cross street flows to accommodate runoff. Use grates and frames that are structural carbon steel conforming to AASHTO M270 Grade 250, and hot-dip galvanized after fabrication in accordance with AASHTO M-111. Design inlets for HL-93 loading. Provide a method of embedding steel frame into concrete catch basin, gutter, or bridge deck. Do not use slotted drains. Use UDOT Standard Drawings GF1-GF12 for grates and frames.

Catch Basins. Design catch basins for HL-93 loadings. Provide manhole steps when the inside depth of the box exceeds 48 inches. At the Design-Builder's option, use precast catch basins. For head losses at junctions due to changes in flow direction and the collision and turbulence of flows in manholes, refer to Section 5.10 of *Design of Urban Highway Drainage* (FHWA, 1979). For manhole design, consider these losses as required by the manhole structure characteristics. For maximum catch basin spacing, use the lesser of that required by drainage flow spread width design or, as specified in Table III-11, by the diameter of the storm drain. On surface streets, use a maximum catch basin spacing of 350 feet.

TABLE III-11
MAXIMUM CATCH BASIN SPACING

Storm Drain Diameter	*Maximum Spacing*
18 to 36 inches	350 feet
36 to 48 inches	450 feet
Greater than 48 inches	500 feet

Connections to Existing Systems. Develop plans and specifications for connections with existing municipal storm drainage systems. Before making connections, obtain design approval as required from stakeholder agencies and the Department. Show the design flow on the hydraulic plan sheets at the location of entry to the system.

Planned Future Systems. Develop plans and specifications for providing stubs beyond the edge of the ROW for planned future storm drain connections. Coordinate the locations of these connections with the stakeholder agencies. Show the design flow on the hydraulic plan sheets at the location of entry to the system.

3.5.3.7 Pipes and Culverts

Design Life. For new pipes and culverts, use a design life of 50 years.

Existing Pipes and Culverts. Evaluate and replace or reline all existing drainage pipes and culverts under the proposed SR-201, Redwood Road, I-215, 3200 West and Bangerter alignments together with their ramps and frontage roads, to provide a 50-year design life and the required capacity. If an existing pipe is to be relined, maintain at least the same hydraulic capacity in the resulting facility as that of the existing structure. Use 0.011 as the lower limit for the Manning's 'n' value for pipe liner. Structurally evaluate any existing pipe that will remain to verify that any change in fill or loading placed on the pipe will not exceed design recommendations. Do not reuse or allow any existing irrigation or drainage pipe or culvert to remain that does not meet this criterion, whether or not its modification is required for project drainage.

Locating Facilities. Locate existing facilities as required in Appendix O (Utilities and Third Party Agreements) and Section 3.13 (Utilities and Third-Party Agreements). Identify conduit, pipe, and structure materials.

New Pipe. Determine the class of new pipe in accordance with UDOT pipe selection guidelines. On the plans, show the pipe choice as well as the material thickness, bedding details, end sections, and details. Specify a pipe size of at least 18 inches.

Discharge Velocity. Design discharge systems to prevent scour of existing channels and banks at the design flow.

3.5.3.8 Bridges and Cross Drains

Coordination. Coordinate all crossings located in FEMA-regulated floodplains with the Department.

Design. Provide end sections or head walls for cross drains. Perform hydraulic calculations for cross drains in accordance with FHWA publication HDS No. 5, *Hydraulic Design of Highway Culverts*. Show tailwater and headwater elevations on the computation sheets. Provide chamfer for all cross drains operating under inlet control at the design flow per HEC-13, *Hydraulic Design of Improved Inlets for Culverts*. Limit the allowable headwater by the minimum elevation of the following:

- Nondamaging to upstream property
- 18 inches below the edge of the shoulder
- Height-to-width ratio of 1.5:1
- Low point in the road grade
- Elevation where flow diverts around the culvert

Stream Alteration Permit. If necessary, prepare documents required to obtain a Stream Alteration Permit(s) consistent with the final bridge design and final stream-crossing configuration. See Appendix E (Environmental Information) for permit requirements.

Abutment and Outlet Protection for Rivers. Analyze bridge supports for scour according to HEC-18, *Evaluating Scour at Bridges*. Protect abutments with riprap according to HEC-18. Place the top of pier footings below scour depth; do not protect them with riprap. Analyze cross drains for outlet protection in accordance with HEC-11, *Design of Riprap Revetment*.

Abutment and Outlet Protection for Canals. Analyze bridge supports for scour according to HEC-18, *Evaluating Scour at Bridges*. Protect abutments wingwalls and cutoff walls. Place the top of pier footings below scour depth; do not protect them with riprap. Analyze cross drains for

outlet protection in accordance with HEC- 11, *Design of Riprap Revetmen*t. Provide wingwalls and concrete floors for all bridge crossings and box culvert crossings over canals.

3.5.3.9 Detention Basin – Retention Basin

General. Provide earthen retention basins and detention basins that:

- Accommodate two 50-year, 24 hour storms separated by one week for basins with no outfall. For retention basins with an outfall, retain a 50 year, 24 hour storm and detain (route) a 25 year, 24 hour storm occurring 12 hours following the initial event. For detention basins without retention, accommodate a 25 year, 24 hour storm and check for inundation in a 50 year storm. Use outfall flows equal to or less than the existing conditions.
- Have permeability losses no greater than $6x10^{-5}$ inches per second;
- Meet the standards of the West Valley City Storm Drain Master Plan (SDMP) and the Salt Lake City SDMP with an approved design based on the more stringent standards of West Valley City SDMP, Salt Lake City SDMP, or the UDOT manual of instruction for Roadway Drainage;
- Provide inlet and outlet structures meeting UDOT standards;
- Meet aesthetic requirements of the communities, including final landscaping, as established in the Public Involvement/CSS process;
- Are designed as a complete system from the inlet pipe(s), inlet/outlet structures, and detention basins to the outlet pipe and outfall into the receiving waters.
- Have a paved maintenance road provided for access to the detention or retention basins;
- Are approved by the UDOT;
- Are approved for aesthetics by West Valley City and Salt Lake City; and
- Provide water quality treatment, as required by the environmental documents in Appendix E (Environmental Information).

3.5.3.10 Irrigation and Agriculture Facilities

Schedule. Work on irrigation facilities in the off-season. The off-season will be coordinated with the owner of the facility but will be generally from October 15 until April 15.

Relocation. Relocate any and all affected irrigation facilities (pressurized systems, ditches, pipelines, turnouts, measurement structures, etc.) by replacing each to the same level of function as under original conditions, or better.

Existing Pipes and Culverts. Evaluate and replace or reline all existing irrigation pipes and culverts under the proposed SR-201, Redwood Road, I-215, 3200 West and Bangerter alignments together with their ramps and frontage roads, to provide a 50-year design life and the required capacity. If an existing pipe is to be relined, maintain at least the same hydraulic capacity in the resulting facility as that of the existing structure. Use 0.011 as the lower limit for the Manning's 'n' value for pipe liner. Structurally evaluate any existing pipe that will remain to verify that any change in fill or loading placed on the pipe will not exceed design recommendations. Do not reuse or allow any existing irrigation or drainage pipe or culvert to remain that does not meet this criterion, whether or not its modification is required for project irrigation.

Stormwater. Do not increase stormwater discharges to irrigation ditches or canals except with the written permission of the owner and UDOT.

Culvert Design. Unless hydraulically required, do not place end sections on irrigation culverts. Extend all irrigation culverts from one ROW boundary to the other.

Canal Crossings. Reconstruct or replace canal crossings to provide adequate road width. See Section 3.13 (Utilities and Third-Party Agreements) for special canal company requirements.

Wells and Springs. There may exist wells and springs in the project area that may be in conflict with this project. Provide a design to protect the flow quantity and quality of the wells and/or springs during and after construction. The DQO will review the design per Section 3.18 (Quality).

The Design-Builder is fully at risk to protect and maintain all wells and springs in quantity and quality of water during construction.

The Design-Builder will warrant springs or wells that are in conflict with the construction of this project for the duration of the warranty period.

3.5.3.11 Scour and Erosion Control

General. If warranted, provide scour protection to mitigate downstream erosion at all culvert outlets and stream crossings, based on a case-by-case analysis to determine outlet velocities.

Design. Calculate velocities for the greater of the 50-year storm flows or canal capacity except at stream or river crossings; at those locations calculate velocities for the 100-year storm. For velocities greater than 4 feet per second (fps) but less than 20 fps, provide loose riprap as necessary, based on UDOT design guidelines. For velocities from 20 fps to 30 fps, provide an energy dissipater.

Construction. For erosion control measures during construction, see Sections 3.5.3.3 (Pavement Runoff Treatment), Section 3.12 (Landscape and Aesthetics), and the UDOT *Temporary Erosion and Sediment Control Manual*.

3.5.3.12 Drainage Outfalls

Placement. Avoid riparian habitat disturbances as much as possible during the design and construction of all new drainage outfalls. Situate the new outfalls so that the outlet elevation is as close to the existing grade as possible. Avoid high outlet elevations that will necessitate the use of excessive amounts of riprap. Use energy dissipaters as appropriate. Do not allow the size and capacities of outfalls to the irrigation canals and the river to exceed those summarized in Section 3.5.3.1 (Hydrology) or the UPDES permits.

Construction Schedule. Provide the Department a schedule for storm drains outfall construction as part of the monthly plan updates. Include estimated dates for connecting to other municipalities' storm drains and new outfall construction.

3.5.3.13 Quality

General. Provide quality inspection, testing, and acceptance in accordance with Section 3.18 (Quality).

3.5.4 SUBMITTALS

Design Submittals. Submit all designs in accordance with Section 3.18 (Quality).

Design Plans. Include the types of pipe and culverts, locations of catch basins and cleanout boxes, a profile showing all invert elevations, pipe slopes, proposed finished grade elevations

above top of pipe, and the calculated hydraulic grade line. Submit design plans in accordance with Section 3.18 (Quality).

Operation and Maintenance Manual. Before system startup, provide ten copies of an operation and maintenance manual, approved by the Department. In the manual, address maintenance of drainage facilities, erosion repair and prevention, weed control, etc., and include plans of the basins and piping systems.

SWPPP. Prepare a SWPPP as required in the environmental documents and by the UDWQ. The SWPPP is to follow UDEQ standards and outline. Use UDOT and Salt Lake County BMPs.

Drainage Report. Prepare a drainage report that contains detailed calculations, computations, and computer printouts, as well as the rationale for selecting all drainage elements. In the report, define the contributing drainage basins, drainage parameters, hydrographs generated into the detention basins, detention basin sizing, discharge characteristics, discharge hydrographs, detention times, and other information necessary for the design of the drainage system. Include in the drainage report the signature and stamp of a Utah-licensed professional engineer. Submit ten copies of the drainage report with the Final Design Documents, and also submit an electronic copy of computer analysis input and output files; see the software requirements specified in Section 3.1.5 (Software).

Drainage Report Outline. Use the following outline to structure the drainage report.

DRAINAGE REPORT OUTLINE

1. Introduction
1.1 Project Location
1.2 Description of Improvements
1.3 Concept Plans
1.4 Discussion of Design-Builder's Drainage Investigations

2. On-Site Drainage System
2.1 Pavement Drainage
2.2 Median Drainage
2.3 Roadside Drainage
2.4 Pavement Runoff Treatment

3. Canal Crossings
3.1 Overview
3.2 Hydrology
3.3 Description of Structural Design
3.4 Hydraulics of Waterway Opening
3.5 Sediment Deposit and Scour Analysis
3.6 Bank Stabilization
3.7 Coordination with Local Agencies and COE 404 Permit Process

4. Design of Detention/Retention Facilities
4.1 Redwood Road Detention/Retention
4.2 I-215/SR-201 Interchange Detention/Retention
4.3 3200 West Detention/Retention
4.4 Bangerter Highway Detention/Retention

Exhibits
1. Area Maps
2. General Plan of Structures
3. Cross Sections of Watercourse
4. Photographs of Site
5. Special Details

Appendices
A. Detailed Calculations and Computer Runs
B. Water Surface Computer Runs

3.6 PAVEMENT

General Scope. Design and construct pavements for all roadways in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals. The pavement work includes SR-201 mainline, ramps, frontage roads, Redwood Road, Bangerter Highway, 3200 West, intersections, and driveways.

Paving Limit. The paving limits are shown in Appendix J (Conceptual Plans and Survey Information).

Warranty. Warrant pavement work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the pavement during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.6.1 REFERENCED STANDARDS AND PUBLICATIONS

3.6.1.1 Referenced Standards

General. Design and construct the pavement in accordance with the relevant requirements of the standards listed by priority in Table III-12.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-12
REFERENCED STANDARDS FOR PAVEMENTS

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	UDOT	*Pavement Management and Pavement Design Manual*	n/a	July 7, 2000	n/a
5	AASHTO	*Guide for Design of Pavement Structures*	S99-GDPS-4	1993	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.6.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-13 as supplementary guidelines for the design and construction of the pavements. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-13
REFERENCED PUBLICATIONS FOR PAVEMENTS

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
FHWA	*Guidelines for the Design of the Subsurface Drainage Systems for Highway Structural Sections*	FHWA RD-72-30	June 1972	n/a
TRB (SHRP)	*SHRP Distress Identification Manual for Long-Term Pavement Performance Project*	SHRP-P-338	1993	n/a
UDOT	*Geotechnical Manual of Instruction*	n/a	2002	n/a

SHRP = Strategic Highway Research Program

3.6.2 PERFORMANCE REQUIREMENTS

Perform analyses and prepare a design using the criteria specified within this Section, and produce pavement that meets the following performance requirements:

- Provide a pavement Design-Life of 40 years for portland cement concrete pavements (PCCP) and 20 years for asphaltic concrete (AC) pavement.
- Provide a durable, long-lasting pavement system with the specified structural capacity; skid resistance, and superior ride quality.
- Include pavement-to-structure transition areas as a part of ride quality.
- Minimize pavement-to-structure transition deviations.
- Provide bridge pavement approach slabs.
- Comprise materials that meet Standard Specification (DB) requirements as provided.
- Reduce the variability of entrained air within PCC.
- Provide drainable pavement sections.
- Provide pavements with no identifiable distress (including, but not limited to, blowups, faulting, cracking, scaling, popouts, spalling, surface texture, and edge slump).

Corrective Action. Evaluate these distress parameters, in coordination with the Department, during construction and at five (5) years after Substantial Completion of the Project. If corrective action needs to be taken, coordinate all such activities to minimize disruption to traffic and with the approval of the Department. See Section 3.20 (Warranty) for additional information.

3.6.2.1 Ride Quality

General. The Design-Builder will evaluate ride quality in all lanes and shoulders using a profilograph as indicated in Section 8-995 of UDOT *Manual of Instructions* (Part 8) and Section 01452 (Profilograph) of the Standard Specifications (DB). The Design-Builder will supply the profilograph and the CQO certified results. The Department will use the CQO certified results to determine Substantial Completion of pavement work. The Department may conduct a verification of the ride quality.

FOA. To obtain FOA, achieve an acceptable value for ride quality for the Project (excluding structures) in accordance with Section 01452 (Profilograph) of the Standard Specifications (DB). If these criteria are not met, diamond-grind the profile back to acceptable limits, provided the area requiring grinding does not exceed 5% of the surface area of a day's production and does not compromise the structural capacity of the section. If this limit is exceeded and the section thickness is reduced by more than 5% below design thickness, replace the defective pavement for the full lane width over the section that has been reduced, and pay all associated costs.

3.6.2.2 Skid Resistance

Corrective Action. The CQO will evaluate skid resistance with a Department-approved method. For any pavement with a skid resistance value of 50 or lower, take corrective action (i.e., employ the skid abrader process) to provide values that exceed 50. For pavements with skid resistance values lower than 45, take corrective action within six (6) months.

3.6.2.3 Structural Capacity

Provide structural capacity by adhering the standards on Standard Drawings PV-1 thru PV-5.

3.6.2.4 Material Quality

Evaluation. Evaluate material quality before and during construction in accordance with the Design-Builder's approved QMP. Evaluate materials specified in the design and meeting the requirements in Section 3.6.3.2 (Pavement Materials) to determine that they meet or exceed requirements set forth in the Technical Specifications and in this Section. Remove any material not meeting these specifications immediately and replace it with acceptable material.

PCC Air Entrainment. For air entrainment for non-agitating haul units, use synthetic/non-vinsol resin air-entraining admixture, subject to approval by the Department before use. Do not adjust the minimum required strength.

3.6.2.5 Pavement Type

Portland Cement Concrete Pavements Only. Design and construct PCCP for all of the SR-201 ramp widening at 3200 West and Bangerter Highway, SR-201 mainline between the Jordan River and I-215, Redwood Road at the interchange, the auxiliary lane between Bangerter Highway and 3200 West, and the Collector/Distributor ramp from SR-201 to northbound I-215. The limits of PCCP on Redwood Road are from 200 feet north of 2100 South, through the SPUI underneath SR-201, to the north curb return line at the intersection at 2320 South.

Asphaltic Concrete. Design and construct Asphalt Cement Concrete Pavement for all of the frontage roads that are being widened and/or relocated and the third lane on SR-201 mainline between I-215 and 3200 West.

3.6.3 DESIGN AND CONSTRUCTION CRITERIA

Limits of Construction. Design and construct new pavements on all alignments, including SR-201 mainline, ramps, frontage roads, Redwood Road, Bangerter Highway, 3200 West, intersections, and driveways. The limits of the new construction for these pavements are shown in Appendix J (Conceptual Plans and Survey Information). SR-201 is required to be reconstructed full width from the Jordan River to I-215. The section between I-215 and 3200 West on SR-201 requires adding pavement on the inside and outside of the existing pavement.

Pavement Life. Design and construct pavement sections for mainline, ramps, auxiliary lanes, and arterial streets to perform for no less than 40 years for PCC pavements and 20 years for AC pavements. Design and construct other pavement sections, including those for frontage roads, cross streets, and local streets, to perform for a period of no less than 20 years.

Drainage. For the pavement sections for mainline, ramps, auxiliary lanes, and arterial streets, provide for surface and subsurface drainage, including frost and elimination of trapped water.

Underdrains. Design and provide an underdrain system where necessary to adequately drain the pavement section.

3.6.3.1 Pavement Design

Professional Engineer. For design of the PCC and AC pavement sections, use a Professional Engineer registered in the State of Utah with at least ten years of experience in pavement design and management.

Plan. In the Design-Builder's plan, provide for construction of pavements within the Project limits.

Subsurface Conditions. Use information regarding subsurface conditions and existing pavement sections at the Design-Builder's discretion.

Traffic Projections. Pavement sections shall be designed for the anticipated traffic (including percent increases) provided in the Environmental Assessment in Appendix E..

Design Parameters. Design pavement sections in accordance with the requirements set forth in the UDOT *Pavement Management and Pavement Design Manual*, with the following parameters:

- Adjust the minimum layer thickness to accommodate climatic conditions such as frost depth.
- Have a drainable layer.
- For base course drainage, collector systems, and outlets, meet FHWA Guidelines (RD-72-30).
- The minimum thickness for all HMA is 6 inches. The minimum thickness for all PCCP (including ramps) is 10 inches.

SR-201. Provide a minimum pavement section of 36 inches.

Redwood Road. Provide a minimum pavement section of 30 inches.

Reinforcement. Do not continuously reinforce PCCP.

Joints. Design the PCC pavement with maximum joint spacing of 15 feet. Use perpendicular joints for all PCC pavements. Design the joints with load transfer devices (i.e., dowels) to ensure a minimum average of 85% load transfer at all joints, with no individual joint less than 80%.

Type of Pavement. For the SR-201 mainline, use the same type of pavement section for the

general-purpose lanes, auxiliary lanes, ramps, and shoulders.

Temporary Pavement. Provide the same quality pavement for temporary pavement that is required for permanent pavement.

3.6.3.2 Pavement Materials

Restrictions. Use only materials that meet or exceed the requirements established by the Technical Specifications. Do not use any of the following materials (in addition to those restricted in the Contract Specifications):

- Bottom ash
- Type C fly ash
- Slag
- Asphalt grades lower than the high-temperature performance grade (PG) of 64 and higher than the low-temperature PG of –28

Approval. Submit for Department review and approval any materials not identified in the specifications at least 28 calendar days before using them. Reject and immediately remove any materials, whether in place or not, that do not meet Contract requirements. Replace the rejected material with, and pay for, a suitable approved material.

3.6.4 SUBMITTALS

Refer to Section 3.18 (Quality) for pavement submittal requirements.

3.7 MAINTENANCE OF TRAFFIC

General Scope. Develop and implement a MOT plan in accordance with this Section 3.7 (referenced standards and publications, performance requirements, design and construction criteria, and submittals).

Warranty. No warranty is required for MOT.

Maintenance During Construction. Continue implementation of the MOT plan during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

Incentive. Incentive payments will be provided for MOT in accordance with Section 2.11 (Incentives and Price Reductions).

3.7.1 REFERENCED STANDARDS AND PUBLICATIONS

3.7.1.1 Referenced Standards

General. Develop and implement the MOT plan in accordance with the relevant requirements of the standards listed by priority in Table III-14.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-14
REFERENCED STANDARDS FOR MAINTENANCE OF TRAFFIC

Pri-ority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	FHWA	*Manual on Uniform Traffic Control Devices (Millennium Edition)*—in particular, Part VI (Temporary Traffic Controls)	MUTCD	Dec. 2000	MUTCD

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.7.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-15 as supplementary guidelines for the design and implementation of the MOT plan. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-15
REFERENCED PUBLICATIONS FOR MAINTENANCE OF TRAFFIC

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
FHWA	National Cooperative Highway Research Program (NCHRP)	350	*	N/A
AASHTO	*Roadside Design Guide*	S99-RSDG-2	1996	n/a

3.7.1.3 Definitions

Weekday Peak Period. Between 7:00 A.M. to 9:00 A.M. and 4:00 P.M. to 6:00 P.M. Monday through Friday

Interchange. A grade-separated intersection of a freeway and an arterial road (i.e., for this Project, the junction of SR-201 and Redwood Road)

3.7.2 PERFORMANCE REQUIREMENTS

General. Develop and, after obtaining Department approval, implement a MOT plan that meets the following performance requirements:

- Provide for the safe passage of traffic through construction zones.
- Minimize negative impacts on residents, commuters, and businesses.
- Provide convenient and logical rerouting of traffic (by using advance warning systems and directional and informational signing, lighting, and striping) to provide "driver friendly" detours and to maximize the safety of the traveling public.
- Maintain and provide access to property by owners, customers, visitors, and emergency vehicles.
- Provide a safe travel corridor while minimizing any unnecessary investment in the existing infrastructure that is being replaced.
- Establish designated alternate Truck Routes for truck traffic and provide surface street VMS's on all major surface streets approaching Redwood Road, 3200 West, 5600 West, and Bangerter Highway between California Avenue, and 3500 South advising which Alternate Truck Route is appropriate based on traffic flow along SR-201 and interchange intersections. Update the signs with alternate route information as traffic conditions change. This advisory system should include the use of Highway Advisory Radio.
- Provide additional off-ramp capacity to mitigate backing onto mainline SR-201

- Provide improved right-turn capacity to mitigate interchange intersection capacity deficiencies for traffic entering SR-201
- Coordinate MOT plans with the project teams for the 2100 South Reconstruction and the I-215; Redwood Road to 4700 South projects.

3.7.3 DESIGN AND CONSTRUCTION CRITERIA

3.7.3.1 Traffic through Construction Zones

Safe and Continuous Traffic. Maintain the portions of the Project being used by public traffic in a condition that safely accommodates traffic 24 hours a day and 7 days a week, unless otherwise specified.

FHWA* Manual on Uniform Traffic Control Devices *Requirements. Furnish, erect, and maintain barricades, warning signs, temporary traffic signals, delineators, striping, flaggers, and pilot cars in accordance with the FHWA *Manual on Uniform Traffic Control Devices* (MUTCD).

Beginning and Ending MOT. Begin maintenance of traffic activities at the start of construction Work (including preparatory MOT work), or when first hauling construction materials and/or equipment, whichever is earliest. Continue MOT activities until Substantial Completion of the Project.

Traffic Control Maintainer. Whenever the Design-Builder is working, provide a traffic control maintainer on site whose sole responsibility is to supervise and monitor the installation and maintenance of all traffic control devices. Authorize the traffic control maintainer to direct traffic changes to ensure safe and continuous traffic flow and to direct traffic operations after a traffic incident has occurred. A traffic control maintainer shall be available at all times and be on-site within ½ hour throughout the duration of the Project.

Access. Maintain access to all businesses and residences, including all temporary approaches and crossings of and intersections with roads and streets.

Detour. Design, place, and maintain all traffic detours required during construction. Wherever possible, use State routes for detour routes. Obtain the Department's and the governing city's approval of all detours and street closures on local roads.

Portable Barriers. On an existing divided roadway, separate opposing traffic with portable barriers that meet current UDOT safety requirements; i.e., concrete safety-shape or an approved alternate. Attach glare screens to the barriers.

Notification of Public. Actively assist the Department in providing advance information to the public regarding construction phasing, detour routes, and expected travel impacts, as required in Section 3.16 (Public Involvement).

Closure of Arterials. Notify the Department one (1) month before any closure of an arterial street. Make provision for local traffic to access properties on the closed arterial.

Correction of Deficiencies. Correct all traffic control deficiencies immediately upon notification by the Department or observance of the deficiency.

Temporary Roadways. Design all geometric aspects of temporary roadways to be adequate for the assigned design speed.

Drainage. Design all active roadways to be well drained and have no potential for puddling and icing within the traveled roadway; see Section 3.5 (Drainage).

3.7.3.2 Traffic Engineer

Traffic Engineer Duties. Provide a traffic engineer at NTP to:

- Coordinate construction activities with the Department (including its Traffic Operations Center [TOC]);
- Implement traffic management strategies;
- Prepare an MOT report to the Department with each change in traffic phasing; and
- Be continuously available during the construction schedule until Substantial Completion of the Project and elimination of all construction traffic control.

Traffic Engineer Qualifications. Within ten days of NTP, obtain Department approval of the person named as traffic engineer. Establish that the education and professional experience of the traffic engineer meet the following minimum qualifications:

- Bachelor of Science degree in civil engineering with an emphasis in traffic engineering
- Professional Engineer licensed (by NTP) in Utah
- Ten years of practical experience with consulting firms, city, county, or state transportation agencies
- Knowledge of traffic signal timing, construction work zone safety, the MUTCD, computer traffic simulation and optimization models, and freeway traffic management techniques.

3.7.3.3 Motorist Guidance

General. Provide guidance to motorists who are diverted around or traveling through the construction areas. Signing that is not in compliance with the MUTCD must be corrected within 48 hours, unless the sign is a critical regulatory or warning sign, then the sign must be corrected within 6 hours of official notice. If the deficiency is caused by an accident, the 6 hours begins when access to the area is available.

Through Construction Areas. Maintain signing continuity on all active roadways within the Project at all times. Implement transitions in signing patterns in such a way as to maintain clarity and continuity, as well as consistency with striping, and to completely avoid displaying conflicting or confusing information. At least seven (7) Calendar Days before any major nonrepetitive change in the active roadway configuration or travel pattern, place variable message signs (VMS) warning of the pending change on mainline SR-201 as well as Bangerter Highway, Redwood Road, and 3200 West

Provide exclusive permanent portable VMS's Northbound and Southbound on Redwood Road, 3200 West, 5600 West, and Bangerter Highway informing motorists of crashes and/or delays on mainline SR-201. These VMS's are to be equipped with communications devices that allow the Traffic Operations Center to control the messages. The TOC will have exclusive control over these signs for the duration of the project.

Exits, Ramp Closures, and Detours. To direct motorists at all exits and to advise motorists of any ramp closures or detours, provide guide signs in accordance with the approved MOT plan and with MUTCD requirements for letter height and colors.

Closures. At least seven (7) Calendar Days before a road closure, place signs warning motorists of the pending closure. Before any road closure, fully sign in accordance with the approved MOT plan for that particular phase and the MUTCD and prepare changes to the traffic signal

timing plans in Coordination with the Department.

Detours. Provide motorist guidance to and along the entire length of every detour route.

3.7.3.4 Limitations

Travel Lanes.

SR-201 Mainline. Maintain at least two free flowing lanes open to traffic in each direction on SR-201 during weekdays from 6:00 AM to 9:00 PM. Maintain one lane in each direction on weekdays between the hours of 9:00 P.M. and 6:00 A.M and on weekends from Friday 9:00 P.M. to Monday 6:00 A.M. Notify the Department at least seven calendar days in advance of any closure or reduction of lanes during off-peak hours. In his sole determination, the engineer may adjust the hours as necessary.

SR-201 On and Off Ramps. Must keep one on ramp and one off ramp at each interchange open at all times. Do not close more than one on ramp at a time in the same direction. Also, do not close more than one off ramp at a time in the same direction. Lane rental will be used for ramp closures. See Section 2.3.4.6.3.3 (Table of Cost Rates for Use of Lane Rental) for rates.

Redwood Road and Bangerter Highway. Maintain at least two lanes open to traffic in each direction on weekdays between 6:00 AM and 9:00 PM. Maintain at least one lane open to traffic in each direction during all other times.

Frontage Roads. Maintain one lane in each direction open to traffic at all times. The lanes and turning radii must be wide enough to accommodate a WB-100T vehicle.

Freeways (Outside of Construction Area). In performing work outside of the project construction area, the Design-Builder shall not close a traffic lane, shoulder, or ramp of any freeway (I-215 or I-15) during the peak traffic hours (6:00 am to 9:00 am and 4:00 pm to 7:00 pm) on Monday through Friday. No work during these peak traffic hours shall require ingress or egress to/from the travel lane, shoulder, or ramp of any construction vehicle, equipment, or material that could obstruct the flow of traffic.

Incentive/Disincentive. If the required number of lanes is not provided, the Department will assess the Design-Builder disincentives. See Section 2.3.4.6.3.3 (Table of Cost Rates for Use of Lane Rental) for information about Lane Rental incentives and disincentives, and Section 2.11 for other Incentives and Price Reductions.

Lane Widths. Maintain a travel lane width of at least 12 feet wherever possible. If the Design-Builder demonstrates to the Department that the 12-foot width cannot be practically attained, maintain as the absolute minimum a width of at least 11 feet. These are painted lines and may only be supplemented by channelizing devices on the shoulders. Channelizing devices may not be used to divide lane lines.

Shoulder Widths. On SR-201, maintain a Left shoulder width of at least 2 feet, and Right Shoulder of 10 feet. If the Right shoulder cannot be maintained, then a 2 foot shoulder is permitted and the design-builder must construct safety pullouts. Safety pullouts are required every 2000 feet and must be signed both at the pullout, and 500 feet ahead. Sign design to be approved by the Department. The safety pullouts must be at least 100 feet long and 12 feet wide with the barrier taper lengths as per standards.

Nonconformance of Width. Correct any nonconformance of travel lane or shoulder width within one (1) calendar day of notification by the Department. If the requested correction is not made within the time specified, the Department will make the correction and deduct the costs from moneys due the Design-Builder.

Night Closures. Mainline closures are permitted to erect overhead structures between the hours of 1:00 A.M. and 4:00 A.M. Additional approval from the engineer is required if more time is needed. Redwood Road may be closed between 10:00 P.M. and 6:00 A.M for no more than 8 nights for structure demolition and setting girders only.

Detour Routes. The only permitted Detour Routes are California Avenue, Redwood Road, 2700 West, 3200 West, Pioneer Road, 1700 South, Bangerter Highway, 5600 West, 3600 West, North and South Frontage Roads, 3100 South, and 3500 South. Obtain necessary approvals from local governments prior to putting detours in place. 2100 South may not be used as a detour route until the Salt Lake City 2100 South Reconstruction project is substantially complete.

Temporary Concrete Barrier. Temporary concrete barrier separating opposing mainline travel lanes is required along the entire project length and transitions of SR-201 before any mainline and median work can begin. All sections of existing and temporary concrete median barrier are required to have glare screens installed. These glare screens must be vendor supplied. Pin all barrier as required in Standard Drawing BA-1A.

Pedestrians. Pedestrian accommodations are required to be maintained or improved to meet ADA Accessibility Requirements during construction on Redwood Road and 3200 West.

3.7.4 SUBMITTALS

Maintenance of Traffic Plans. At least 14 calendar days before implementation of each major phase of construction that will require diversion of traffic, submit an MOT plan on CAD drawings per Section 3.1.5 (Software) to the Department for approval. Design-Builder is responsible for schedule delays resulting from resubmittal of the MOT plan. Include in each MOT plan the following components:

- Temporary roadways and striping
- Temporary barriers
- Motorist information and guidance
- Temporary signs, signals, and lighting
- Flagging
- Emergency response

3.7.5 QUICKCHANGE MOVEABLE BARRIER

The Department owns approximately 2 miles of construction grade Quickchange Moveable Barrier (QMB) produced by Barrier Systems, Inc. This barrier is stckpiled at various locations in Region 2. This barrier is available for use by the Design-Builder under the following conditions.

1. The QMB shall be used to separate live traffic from the work zone, or to separate bi-directional traffic, and
2. The Design-Builder shall use the QMB as "moveable" barrier by using it to open and close lanes by transporting it laterally with a transport machine manufactured by Barrier Systems, and
3. The barrier shall be moved laterally as described above at least 6 times per week, and

4. If the barrier is not used as described above for a period of 2 weeks or more, it shall be returned to the UDOT yards where it was originally picked up, and
5. The use of the QMB is described and committed to in the Proposal, and
6. The Design-Builder agrees to bear all costs of transporting the barrier to the jobsite and returning it to UDOT, for transporting it laterally to open and close lanes, all costs for acquiring and maintaining the transport machine manufactured by Barrier Systems Inc., and all costs in any other way associated withh the QMB, and
6. Upon completion of the project, the QMB shall remain the property of UDOT and be returned to UDOT at the the locations from which it came. The transport machine shall remain the property of the Design-Builder and be removed from the project.

For further information on QMB and the transport vehicle, contact

Barrier Systems, Inc. 180 River Road Rio Vista, CA 94571 707-374-6800	or	John Wever Associates 7733 Tobia Way Fair Oaks, CA 95628 916-961-3043

3.8 LIGHTING

General Scope. Design, furnish, and install all lighting and related equipment in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals.

Warranty. Warrant lighting work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the lighting system during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.8.1 REFERENCED STANDARDS AND PUBLICATIONS

3.8.1.1 Referenced Standards

General. Design and construct the lighting system in accordance with the relevant requirements of the standards listed by priority in Table III-16.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-16
REFERENCED STANDARDS FOR LIGHTING

Pri-ority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	Proposal for SR-201 Design-Build Project	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	A Policy on Geometric Design of Highways and Streets	S99-GDHS-3	2001	"Green Book"
4	FHWA	Manual on Uniform Traffic Control Devices (Millennium Edition)	MUTCD	Dec. 2000	MUTCD

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.8.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-17 as supplementary guidelines for the design and construction of the lighting system. These publications are listed in alphabetical order (by the author or issuing agency and then by title), as they have no established order of precedence.

TABLE III-17
REFERENCED PUBLICATIONS FOR LIGHTING

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*Information Guide to Roadway Lighting*	S99-GL-5	1985	n/a
NFPA	*National Electrical Code*	n/a	2002	n/a
AASHTO	*Roadside Design Guide*	S99-RSDG-2	1996	n/a
IES	*Roadway Lighting*	RP-8-00	2000	n/a

NFPA = National Fire Protection Association

3.8.2 PERFORMANCE REQUIREMENTS

Design, furnish and construct all components of a roadway lighting system necessary to provide a complete and functional system that meets the following performance requirements:

- Durable.
- Provide good uniformity at intersections and interchanges to create a safe and comfortable environment for those who use and maintain the facility.
- Avoid light pollution and light trespass outside of the corridor.
- Avoid disability or discomfort glare to users.
- Provide for ease of maintenance and servicing.
- Use full cut-off luminaires.

3.8.3 DESIGN AND CONSTRUCTION CRITERIA

3.8.3.1 General Criteria

3.8.3.1.1 General

Coordination. Coordinate and incorporate into the lighting system the requirements in Section 3.9 (Signing), Section 3.10 (Advanced Traffic Management System), Section 3.11 (Traffic Signals), and Section 3.12 (Landscape and Aesthetics).

Maintenance. Design and construct the lighting system to minimize lane closures during post-construction maintenance.

3.8.3.1.2 Lamps

Lamp Type. Use high-pressure sodium (HPS) for all lighting.

Lamp Brands. Use Sylvania, Phillips, or General Electric lamps for all lighting. Use dual arc tube lamps for high mast lighting.

Lamp Wattage. Provide luminaires with the following wattages to facilitate maintenance: Use 250 Watt lamps for overhead sign and understructure luminaires. Use 400 Watt lamps for standard roadway luminaires. Use 1000 Watt lamps for high mast luminaires.

3.8.3.1.3 Poles

Lighting Structures. See Section 3.4.3.7 (Sign and Lighting Structures) for structural design of poles.

Lowering Devices. Provide lowering device on all lighting poles taller than 52 feet. The lowering device system must be compatible with the use of CCTV installations

Locations. Provide GPS coordinates for all freeway luminaire locations.

Identification. Label all freeway light poles with milepost (to nearest mile), circuit number, and direction.

3.8.3.1.4 Junction Boxes

Locations. Provide GPS coordinates for all freeway junction box locations.

3.8.3.1.5 Power

Utility Coordination. Public Utilities will supply independent power sources for the lighting system.

Disconnection. Notify the Department at least seven calendar days before disconnecting the existing lighting from power feeds. Contact Jim Kammeyer at 887-3784.

Power Costs. Pay the lighting costs after existing lighting in any Work segment is disconnected from existing feeds until all permanent lighting is in place, operational, and accepted by the Department. The Department will continue to pay for power for the lighting as long as the existing lighting is in use. The Department will only pay for power for lighting on SR-201 mainline and ramps.

3.8.3.1.6 Lighting Circuits

Power Source. Provide 480 Volt single-phase power for freeway lighting installations including high mast lighting, underpass lighting, and overhead sign lighting. Provide 240 Volt single-phase power for all surface street and signalized intersection lighting.

Photo Control. Provide single photo control with lighting contactor and circuit breaker for each freeway lighting circuit. Provide twist-lock photo control on each luminaire for surface street lighting and signalized intersection lighting.

3.8.3.1.7 Lighting Design

Design Methods. Use the Illuminance Method for lighting design calculations. Also consider Luminance design parameters including veiling luminance ratio in lighting analysis.

Lighting Levels and Uniformity. Refer to Roadway Lighting RP-8 and Informational Guide for Roadway Lighting publications for minimum illuminance levels based on roadway classification, pavement classification, and pedestrian usage. Provide uniformity ratio (Eavg/Emin) of 3:1 or less.

3.8.3.2 Mainline Lighting

General. Provide high mast lighting for mainline SR-201 from the east project limits to I-215.

3.8.3.3 Interchanges

General. Provide high mast lighting for the Redwood Road SPUI and ramps.

3.8.3.4 Arterial Streets and Frontage Roads

General. Provide lighting on Redwood Road, 3200 West, Bangerter Highway, signalized intersections located on all arterial streets, and frontage roads.

Decorative Lighting. Install Salt Lake City Standard decorative luminaires for street lighting along Redwood Road north of SR-201. Contact Gordon Haight at 535-7147.

Signalized Intersection Lighting. Provide standard UDOT roadway luminaire on signal pole extensions at each corner of signalized intersections.

Existing Lighting. Replace-in-kind and supplement, as appropriate, any existing roadway lighting affected by Project construction to meet the requirements of the roadway configuration.

3.8.3.5 Understructure

General. Provide understructure lighting for the SR-201 at Redwood Road SPUI.

Lighting. Provide lighting that is consistent with the illuminance levels and uniformity of the surrounding lighting system. Do not provide daytime lighting for understructures.

Maintenance. Design, furnish, and construct all understructure lighting to eliminate the need for lane closures during post-construction maintenance. Locate luminaires to reduce the likelihood of tampering and damage by vandals.

3.8.3.6 Sign Lighting

General. Provide illumination for all overhead sign installations.

Maintenance. Provide a fused disconnect switch for ease of maintenance. Mount disconnect switch on the sign structure pole.

3.8.4 SUBMITTALS

General. Refer to Section 3.18 (Quality) for design submittal requirements for lighting.

Lighting Design. Submit design plans and calculations (in electronic format) for Department review prior to construction. Contact Larry Montoya at 965-4924. Allow at least seven calendar days for review.

3.9 SIGNING

General Scope. Design, furnish, and install the sign system, including both temporary and permanent signs, for all roadways in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and submittals.

Warranty. Warrant signing work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the sign system during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.9.1 REFERENCED STANDARDS AND PUBLICATIONS

3.9.1.1 Referenced Standards

General. Design and construct the sign system in accordance with the relevant requirements of the standards listed by priority in Table III-18. The Department may require signing that exceeds minimum standards when appropriate conditions arise.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard. All signing will be in accordance with the MUTCD and Freeway Standards applied.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-18
REFERENCED STANDARDS FOR SIGNING

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date**	*Comments, Short Forms*
1**	Design-Builder	Proposal for SR-201 Design-Build Project	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 South Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
~~4~~ 1	FHWA	*Manual on Uniform Traffic Control Devices* (Millennium Edition)	MUTCD	Dec. 2000	MUTCD

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.9.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-19 as supplementary guidelines for the design and construction of the sign system. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-19
REFERENCED PUBLICATIONS FOR SIGNING

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*Roadside Design Guide*	n/a	2002	n/a
FHWA	*Standard Highway Signs*	n/a	2002	n/a

3.9.2 PERFORMANCE REQUIREMENTS

Design, furnish, and install all components of a sign system necessary to provide a complete and functional system that meets the following performance requirements:

- Provide for the orderly and predictable movement of all traffic.
- Provide such guidance and warnings as are needed to ensure the safe and informed operation of individual elements of the traffic stream.

3.9.3 DESIGN AND CONSTRUCTION CRITERIA

3.9.3.1 Design

3.9.3.1.1 Preliminary Signing Plan

General. Refer to the preliminary signing plan for SR-201 in Appendix K (Interchange Modification Report) for guidance on the layout and approximate location of major signs along SR-201. Note that this signing plan is not represented to be either complete or comprehensive.

3.9.3.1.2 Signing Plan

Include all necessary guide, warning, supplemental, sequential, and regulatory signs for the mainlines, ramps, and interchanges, as well as for the arterial streets, frontage roads, and any other roadways affected by the Project.

Modifications. Provide for modification of any signage outside the limits of the Project that is rendered inaccurate, ineffective, confusing, or unnecessary by the Project. Such modifications may be the addition, removal, or replacement of signs and appurtenances.

Permanent Signs If permanent signing is erected by the Design-Builder that could be used for motorist guidance, continue to display such signing during the remaining construction of the Project.

Existing Guide Signs for on-off Ramps, Interstate guide signs, Warning signs, Regulatory signs, Airport signs, and Hospital signs are required to be maintained during all phases of construction.

The Permanent/Final signing plan will include complete replacement of the sign sheeting, substrate, post and foundation and mounting hardware of existing signs that are to remain.

If the roadway alignment is shifted, and any of the above listed signs are in excess of thirty feet from the edge of the nearest travel lane, the sign must be relocated closer to the travel lane.

All off-ramps must have lane control signing (on both sides of the off-ramp for multiple lanes) for temporary (that exist for more than seven days) and permanent off-ramp lane configurations.

Refer to Section 3.4.3.7 (Sign and Lighting Structures) for structural design of sign supports.

3.9.3.1.3 Sign Design

Design signs that meet the following requirements for:

- Overhead signs.

  Minimum clearance: 17.5 feet over the entire length of the pavement and shoulders

  Illumination: Externally illuminated with HPS lamps, per Section 3.8 (Lighting)

- Lettering height.

  On freeway-to-freeway signs: Category A

  On freeway-to-major-arterial signs: Category B

  On service signs: 1 foot, Series C

  On all service, supplemental, and overhead signs: 1 foot for the words "exit," "mile," and "miles"

- For variable message signs, minimum unobstructed view. 1,000 feet
- Guide sign minimum spacing. 800 feet
- Interchange exit number panel width. Same as width of sign to which it is attached
- Milepost Posts. Spaced at even stations, per UDOT Standard Drawing SN5
- Detour trailblazing signs. All signs must be black on orange except freeway route markers and must indicate from top to bottom:

  1. "Detour" or "Alt"
  2. North, South, East, West (for freeway signing only)
  3. "Route Shield" or "Street Name"
  4. Directional Arrow
  5. "End Detour" when existing trailblazing is resumed.

3.9.3.1.4 Other Signage Requirements

Culvert Markers. Provide culvert markers at all culvert ends, per UDOT Standard Drawing GW-9.

Bridge Structures. Do not attach signs to any bridge structure unless no alternative exists.

3.9.3.2 Materials

General. Provide signing materials that:

- Are new at the time of installation, and
- Unless otherwise noted herein, meet the requirements of Section 02891 (Traffic Signs) of the Standard Specifications (DB).

Salvage and Disposal. Salvage and deliver to the Department all existing galvanized steel tube sign structures and associated sign frames and lighting. Dispose of all other removed signing materials and structures.

Specific Sign Materials.

Sheeting. Section 02891 (Traffic Signs) of the Standard Specifications (DB)

Substrate.

- Aluminum or wood substrate is required for all permanent signing.

Ground-Mounted Sign Supports.

- All sign supports will be Steel Posts with breakaway slip base:

Overhead Sign Supports. Refer to Section 3.4.3.7 (Sign and Lighting Structures)

Roadside Delineators. Refer to Section 02842 (Delineators) of the Standard Specifications (DB) and UDOT Standard Drawings GW9 and GW10

Object Markers and "T" Intersection Guidance. UDOT Standard Drawing ST1

3.9.4 SUBMITTALS

Refer to Section 3.18 (Quality) for design submittal requirements for signing.

3.10 ADVANCED TRAFFIC MANAGEMENT SYSTEM

General Scope. The Design-Builder shall design and implement the field elements of the Advanced Traffic Management System (ATMS) in accordance with this Section 3.10, which presents referenced standards and publications, performance requirements, design and construction criteria, warranty of work, maintenance during construction, and submittals.

Description. The ATMS is a joint effort by the Department, Salt Lake City, and Salt Lake County to improve their capability to manage and operate the transportation network in the Salt Lake urbanized area.

The SR 201 ATMS elements are part of the existing ATMS. In the project area, fiber optic backbone cables have been installed along either the north or south sides of SR 201, and the backbone cables cross SR 201 near the Traffic Operations Center. Various ATMS elements (Closed Circuit Television Cameras (CCTV), detector stations (TMS), and Variable Message Signs (VMS)) have been installed within the project limits. These ATMS elements will need to be either protected in place, relocated, or reinstalled depending on the type and location of each device.

Warranty. Warrant ATMS work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the ATMS system during construction in accordance with the requirements of Section 3.19 (Maintenance During Construction).

3.10.1 REFERENCED STANDARDS AND PUBLICATIONS

3.10.1.1 Referenced Standards

General. Design and construct the ATMS system in accordance with the relevant requirements of the standards listed by priority in Table III-20.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-20
REFERENCED STANDARDS FOR ATMS

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.10.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-21 as supplementary guidelines for the design and construction of the ATMS system. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-21
REFERENCED PUBLICATIONS FOR ATMS

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
FHWA	*Manual on Uniform Traffic Control Devices* (Millennium Edition)	MUTCD	Dec. 2000	MUTCD
NEMA	*Standards*	n/a	2000	n/a
NFPA	*National Electrical Code*	n/a	1999	n/a

NEMA = National Electrical Manufacturer's Association

3.10.2 PERFORMANCE REQUIREMENTS

The Design-Builder shall design and implement the ATMS using the criteria specified within this Section 3.10 and Appendix F (ATMS Requirements) to:

- Integrate the project ATMS with the regional ATMS to provide continuous and uninterrupted service of the ATMS and associated communications throughout the region.
- Facilitate system integration by using materials and components that are consistent and compatible with those of the existing system.
- Provide a fully functional system of which the design and construction are documented as meeting the Contract Requirements.
- Provide a final product that facilitates regular maintenance of ATMS components.
- Provide a final product that functions as designed in conjunction with all project components.
- Maintain the operation of all existing ATMS components within the project limits throughout the duration of construction, except as otherwise stated herein.

3.10.3 DESIGN AND CONSTRUCTION CRITERIA

3.10.3.1 General

See Appendix F (ATMS Requirements) for design and construction criteria.

Manufacturers' Recommendations- No part or attachment of any equipment shall be substituted or applied contrary to the manufacturers' recommendations and standard practices.

Existing Utilities - The Design-Builder shall be responsible for locating and marking all underground utilities prior to any ATMS installation work.

Power Service- The Design-Builder shall provide alternating current (AC) metered power service to every ATMS cabinet (including every traffic signal cabinet) and/or communications hub within the project limits, without existing metered service, including relocation of any existing cabinet sites. The Design-Builder shall be responsible for obtaining (from the power service providers and UDOT) review and approval of its power service design. The Design-Builder shall coordinate and meet all requirements as specified by the power service provider for the complete and operational power service to all required locations. The Design-Builder shall make appropriate arrangements with the electric company for installation or relocation of power service. The Design-Builder is responsible for all costs of installing or relocating power sources.

The Design-Builder is responsible for all ongoing monthly electricity costs for any new traffic signals or ATMS equipment installed under this project until partial acceptance of the traffic signal or ATMS equipment. The Department will be responsible for on-going electricity costs of existing traffic signals or ATMS Equipment.

Location of ATMS Elements. All ATMS elements shall be installed within the public Right-of-Way. All ATMS elements shall be located outside of the clear zone (per the *Roadside Design Guide*) and in an area where access to equipment shall not affect traffic operations nor require maintenance of traffic (MOT). The Design-Builder may install barrier wall, guardrail, or crash protection equipment to ensure existing equipment remains in the clear zone due to roadway widening activities. However, any locations where this protection equipment will be used must be confirmed with the Department prior to installation.

ATMS elements (except the center support of freeway VMS structure) shall not be located in the highway median. An all-weather maintenance pullout that meets or exceeds the requirements for maintenance pullout (as described in Appendix F, ATMS Requirements) shall be provided or maintained adjacent to all cabinet locations where maintenance vehicles will be required (i.e., bucket truck access near VMS structure or CCTV poles).

The Design-Builder shall be responsible for locating all underground existing facilities (City, County, State, and Utilities) and designing all ATMS elements to avoid all conflicts with these facilities. In the cases of unavoidable utility conflicts, the requirements in RFP Sections 3.13 (Utility Agreements) shall govern. The Design-Builder shall be responsible for all repairs to facilities damaged by the Design-Builder.

A conceptual plan of the existing ATMS in the SR 201 corridor is provided in Appendix F (ATMS Requirements). This concept is provided only to show the intent of the Department for the installation and maintenance of the various ATMS elements. ATMS elements may be relocated as necessary from locations depicted in the conceptual plan provided the new locations meet the requirements set forth in this Section 3.10 and Appendix F (ATMS Requirements).

Surge and Lightning Protection- The Design-Builder shall ensure that all equipment, devices, interconnect wiring, communications devices, communications lines, power supplies, antennas, operator controls, and power service are protected to eliminate damage from external and internal sources, including power surges, lightning, induced voltages, and static discharge. The Design-Builder shall design and install a grounding system and protection devices that are suitable for the specific installation and equipment supplied.

Use and Operation Prior to Acceptance- The Department, as justified by public interest, may

order some ATMS elements to be placed into service before Substantial Completion of the project. Such action shall not be deemed as acceptance of the project in whole or in part, nor shall such action be construed as a waiver by the Department on a provision of the Contract for the project.

The Department will approve and/or control all electronic displays that are potentially in the public view. No display of any kind or activation of any component shall be permitted without prior approval of the Department.

Restoration. The Design-Builder shall be responsible for complete restoration (before Substantial Completion) of all work sites to a like or better condition to the satisfaction of the Department. All grading, seeding, and mulching shall be in accordance with the prevailing standards of the agency with jurisdiction and with the requirements of Section 3.12 (Landscape and Aesthetics).

3.10.3.2 ATMS Work Elements

The Design-Builder shall design and install all required materials and equipment for various complete and operational elements of the ATMS, as listed below. For each of these elements, the Design-Builder shall be responsible for making all wiring and cabling connections to provide both local and remote operations and for a complete and accepted ATMS element. (See the ATMS Requirements in Appendix F and Material Requirements in Section 3.10.3.5).

- Interconnecting traffic signal cabinets at new traffic signal locations or traffic signals where the existing communication is damaged or disrupted by the Design-Builder with the ATMS communications system.
- Metered and nonmetered ramp detection locations, including mainline detection and complete ramp detection locations.
- Traffic monitoring station (directional mainline detection) that gathers data on speed, volume, occupancy, and vehicle length for each lane.
- Protecting in-place or relocating VMS at the sole location within the project, including complete site design, structural design of sign bridges and foundations, exact VMS placement, and equipment layout as necessary.
- Video surveillance locations for CCTV surveillance assemblies providing full, unobstructed viewing of all freeway segments in the project, and including the complete site design, structural design of camera pole and foundation, exact camera placement (plan and elevation), and equipment layout.

3.10.3.3 Communications System

The Design-Builder shall design, furnish, and install all required material and equipment for a complete and operational fiber optic communications system providing full communication with all ATMS elements and the Department's TOC and TCC's as required in Appendix F (ATMS Requirements). The Design-Builder shall be responsible for making all equipment, wiring, and cabling connections to provide continuous communications to both the ATMS and the TOC. The Design-Builder shall be responsible for maintaining communications to all ATMS elements and centers during construction and a complete and accepted fiber optic communications system as defined herein.

The Department's ATMS communications architecture will be changing during this project to an "IP over Ethernet" architecture. While little impact is anticipated to the field elements of the project, it will be the Design-Builder's responsibility to work with the Department to determine if the proposed design strategy is consistent with the new architecture.

3.10.3.4 ATMS Field Equipment

The Design-Builder shall:

- Install all ATMS equipment in the field, including elements on SR 201 and on surface streets in the project area.
- Determine the final number and locations of all ATMS elements.
- Design and install foundations, poles, supports, and mounting systems necessary to meet the performance criteria for the individual work element.
- Protect all existing ATMS equipment that will not be relocated in this project.
- Maintain operable, and communicating with the TOC all existing ATMS equipment during the course of the project, except those devices specifically identified in this Section 3.10.
- Demonstrate to the Department that the designs and installations meet all installation requirements and recommendations, including the supply and connection of all cables between each device and the local controller assembly, and the provision of power to the local controller sufficient to permit the device to function in a local mode.
- Demonstrate that the cabling between the device and the local controller satisfies applicable codes and the performance criteria, and that the device is operable at the local level (i.e., satisfies the test plan for the equipment installed).
- Install all communications material and equipment for all ATMS elements.

3.10.3.5 Materials

Materials Furnished by Department. The following ATMS material and equipment will be furnished by the Department (at no cost to the Design-Builder) and installed by the Design-Builder.

- Traffic monitoring stations: Type 2070 controller, Model 334 cabinet assemblies, and inductive loop detector amplifiers.
- VMS: Sign, VMS controller, VMS controller assembly, and VMS controller cables (between cabinet controller and sign).
- Trailblazer Sign: Sign.
- CCTV: CCTV poles, CCTV camera assembly (camera, lens, housing), CCTV controller assembly, and Model 334 equipment cabinet.
- Communication Network: Fiber optic data modems and fiber optic video transceivers (for field locations and communications hubs).
- Meter and Non-meter Ramps: Type 2070 controller, Model 334 cabinet assemblies, inductive loop detector amplifiers, load switches.

Department-furnished materials shall be picked up at UDOT facilities within the Salt Lake Valley.

The DESIGN-BUILDER shall provide the Department with two separate notifications if Department provided equipment is required. As early as practical but at least three months prior

to the installation, the DESIGN-BUILDER shall provide the Department with a written list of all equipment to be Department provided. This notification shall include all of the equipment of a specific type (i.e. cabinets) required for the project. The DESIGN-BUILDER shall provide the Department with a written notification at least ten days prior to its need so the Department can adequately plan the programming and bench testing activities. As part of this second notification, the DESIGN-BUILDER shall provide information regarding the configuration for each piece of equipment.

Materials Furnished by Design-Builder. The Design-Builder shall supply all other material and equipment required for the complete installation of the various ATMS elements.

Similar Material and Equipment. Each type of material and equipment to be installed by the Design-Builder shall be the same model and made by the same manufacturer, and must be compatible with existing UDOT standards and communication protocols.

All cabinets containing similar equipment shall be configured and wired identically, including but not limited to internal wiring and harnesses, wiring color codes, terminal block positions, termination strips, power service configuration, panel and equipment mounting locations. For example, all cabinets housing both a ramp meter controller and a camera control receiver shall be consistent in internal appearance and wiring (such as ATMS controller is always mounted above the camera receiver, each color of wire always indicating the same function, etc.)

3.10.4 GENERAL CONSTRUCTION MATERIALS

Conduit and Junction Box. All conduit and junction box installations shall be designed, furnished, and installed in accordance with prevailing UDOT standards. All junction boxes and STMS devices shall be GPS located in accordance with Appendix F (ATMS Requirements).

Quad-Bank Conduit. All quad-bank conduit shall consist of four independent conduits assembled in accordance with the minimum requirements of the ATMS Requirements (Appendix F). The polyvinyl chloride (PVC) quad-bank conduit shall consist of four independent 2- inch Schedule 40 conduits connected by spacers in a two-by-two configuration. Quad-bank conduit shall be a complete system with all fittings, adapters, and bends. The conduit sections shall use a bell-and-spigot connection.

Cable Vaults. All cable vault installations shall be designed and installed in accordance with the minimum requirements of the ATMS Requirements (Appendix F) and the prevailing UDOT standards.

Incidental Materials. All incidental materials shall be furnished by the Design-Builder in accordance with the prevailing standards of the agency with jurisdiction over the facility where the equipment is located.

3.10.4.1 Construction

Re-use of Existing Facilities. As required by Appendix F, relocation of existing equipment is included in the scope of work, which requires disassembly, removal, storage, and maintenance as required for reuse of existing materials.

Maintenance Responsibility. Because the SR 201 project consists primarily of functioning ATMS devices, the Design-Builder shall maintain these devices operational for the duration of the project. The Design-Builder shall be responsible for maintaining all ATMS devices and

infrastructure in the project area starting at the beginning of construction activities. The date of beginning of construction will be set or announced at the project Preconstruction Meeting. The Design-Builder shall retain maintenance responsibility for all devices until it has completed all work through final acceptance of the project.

Testing of Existing Equipment. To ensure that all existing equipment is in working order at a site where the Design-Builder will work, the Design-Builder may request a meeting at each site with the Department and the party with current maintenance responsibility. At this time all loops, cabling, connectors, and cabinet operations may be tested by the Design-Builder. The Design-Builder shall be responsible for requesting, coordinating, and conducting the on-site meeting, and for providing all labor, materials, test equipment, and test documentation. All testing shall be non-destructive. If the Design-Builder begins to work at a location without arranging this testing it will be assumed that all cabinet components and operations were in proper working order at that time, and the Design-Builder shall have the responsibility for complete and proper operation upon the completion of its work. If no pre-testing is completed, any equipment that is not functioning at the completion of work, will be assumed to be working at the project start, and must be replaced at the Design-Builder's expense.

Existing Cables. When new cables are to be installed into existing conduits containing existing cables, the Design-Builder shall remove the existing cables and reinstall the existing cables simultaneously with the new cables. The Design-Builder shall take every precaution to protect the existing cables. In the event of damage to the existing cables, the Design-Builder shall replace all damaged cables and terminations, in-kind, at no additional expense to the Department. No splicing shall be permitted except as allowed Appendix F (ATMS Requirements).

Verification of Usefulness. When the Design-Builder elects to reuse existing conduit, ducts, and junction boxes, the Design-Builder shall be responsible for all verification of their availability and usefulness. Before the Design-Builder installs cabling into existing conduit, the Design-Builder shall thoroughly clean, blow, and brush out all conduit or ductwork runs to minimize damage to cables during the installation process, and prove conduit integrity with the use of an approved mandrel.

Damage and Delay. If damage to existing facilities inhibits the Design-Builder's progress of work, the Design-Builder shall immediately notify the Department. The Design-Builder shall adjust its work schedule to provide the Department with up to seven calendar days to resolve the situation; during that time, the Design-Builder shall retain responsibility for the site maintenance and continued normal operations as directed by the Department. Damaged existing facilities shall not be deemed as justification for project delay claims.

Construction Schedule. The Design-Builder shall develop and implement into the project schedule the ATMS implementation schedule, which shall show the required sequence of all activities that must be completed prior to the initiation of other activities. The ATMS implementation schedule shall address all major activities, components, and milestones of the ATMS equipment installation and, at a minimum, include the following:

- Design reviews
- Equipment deliveries
- System element installation milestones
    - Traffic signal cabinets

Metered ramp locations

Non-metered ramp locations

Traffic monitoring stations

Freeway VMS

Trailblazer signs

Video surveillance locations

Communications system

- Local testing
- Communications testing
- Acceptance
- Utilities coordination, design and construction

3.10.5 WARRANTY OF WORK

The Design-Builder shall warranty its ATMS work in accordance with the Standard Specifications (DB). See Section 3.20 (Warranty).

UDOT will warranty all Department-furnished items; however, UDOT will review all such warranty claims to confirm their validity.

3.10.6 MAINTENANCE DURING CONSTRUCTION

3.10.6.1 General

It is the Department's intention to only accept ATMS elements when all work (ATMS and non-ATMS) has been completed.

3.10.6.2 Interval Between Installation and Operation

All ATMS equipment visible to the motoring public (e.g., VMS and CCTV) shall be made operational from the TOC within 28 calendar days of installation. An operational piece of equipment is one that satisfies the functional requirements identified in Appendix F (ATMS Requirements), and passes all required acceptance testing.

3.10.6.3 Maintenance Response

The Design-Builder shall respond to a reported non-operable component, not safety related, within 24 hours of notification of the problem. In order to determine response time, the Design-Builder will be notified by the Department by telephone, fax, or e-mail that there is a problem. The date and time of the telephone call, the transmitting fax machine's log, or the e-mail delivery date/time stamp shall be considered the date and time when the Design-Builder was notified of the problem. The Design-Builder shall return the component to working condition within 48 hours of notification of the problem.

In the case of problems affecting entire subsystems (i.e., all detection, all video, all devices in a specific area), the Design-Builder shall respond within 24 hours of problem notification and shall work continuously until the problem has been corrected.

In the case of problems affecting the communications backbone to the TOC (i.e., all systems), the Design-Builder shall respond within 2 hours of problem notification and shall work

continuously until the problem has been corrected.

If a problem is not corrected within 48 hours of notification, the Design-Builder shall provide the Department with a written description of the problem, efforts to fix the problem to date, anticipated course of corrective action, and anticipated schedule for completion of such corrective action.

3.10.6.4 Maintenance Log

The Design-Builder shall maintain a log of all response maintenance and repair activities performed during the project by the Design-Builder. The log shall be kept in a spreadsheet or other Department-approved software and include, at a minimum, the following information:

- Date and time problem reported.
- Entity reporting the problem.
- Description of the reported problem.
- Arrival time at the site of the reported problem.
- Technician performing repair or replacement.
- Corrective actions taken.
- Model and serial number of any component repaired or replaced.
- Date and time problem rectified.

3.10.7 SUBMITTALS AND REVIEWS

3.10.7.1 Design Reviews

Design reviews shall be in accordance with RFP Section 3.18 (Quality), and the submittal requirements below shall be incorporated into the requirements of Section 3.18 (Quality). Supplemental specific requirements shall apply to submittals for certain ATMS equipment.

Oversight Review
The Design-Builder shall have available for review and inspection an overall regional system location map showing all proposed locations for ATMS equipment, how the equipment locations interrelate to form the ATMS, and how the equipment connects to the existing ATMS infrastructure. The following items are related to the design and installation of the required ATMS equipment.

a) Ramp Locations. The Design-Builder's designs and plans shall include a site-specific plan view identifying the location of all infrastructure related to each metered and non-metered ramp location. This information shall include, at a minimum, all utility information, pole locations and details, signal assemblies, location of warning and advisory signs, location and orientation of controller cabinet, size and location of detection zones, location of power service and disconnect, striping, and a distinction between new and existing equipment.

b) Traffic Monitoring Stations. The Design-Builder shall have a complete listing of all monitoring stations within the project area, and a determination of the final location of each station.

The Design-Builder's designs and plans shall include a plan view identifying the location of all infrastructure related to a given traffic monitoring station, including, at a minimum, all existing

utility information, the location and size of detection zones, conduit and junction box locations, location and orientation of controller cabinet, location of power source and disconnect, and a distinction between new and existing equipment.

c) Video Surveillance Locations. The Design-Builder shall have a complete listing of all video surveillance locations within the project area, and a determination of the final location of each camera. The Design-Builder shall provide mapping which identifies the proposed viewing areas of each camera location in the project construction area.

The Design-Builder's designs and plans shall include a plan view identifying the location of all infrastructure related to a given video surveillance location. This infrastructure shall include, at a minimum, the existing utility information, the location and height of camera pole, conduit and junction box locations, location and orientation of equipment cabinet, location of power source and disconnect, and a distinction between new and existing equipment.

d) Sign Locations. For new and relocated VMS, the Design-Builder shall have a complete listing of all VMS locations within the project area including other freeway locations, and a determination of the final location of each sign. For trailblazer signs, the Design-Builder shall have a complete listing of all trailblazer locations within the project area and a determination of the final location of each sign. The Design-Builder's design and plans for freeway VMS and surface street Trailblazer signs shall include the following information:

- A plan view identifying the location of all infrastructure related to a given sign location (existing utilities, pole, local access point, equipment cabinets, conduit, and junction boxes).
- A plan view identifying the proposed area available to motorists to view each sign.
- A cross-section showing the relationship of the sign to the travel lanes and the elevation of the road surface, the bottom and top of the sign, and the vertical sign supports.

e) Communications System. The Design-Builder's design and plans for the Fiber Optic Communications System shall include the following information:

- Block and system diagrams detailing the entire fiber optic backbone communications system.
- A separate single line block and system diagram shall be submitted for each of the two subsystems (voice/data and video) and for the fiber optic backbone communications system.
- A block diagram shall be submitted showing interconnection between major independent elements, such as fiber optic cable, optical patch cord, fiber optic multiplexer, channel bank and distribution frames.
- A separate single line block diagram shall be submitted for system and distribution nodes and for every other category of nodal facility.
- Proposed manufacturer's detailed product data "cut-sheets" and specifications for each piece of equipment.

- Schematic diagrams and location maps of all individual backbone system links and distribution loops.
- Wiring diagrams of distribution frames, equipment racks, and the fiber optic cable.

3.10.7.2 Documentation

Plan submittals shall be made in accordance with Section 3.1.4 (Project Documentation).

The Design-Builder shall submit approved final plans as originally signed and stamped to the Department. Include ten copies of 11”x17” (or metric equivalent) drawings and a copy of the computer files. Include three copies of calculations and specifications for any ATMS elements. Submit as-built plans with shop drawings for each electrical cabinet.

Refer to Appendix F (ATMS Requirements) for testing documentation requirements.

The Design-Builder shall furnish six sets of factory-issued manuals containing all technical information on each piece of Design-Builder-furnished equipment installed. Acceptable factory manuals shall contain technical, diagnostic, and maintenance (preventive and troubleshooting) information. Advertising brochures and catalog cuts will not be accepted.

3.11 TRAFFIC SIGNALS

General Scope. Design, furnish, and install the traffic signal system in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, design and construction criteria, and required submittals.

Warranty. Warrant traffic signal work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the traffic signal system during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.11.1 REFERENCED STANDARDS AND PUBLICATIONS

3.11.1.1 Referenced Standards

General. Design and construct the traffic signal system in accordance with the relevant requirements of the standards listed by priority in Table III-22.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-22
REFERENCED STANDARDS FOR TRAFFIC SIGNALS

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	FHWA	*Manual on Uniform Traffic Control Devices (Millennium Edition)*	MUTCD	Dec. 2000	MUTCD

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.11.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-23 as supplementary guidelines for the design and construction of the traffic signal system. These publications are listed in alphabetical order (by the author or issuing agency and then by title), as they have no established order of precedence.

TABLE III-23
REFERENCED PUBLICATIONS FOR TRAFFIC SIGNALS

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
TRB	*Highway Capacity Manual*	n/a	2000	n/a
UDOT	*Design of Signalized Intersections: Guideline and Checklist*	n/a	June 2003	n/a
UDOT	*Suggested Guidelines for Traffic Impact Studies*	n/a	*	n/a

** If no date is given, the most current version as of 10-17-03 is specified*

3.11.2 PERFORMANCE REQUIREMENTS

Design, furnish, and install all components of a traffic signal system necessary to provide a complete and functional system that meets the following performance requirements:

- Provide for the efficient movement of traffic in both the year of operation, 2004, and the design year, 2030.
- Optimize traffic flows and minimize delay.
- Operate in coordination with adjacent intersections and arterial roads.
- Accommodate pedestrians as necessary.
- Be consistent with the regional parameters developed as part of the ATMS, as described in Section 3.10 (Advanced Traffic Management System).

3.11.3 DESIGN AND CONSTRUCTION CRITERIA

3.11.3.1 Design and Operational Analysis

3.11.3.1.1 General

Plans. Prepare traffic signal design plans and operational timing plans. Single-Point Urban Interchange designs must have right turn signal controls.

Warrant Analyses. Conduct traffic signal warrant analyses at all potential signal locations. Develop traffic data required for the warrant analyses.

Documentation. Include documentation that establishes the basis of designs of new and replacement traffic signals, signal timing methodology, and capacity and traffic LOS analysis, as well as all appropriate supporting calculations.

Traffic Analysis. Develop year 2004 and 2030 traffic volumes (based on traffic projections provided in the Environmental Assessment) in Appendix E (Environmental Information) and obtain Department approval of the volumes before conducting the traffic analysis. Include the following information, at a minimum:

Placement of intersection physical equipment

Lane geometry and turning bay lengths

Accommodation of pedestrians

For year of operation 2004 and design year (2030):

- Engineering calculations to support signal design

- Capacity and LOS analysis for individual intersections
- Signal timing plans for individual intersections
- Phase sequencing for individual intersections
- Full timing plan databases for new and replacement signals
- Engineering calculations to support phasing and timing plans
- Business Impact Analysis. Provide two studies of business traffic. One study will be conducted prior to construction and one study after substantial completion. Each study will include one impact analysis on a "drive by" business and one impact analysis on a "destination" business. Obtain Department approval of the businesses to be analyzed prior to the analysis.

For year of operation (2004):

- Basic timing plans for signals within ½ mile of any new and replacement signals
- Coordination of timing plans with adjacent signal and arterial timing plans

3.11.3.1.2 Traffic Signal Design

Level of Service. If the Design-Builder's preliminary studies indicate that an LOS of "C" or better in 2004 and a LOS of "D" or better in 2030 cannot be achieved, so advise the Department and recommend proposed solutions. The Department will evaluate the proposed solutions in consultation with the Design-Builder by assessing the cost, time, and impacts of acquisition of additional ROW, and will determine whether to proceed with any proposed solution.

Traffic Flow. Include in the design the means to optimize the complex traffic flow through closely-spaced signals at the interchange areas, such as traffic-responsive operation and/or the use of queue detection on the freeway off-ramp and on the surface street. Provide system loops at critical locations to enable use of traffic responsive operation.

3.11.3.1.3 Traffic Analysis Methodology

Capacity Analyses. Base traffic analysis calculations for individual intersection capacity on the TRB 2000 *Highway Capacity Manual*.

Signal Timing. Base the determination of optimal traffic signal timing for a group of closely spaced intersections on a computer simulation or optimization model.

Computer Programs. Use any of the following computer programs and techniques for traffic signal analysis, or obtain Department approval before using other programs and techniques:

- For traffic signal capacity, cycle length, split timing, and LOS, use HCM/Cinema 3.0 (KLD Associates)
- For traffic signal coordination timing, including optimal cycle length, phase sequence, and offsets, use Synchro V
- For complex signal coordination, queuing, and turn bay storage, use CORSIM or VISSIM

An electronic copy of the model must be submitted to the Traffic Operations Center Manager.

3.11.3.1.4 Traffic Analysis for Year of Operation (2004)

Year of Operation. For traffic analyses, define the year of operation as 2004. The year of operation is the year by which all Project components shall be completed and in service.

Optimal Operation. Develop all traffic signal phase sequence and timing parameters necessary to provide optimal signal operation during all hours of the day.

Supporting Calculations. Include supporting calculations of 2004 capacity and signal coordination.

Early Implementation. Although the analysis is based on the year 2004, implement cohesive signal system portions at the earliest opportunity.

Signal Control Database. Prepare the complete database required to program controllers for new and replacement signals, including:

Phase data, including minimum green, maximum green, extension, yellow, all red, and pedestrian timing

- Detector parameters
- Time-of-day, day-of-week, and week-of-year plan section
- Cycle
- Splits and phase sequences
- Offsets
- System detector volume and occupancy weighing
- Traffic-responsive plan selection criteria
- Pre-emption timing parameters

Timing Plans.

Coordination Limits. Include timing plans and coordination of all signals within ½ mile of new or replacement traffic signals. Coordinate timing plans with adjacent intersections and arterials outside of the ½-mile limit to provide optimal traffic flow through the interchange area.

Recommended Changes. Recommend to the Department and/or local agency any changes to signal coordination timing parameters that may improve the traffic operations.

Contents. Provide timing plans that include:

- Time-of-day, day-of-week, and week-of-year plan selection
- Cycle
- Splits and phase modes
- Offsets
- System detector volume and occupancy weighing
- Traffic-responsive plan selection criteria

Programming and Operational Check.

Equipment Programming. Program all traffic control equipment for new and replacement traffic signals.

Department/Agency Review. Before turning on any new traffic signals, submit all timing and

coordination data to the Department and/or local agency for review and, if necessary, adjustment.

Operational Check. After turn-on of new traffic signals, conduct an operational check and fine-tune the traffic signal timing.

3.11.3.1.5 Traffic Analysis for the Design Year (2030)

Perform the analysis to document the adequacy of the traffic signal system, roadway geometry, and lane configuration for the design year of 2030.

Intersection Analyses. In the traffic analysis of individual intersections, include traffic capacity and LOS analysis for the weekday a.m. and p.m. peak hours.

LOS Degradation. Conduct traffic signal coordination and queuing analyses for the design year to document that intersection spacing and turn-bay lengths are adequate to avoid queuing problems that would degrade LOS.

3.11.3.1.6 Materials

3.11.3.1.6.1 General

General. Provide traffic signal material that:

- Is new at the time of installation; and
- Meets the requirements of Section 02892M (Traffic Signals) of the UDOT Special Provisions.

LEDs. Use light-emitting diode (LED) for all traffic signal and pedestrian signal.

NEMA Cabinets. Use National Electrical Manufacturers Association (NEMA) TS 2 Type 1 traffic signal cabinets.

Foundations. Provide new foundations at locations requiring replacement of existing cabinets with larger cabinets. Do not expand existing controller cabinet foundations.

Cable. Use stranded IMSA 20-1 cable for traffic signal heads, ped heads, and push buttons. Use IMSA 51-7 and 51-3 cable for loops. Use IMSA 50-2 cable for detection home runs.

3.11.3.1.6.2 Department-Furnished Materials

Installation. Install the following Department-furnished traffic signal materials and related hardware:

- Mast arms
- Mast arm poles
- Anchor bolts
- Controllers
- Controller cabinets
- Video detection equipment (if required)
- Light Pole Extensions

Advance Request. Submit State Furnished Material Form to the Department listing the required material and quantities per intersection. This request should be submitted at least 60 calendar days before the material is required. Electronic copies of the form are available on the UDOT Traffic and Safety Design webpage. Submit completed forms to Amber Walker at amberwalker@utah.gov (965-4195).

Department Role. The Department will place the order with the manufacturer, receive the equipment at the Department Central Warehouse, inspect the equipment, program the controller and MMU, approve it for installation, and provide it to the Design-Builder at no cost.

Advance Notice. Notify the Department seven calendar days in advance of the desired pick up date. Contact Amber Walker at 965-4195. Coordinate with the Central Warehouse at least four calendar days before actual pick up date.

Pick up Locations.

Pick up mast arms, mast arm poles, anchor bolts, video detection equipment, and pedestrian poles, and associated hardware at:

Utah Department of Transportation
Central Warehouse — Contact: Ken Sanchez, 965-4060
4501 South 2700 West
Salt Lake City, UT

Pick up controller cabinets, controllers, and modems (if necessary) at:

Utah Department of Transportation
Electronics Laboratory — Contact: Bob Pieper, 887-3760
2010 South 2760 West
Salt Lake City, UT

3.11.3.1.6.3 Design-Builder-Purchased Materials

Traffic Signal and Pedestrian Heads. Supply all traffic signal and pedestrian heads in accordance with the Department or local agency standards, including all other materials required for a complete and fully operational traffic signal installation.

The Design-Builder shall also provide:

- Pedestrian poles, buttons, button signs, and display heads
- Back Plates on all signal heads
- Street Name Signs
- Mast arm mounted lane control signs
- Use modular traffic signal brackets to meet signal head clearance requirements
- Opticon controls on any traffic signal on the southeast frontage road at 3200 West.

Paint. Use an approved coating process over galvanized finish. Paint the signal poles and mast arms, if requested by the local agency. Coordinate with the appropriate City for color.

3.11.3.1.6.4 Salvaged Materials

General. Remove and salvage existing traffic signal hardware equipment (poles, mast arms, signal heads, cabinets, cameras, and hardware including bolts, handhole covers, end caps, and mounting brackets) and deliver the items to UDOT Shed 225 in Region 2. Contact Herb Kimbrel

at (801) 975-4007 to coordinate delivery date.

Cabinet Electronic Equipment. Salvage and deliver cabinet electronic equipment (controllers and other components) to the UDOT Signal Lab. Contact Guy Buckner at (801) 887-3787 to coordinate delivery date.

3.11.3.2 Construction

3.11.3.2.1 General

Utilities. Before any signal installation work, locate and mark all underground Utilities.

Power Service. Arrange for installation or relocation of power service by the local power company.

Design-Builder-Paid Costs. Pay all of the costs of:

Installing or relocating power sources; and

- Ongoing monthly electricity costs for any new traffic signals until Substantial Completion of the traffic signal system; see Section 3.11.3.2.3 (Signal Turn-On).

Department-Paid Costs. The Department will pay for the ongoing electricity costs for existing traffic signals.

Detection Loops. Provide detection loops in preformed polyvinyl chloride (PVC) conduit in pavement areas that are newly constructed, reconstructed, or resurfaced. Saw-cut the detection loops in undisturbed pavement areas.

Future Use Conduit. Provide future use conduit (2-2" PVC) and junction boxes in all intersections not meeting a signal warrant. Provide design plans for future use conduit and boxes for Department approval.

Pre-emption. Provide emergency vehicle pre-emption control if desired by the City as approved by the UDOT Region Two Signal Engineer.

3.11.3.2.2 Temporary Traffic Signals

Temporary Signals. Provide temporary traffic signals at any location where traffic signals have been removed for roadway construction.

Timing and Phasing Changes.

Design. Design all required temporary traffic signals and implement any temporary traffic signal timing or phasing changes required for traffic management during construction.

Advance Notice. At least seven calendar days in advance, submit any proposed timing or phasing changes, including any temporary signal head placement, to the Department for review and approval. Contact Keith Wilde at 887-3708.

Implementation. Implement the approved temporary changes, including programming the controller and relocating signal heads.

Notice Before Inspection. Provide notice of at least 24 hours for Department inspection before implementing temporary phasing.

3.11.3.2.3 Signal Turn-On

Inspection and Changes. The Department and/or local agency will inspect the traffic signal installation and the programming of the equipment. If changes are required, the Department

and/or local agency will advise the Design-Builder. See Section 3.11.3.3 (Inspection and Acceptance).

Signal Turn-On. The Department will turn on all signals belonging to the state. When the signal has been approved, the Design-Builder must contact the Region 2 Signal Engineer to schedule the turn-on.

Deryl Mayhew
Region 2 Signal Engineer
Office Phone: 801-887-3605
Mobile Phone: 801-910-2191
Fax: 801-887-3732

3.11.3.3 Inspection and Acceptance

Partial Acceptance. The Department will give partial acceptance to traffic signals on an intersection-by-intersection basis. The completion of all construction work on the traffic signal and the start of operation of a traffic signal that is fully functional for motor vehicle and pedestrian traffic constitutes partial acceptance. See Section 2.6 (Control of Work) for additional information.

Acceptance Requests. For requests for inspection for partial acceptance of traffic signals, give the Department notice of at least 10 calendar days. Contact Bill Butterfield at 887-3748.

Final Acceptance. FOA will occur after satisfactory field inspection by the Department and/or local agency staff, depending on ownership. FOA of the SR-201 Roadway Improvements Project will constitute final acceptance of the traffic signals. Final acceptance will not be given for any intersection until the entire Project is completed.

3.11.4 SUBMITTALS

No submittals are required for traffic signals.

3.12 LANDSCAPE AND AESTHETICS

General Scope. Design, provide, install, and construct the landscape and aesthetics improvements in accordance with the requirements of this Section and the Appendix H(Landscaping Report), including referenced standards and publications, performance requirements, design and construction criteria, and submittals.

Definition. Landscape items are trees, shrubs, groundcovers, turf sod, grass seeding, mulch, rock, topsoil, sub-drainage, and the irrigation system.

One Plan. Develop one plan that provides for all landscaping items and aesthetic improvements.

Advisory Committee Subcommittee(s). Coordinate development of the landscaping and aesthetic plan with the appropriate subcommittees as outlined herein and in Section 3.16 (Public Involvement).

Early Aesthetics Review. Aesthetic design considerations directly influence other Project components, such as the pier configuration on bridges. Early concurrence with the Department on treatment concepts is crucial so that, upon agreement, the aesthetic improvement may be incorporated into the structural design.

Warranty. Warrant all landscape work and aesthetic improvements in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the landscape and aesthetic improvements during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.12.1 REFERENCED STANDARDS AND PUBLICATIONS

3.12.1.1 Referenced Standards

General. Design, provide, install, and construct the landscape and aesthetic improvements in accordance with the relevant requirements of the standards listed by priority in Table III-25.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-25
REFERENCED STANDARDS FOR LANDSCAPE AND AESTHETIC IMPROVEMENTS

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date**	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	Amer. Assoc. of Nurserymen	*American Standard for Nursery Stock*	ANSI Z60.1	*	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.12.1.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-26 as supplementary guidelines for the design, provision, installation, and construction of the landscape and aesthetic improvements. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

TABLE III-26
REFERENCED PUBLICATIONS FOR LANDSCAPE AND IMPROVEMENTS

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
AASHTO	*A Guide for Transportation Landscape and Environmental Design*	S99-HLED-2	1991	n/a
Cornell University L.H. Bailey Hortorium	*Hortus Third, A Concise Dictionary of Plants Cultivated in the United States and Canada*	MacMillan Publishing Co., NY	*	n/a
Koenig, Rich, and Von Isaman	*Topsoil Quality Guidelines for Landscaping*	AG/SO-02; Utah State University Coop. Extension	May 1997	n/a
Koenig, Rich, and Jan Kotuby-Amacher	*Understanding Your Soils Test Report*	HG-512; Utah State Univ. Cooperative Extension	*	n/a
UDOT	*Temporary Erosion and Sediment Control Manual*	n/a	April 1999	n/a
UDOT and Weber State University	*Native Plant Establishment Techniques for Successful Roadside Revegetation, as amended*	Weber State School of Nat. Sciences Dept. of Botany	July 1991	n/a
Welsh, S.L., et al.	*A Utah Flora, 2nd edition, revised*	Brigham Young Univ. Print Services	1993	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*

3.12.2 PERFORMANCE REQUIREMENTS

Prepare an initial landscape and aesthetic improvements plan based on the criteria in this Section.

Develop a revised plan that integrates landscaping and aesthetic improvements issues in coordination with the Advisory Committee Subcommittee(s).

Provide and construct landscape and aesthetic improvements that:

- Respond to the conclusion of the advisory committee(s) in coordination with the Landscape Concept plan;
- Are aesthetically pleasing and fit the neighboring environment.

3.12.3 DESIGN AND CONSTRUCTION CRITERIA

Advisory Committee Subcommittee(s). Form one or more subcommittees from the Community Coordination Committee noted in Section 3.16 (Public Involvement) as required to identify, propose, and evaluate landscape and aesthetic improvements along the Project alignment. Facilitate the subcommittee meetings and assist the subcommittee(s) in developing a program that meets the requirements of the Project, including budget. Implement the recommendations into the Landscape and Aesthetic Improvements Plan.

Landscape. Improve the planting environment within the ROW as needed. Select the best plants to meet the needs and requirements within each of the various planting areas. Coordinate landscape design with the requirements and regulations of the pertinent city. Consider plant material maintenance, including watering, fertilizing, and pruning requirements of individual species; frequency of maintenance; and access by and safety of maintenance personnel.

Aesthetic Improvements. Select design of form liners and other aesthetic improvements to structural elements. Schedule Department review of proposed design elements in a timely manner to allow these elements to be incorporated into the structural design.

3.12.3.1 Disturbance of Landscape Outside the Right-of-Way

General. Utility relocations will temporarily affect areas outside the Planned ROW Limits of the Project as identified in the Environmental Assessment, which may also impact vegetation. After a relocation has been completed by the Design-Builder, backfill the utility facility to the proper standards and restore the landscape to its previous state.

3.12.3.2 Topsoil

General. Apply topsoil before planting to areas disturbed by construction and/or landscaped areas within the Planned ROW Limits that are not receiving rock mulch.

3.12.3.2.1 Topsoil Definition

Topsoil is soil that meets the test parameters and requirements of Section 02912 (Topsoil) of the Standard Specifications (DB), and is free of petroleum products, construction waste, debris, and particles larger than 1 inch by any dimension, except as amended:

Texture. Less than 30% clay, less than 70% sand, and less than 70% silt

Soil texture classes.

- Preferred: Loam and silt loam with less than 70% silt
- Acceptable: Sandy clay loam with less than 70% sand and less than 30% clay; sandy loam with less than 70% sand; and clay loam and silty clay loam with less than 30% clay

Sodium Adsorption Ratio (SAR).

- For silt loam, silty clay loam, and clay loam: less than 7

- For sandy clay loam, sandy loam, and loam: less than 10

Organic matter (percentage by weight). ≥1% determined by the release upon combustion, Walkley-Black, or modified Walkley-Black testing method

Presence of the following nutrients. Phosphorus, potassium nitrogen, zinc, iron, copper, manganese, and sulfur

3.12.3.2.2 Topsoil Testing

General. Regardless of whether the existing topsoil within the planting area is used or the topsoil is imported, test the proposed topsoil quality to ensure that it meets the standards specified in Section 02912 (Topsoil) of the Standard Specifications (DB), and in this Section. Take topsoil samples from existing topsoil in place. If using imported topsoil, take samples from each source before delivery. If topsoil quality is improved through the use of soil amendments, use only amended soil that meets the specifications. If existing topsoil does not meet standards, place imported topsoil that does meet the standards.

3.12.3.2.3 Soil Amendments

General. If testing indicates the proposed topsoil is deficient, provide the Department with a list showing each additive proposed to correct each deficiency. After making amendments, retest the topsoil. If the amended soil fails testing or the topsoil cannot be improved, provide other topsoil that meets the requirements. Do not add fertilizer to the topsoil during placement or during the initial plant establishment period.

3.12.3.2.4 Inspection

General. Identify all topsoil sources and develop a schedule for placement, by written notification, to the Department. The Department reserves the right to review the indicated source(s) for acceptance before topsoil is delivered to the site.

3.12.3.2.5 Placing Topsoil

General. Within specified high level planting areas, place at least 12 inches (compacted depth) of topsoil; within the parkstrip and other planted areas disturbed by grading, place at least 6 inches; for areas to be seeded, place at least 4 inches. Compact the soil to 88-92% density per AASHTO T99, Method D.

3.12.3.3 Planting Design Criteria

3.12.3.3.1 Landscape Treatment at Interchanges along the SR-201 corridor

General. Consider travel speeds, sight distance, drainage needs, and other elements that impact the safety and views of the motorists entering and leaving SR-201 from I-215, Redwood Road, 3200 West, and Bangerter Highway. Protect slopes against erosion. High Level Landscape plans should follow the landscaping concepts used on the I-15 and SR-265 (University Parkway) interchange in Orem, Utah.

High Level Landscape design (Refer to Appendix H) requires 1 tree per 1000 sq. ft. (1 ¾" caliper – shade or ornamental tree, 6' evergreen) and 1 shrub per 20 sq. ft. (1 gallon – deciduous, evergreen). Medium Level Landscape design (Refer to Appendix H) requires 1 tree per 2000 sq. ft. (1 ¾" caliper – shade or ornamental tree, 6' evergreen) and 1 shrub per 40 sq. ft. (1 gallon – deciduous, evergreen).

Salt Lake and West Valley Cities. Meet the applicable landscape and irrigation requirements of the respective City for areas outside of the SR-201 corridor. Consider the maintenance concerns. See Section 3.16 (Public Involvement) for coordination and committee requirements.

3.12.3.3.2 Landscape Treatment of Parkstrips

For parkstrips along existing development or undeveloped properties:

Provide colored, stamped concrete paving, irrigated sod, and/or planting with irrigation, or a combination of these options. Follow any City standards for specified tree and shrub types or irrigation equipment.

3.12.3.3.3 Plants

Trees. Do not plant any trees that, after mature extend beyond the shoulder width of the road for parkstrip trees. In widened ROW areas, do not plant over story trees closer than 20 feet from the edge of the traffic lane. If evergreens are desired as part of the landscape plan, plant them only in the widened ROW areas. Where the fruit could fall on paved areas, do not use trees with fruit greater than ¼ inch in any dimension.

Shrubs. Install shrubs in mass plantings for ease of maintenance and irrigation. Evaluate the height of proposed shrub species in relation to landscape location and motorist visibility. Do not use tall shrubs in parkstrip plantings.

Groundcovers. Use groundcovers to add color, texture, and seasonal interest to the landscape design. Plant groundcovers in mulched beds in masses of no less than 100 plants per group at 12 inches on the center of like varieties.

Turf Sod. If desired by the affected property owner, replace existing sod areas disturbed by construction with new sod.

Grasses. When selecting grass species other than turf sod to be planted in the ROW, evaluate them using the criteria of their height and potential effect on safe viewing from vehicles; soil characteristics; mowing requirements; erosion control capability; maintenance requirements; and compatibility with the surrounding environment.

3.12.3.3.4 Erosion Control

Provide and install temporary erosion control measures per Sections 01561 (Temporary Environmental Fence), 01571 (Temporary Environmental Controls), and 02376 (Erosion Control Blankets/Channel Liners) of the Standard Specifications (DB). Slopes greater than 2:1 require erosion control blankets.

3.12.3.4 Plant Classifications

General. Plants are classified by category, size, and whether they are deciduous or evergreen. Refer to the American Association of Nurserymen *Standards for Nursery Stock* for the minimum tree height associated with the specified caliper of each species type. For trees and shrubs, provide only those that are either balled and burlapped or container-grown; do not provide any bare root material. Comply with the requirements of Section 02932 (Trees, Shrubs, and Groundcovers) of the Standard Specifications (DB) for submittals, delivery, storage, handling, and conditions of trees, shrubs, and groundcovers.

Use the following classifications and criteria in the proposed landscape plan to define the planting material:

Shade Trees. (Deciduous trees taller than 40 feet at mature height.) Use 1 3/4-inch caliper minimum tree size at time of planting.

Ornamental Trees. (Deciduous trees between 15 and 40 feet at mature height, with ornamentals having distinct or showy characteristics in flower, fruit, leaf color, or form.) Use 1 3/4-inch caliper minimum tree size at time of planting.

Evergreen Trees. (Evergreen or broadleaf evergreen leaf trees with a minimum mature height of 12 feet.) Use 6-foot minimum tree height at time of planting.

Deciduous Shrubs. (Any deciduous shrub classified by height, with tall being higher than 3.5 feet and lower being 3.5 feet or shorter.) Plant 12-inch minimum shrub height, with a minimum of two canes, and 1-gallon minimum container size.

Evergreen Shrubs. (Shrubs having evergreen or broadleaf evergreen leaves.) Determine the minimum size at planting by the predominant direction of growth. For spreading plants (whose width exceeds twice its height in its mature form), use 12-inch minimum spread at time of planting. For all other evergreen shrubs (which are measured by height), use 12-inch minimum shrub height at time of planting.

Groundcovers. (Herbaceous perennials planted typically for their spreading growth characteristic.) Use plants with a 6-inch minimum growth in the predominant growing direction for the selected species. Use 4-inch pot size at time of planting.

Turf Sod. Meet the requirements of Section 02922 (Seed, Turf Seed, and Turf Sod) of the Standard Specifications (DB).

Grasses. Use a seed mixture based on the percentage of pure live seed that is approved by the Department, per Section 3.12.3.8 (Seeding).

3.12.3.5 Tree and Shrub Planting Procedures

General. Plant trees, shrubs, and groundcovers according to the requirements of Section 02932 (Trees, Shrubs, and Groundcovers) of the Standard Specifications (DB) as amended by this Section. Dig tree and shrub pits to twice the diameter and the same depth as the root ball or container. Install trees to vertical and so the root flare is flush with the surrounding grade. Immediately water trees and shrubs at the completion of planting and before applying mulch.

3.12.3.6 Mulch

3.12.3.6.1 Tree and Shrub Areas

Mulch all tree and shrub planting beds. Use organic or inorganic mulch as required by the treatment definitions in this Section.

Organic Mulch. (**SHREADED BARK**, (not ground scrap lumber or pallets) decomposed in a pile for a minimum of 120 days.) Use only mulch that:

- Has a maximum pH of 7.5, and
- Has a maximum size of ¼ inch thick and 6 inches long for at least 75% of the applied mulch.

Apply mulch to a minimum depth of 2 inches on top of 2 inches of compost. Around shrub beds, extend mulch limits beyond the expected spread of shrub growth over a five-year period. For individual tree plantings located outside of shrub beds or tree groupings, extend mulch to a 3-foot minimum diameter around the tree.

Inorganic Mulch. (Finely crushed decorative rock and 2” to 6”cobble). Before mulch application, prepare the area by excavating to the depth necessary to accept the specified mulch type (3” minimum for crushed rock and 6” minimum for cobble) and installing weed barrier fabric under and to the limits of the proposed inorganic mulch. Apply inorganic mulch to the same limits as specified above for organic mulch around trees and shrubs.

3.12.3.6.2 Seeded Areas

Apply mulch to seeded areas per the requirements of Section 02911 (Mulch) of the Standard Specifications (DB).

3.12.3.7 Seeding

General. Seed all areas that do not have turf sod, inorganic mulch, or organic mulch. If seeding is used, install seeding by drilling or broadcasting per Section 02922 (Seed, Turf Seed, and Turf Sod) of the Standard Specifications (DB). Provide proposed seed mix for review and final approval by the Department before installation. Do not include species that are high water users or invasive. Meet the requirements of the Department's specifications for submittals, delivery, storage, scheduling, seed quality, seedbed preparation, fertilizing, planting dates, and installation. Seeding is included in the landscape and aesthetic budget.

3.12.3.8 Irrigation

General. Installed trees, shrubs, groundcover, and turf sod will require proper irrigation for establishment, and supplementary irrigation during dry or drought periods throughout their life cycle. Provide permanent irrigation for all planting areas except grass seeding.

3.12.3.8.1 City Requirements

Provide irrigation systems within the parkstrips and coordinate system installation and connections with each appropriate property owner if the property has existing plants or irrigation system.

3.12.3.8.2 Design Considerations

Design an efficient irrigation system and consider the following factors to determine frequency and precipitation rates:

- Soil texture and type
- Infiltration rates per soil texture for areas being irrigated
- Field capacity and evapotranspiration rate to determine available water
- System losses by runoff, percolation, or hydraulic causes
- Locations and conditions of existing systems and controllers

3.12.3.8.3 Irrigation System Requirements

A permanent automated irrigation system (with Rain Master components inside the SR-201 corridor, meet city requirements in all other areas) that includes the following:

- Connections to and piping from the proposed water supplies to the points of irrigation
- As required, the controller, backflow preventer assemblies, piping, valves, fittings, sprinkler heads, wiring, and system adjustments
- Remote-controlled valves accessible for maintenance
- Only bubbler or mushroom sprinkler head types (to reduce evaporation losses)
- No drip-type irrigation system
- Drains at low points of the system with a sleeve to prevent clogging
- Irrigation installation, including trenching, stockpiling excavation materials, backfilling, and compacting trenches

- Sleeving of all irrigation piping under the roadway, sidewalks, trails, driveways, and crossings
- Compliance of the system's components with the operation requirements for the type of water being proposed
- Capability of being drained for winterization by compressed air

3.12.3.9 Aesthetic Treatment of Structural Elements and Paving

The Project structural elements include, but are not limited to, all bridge components, retaining walls, and noise walls. Paving includes colored, stamped permanent pavement in parkstrips and crosswalks.

3.12.3.9.1 General

Design. Consider the visual context when designing the aesthetic treatment of a structural element. Use aesthetic treatments that employ the use of color and texture, which can be further expressed by pattern reveals, bevels, shadow lines, surface finishes, and geometric form work.

When designing the aesthetic treatments, consider the following elements:

- Integration of the aesthetic treatment with the landscape design
- Continuity of the visual treatments within the limits of each city
- Consistency of graphic art, signage, lighting, and architectural treatments
- Relief, form, and proportion of structures within the Project
- Use of texture and color to define aesthetic treatments
- Views of structural elements from outside the ROW, intersection, and adjacent land uses
- Ease of maintenance and repair
- Deterrence of vandalism and graffiti

3.12.3.9.2 Bridges

General. The quality of views to the structures are influenced by the form of the structural components, the balance between span length and structure depth, the avoidance of bulky appearance, and the continuity between bridge supports (both piers and abutments) and the superstructure. The scale and proportion of a bridge are important influences on its aesthetic quality.

When designing the aesthetic treatments, consider the following factors:

- Accentuating the span length
- Controlling the apparent structure length
- The proportional relationship of deck cantilever to girders
- Treatment with color and texture of linear elements along a bridge, such as barrier rails, deck edge, and girder face
- Treatment of light blisters along bridge barrier rails with form, color, and texture

- The shape and treatment of piers and abutments with form, reveals, color, and texture that relate to other bridge elements and identify the bridge as part of the visual character of the neighborhood or city
- Treatment of slope protection between bridge abutment and roadway paving, as it relates to the abutment and bridge structure
- The interface of approach walls with bridge abutment and deck.

3.12.3.9.3 Walls

General. For vertical surfaces of both retaining and noise walls, apply aesthetic treatment where the surface is visible to the motorist and the trail user and from the adjacent ROW. For both retaining and noise walls, use a consistent treatment that articulates the design themes established by the bridge aesthetic treatments and landscape design. Use pattern, texture, color, fenestration, reveals, scoring, caps, shadow lines, and other architectural treatments to create visual interest. Design the proposed treatment to be a part of the wall, regardless of the wall construction. Treat walls along both sides of the alignment uniformly.

3.12.3.9.4 Paving

General. Apply aesthetic treatment to paving of medians between curbs in selected areas, parkstrips between the curb and sidewalk, and special pavements at selected crosswalks. Use aesthetic treatments such as colored concrete or imprinted patterns.

3.12.3.9.5 Staining

General. Apply a penetrating stain to all retaining walls, noise walls, roadside and median barriers throughout the project and to the following bridge elements on the Redwood Road bridges: exterior girders, parapets, abutments, wingwalls, and intermediate supports.

3.12.3.10 Supplemental Elements

3.12.3.10.1 Lighting

General. The Department has a lighting standard used at interchanges and intersections; any lighting feature or enhancement that exceeds this standard is considered an aesthetic element. Include streetscape light standards of the relevant jurisdictions in the aesthetic improvements budget. Consider how this element impacts the cost and schedule of the aesthetic improvements. Coordinate the lighting installations with other parkstrip improvements. If landscape lighting is used to accent the planting or aesthetic features, design the lighting levels to avoid glare, distraction, impairment of night vision, or other conditions that may compromise a safe driving environment.

3.12.3.10.2 Fencing

General. Where fencing is required on bridges and pedestrian overpasses, the treatment is black vinyl coated chain link fence. Any fencing type or enhancement that exceeds this standard is considered an aesthetic betterment. Include the cost difference of this element from the standard in the landscape and aesthetic budget. Consider how this betterment impacts the cost and schedule of the aesthetic improvements. If a different type of fencing is proposed, coordinate the design and installation of this betterment.

3.12.3.10.3 Sculpture and Art

General. Address incorporation in the ROW of specialty elements, such as flags, banners, sculpture, or artwork, with the Subcommittee(s), if they desire such improvements. Consider how these elements might impact the cost and schedule of the aesthetic improvements.

3.12.3.11 Invasive Weed Control

3.12.3.11.1 Weed Control Before Planting

For a list of weed species subject to control, see the Utah State Noxious Weed List and the weed list of Salt Lake County.

Perform the following tasks to control weeds:

- Clean all earth-moving equipment and vehicles of dirt, mud, and seed residue before using it or brining it onto the Project site. Certify that all equipment has been cleaned using high-pressure water blasting or steam-cleaning methods.
- Clear the Project work area of weeds before disturbing soil. Eradicate weeds with selective herbicides recommended for those weed species.
- Minimize soil disturbance outside the slope stake limits. Monitor and control any disturbed area from weed invasion, and revegetate the disturbed area as soon as allowable by the construction schedule.
- Monitor gravel, rock, borrow, and imported topsoil being used on the Project for weeds and control weed growth with pre-emergent herbicides.

3.12.3.11.2 Weed Control After Planting

After planting, eradicate all weeds within the ROW by use of pre-emergent, selective, and nonselective herbicides. Monitor erosion control practices to prevent weed invasion in disturbed areas.

Chemical Weed Control. If using chemical weed control, application to be performed by a licensed applicator. Ensure that the product will not damage or kill the surrounding desirable plant material. If necessary, use hand pulling to eliminate weeds in these areas.

3.12.3.11.3 Aesthetic Treatment Maintenance

Monitor the appearance of the aesthetic treatments on any walls or bridges for any defects, flaws, or vandalism during the construction period and up to the FOA.

Note defects, flaws, or vandalism and bring them to the Department's attention.

Clean up any damage caused by vandalism until FOA.

Handle defects and flaws in the aesthetic treatment of structural elements as required per the discussion of nonconforming work in Section 3.18 (Quality).

3.12.4 SUBMITTALS

Landscape and Aesthetics Preliminary Plan. Before any project plans are submitted, provide a Landscape and Aesthetics Preliminary Plan to the Department for approval. The plan will detail all interrelationships between structural components including colors and textural treatments applied to these elements. Landscape, rockscape, irrigation, and aesthetic landscape treatments will also be included in the preliminary plan.

Design Landscape Plan. Provide a Landscape Planting and Irrigation Plan that indicates the location and names of all trees, shrubs, and groundcovers; limits and types of mulch; irrigation system components; and seeding or turf sod limits. Provide cross sections or elevations if needed for graphic clarity. See also Section 3.1 (General Requirements) for general submittal requirements.

Samples. Submit samples of proposed inorganic and organic mulches for Department review and approval before final selection. Submit photos and examples of proposed colors, textures, patterns, and other aesthetic treatments to be applied to the Project structures and paving for Department review and approval prior to final selection.

As-Built Drawings. At FOA, provide the Department with an as-built drawing of the installed irrigation system, and the installed plantings keyed by botanical name and size if there is a variation from the accepted planting plan.

3.13 UTILITIES AND THIRD-PARTY AGREEMENTS

General Scope. Coordinate the relocation work with the Utility Companies and various other entities in accordance with the requirements of this Section. Develop Supplemental Utility Agreements on behalf of the Department between the Department and the Utility Companies for all Utility relocations and perform the Utility relocation design and construction work where specified in this Section.

Affected Utilities. The Utility Companies listed in Appendix O (Utilities and Third Party Agreements) have been contacted concerning the project.

Costs. The Utility Companies are responsible for relocation construction costs according to **Utah Code, Section 72-6-116, Regulation of Utilities-Relocation of Utilities**, except as specified in this Section. The Department developed Master Agreements will identify the participation amounts of the Department and the Utility Company. The Design-Builder will use the draft Supplemental Agreement form as provided in Appendix O (Utilities and Third Party Agreements). In general, the Department is responsible for 100% of relocation costs of Utilities associated with political subdivisions (public utilities) and for 50% of relocation costs of Utilities associated with private companies, except those whose facilities are located on private ROW or easements that will be reimbursed at 100%. **All Department related Utility Relocation costs will be Back Charged to the Design-Builder.** If the design is changed after a Utility has completed or in the process of completing their relocation design, or have been relocated by the previous approved design plans, the cost of the second design and/or relocation is to be paid in full by the Design-Builder, allow any additional time that may be required for the utility to redesign or modify their plans and re-relocate their facility when required.

Department-Supplied Information.

Limited Investigations. The Department has investigated some of the Utilities likely to be affected by the Project. However, the Department has performed only a partial study of the Utilities and has not investigated service lines. Note that:

- The Department has not identified the service lines at the site and may not have identified all non-Service Line Utilities existing at the site.
- The locations and sizes of the Utilities identified in Appendix J (Conceptual Plans and Survey Information) might not be exact.
- All Utility information shown in this RFP that has had a Subsurface Utility investigation performed is to be considered reliable information. All other utility information is for information only and should not be the sole basis for establishing the relocation work.

Accuracy. All utility information supplied as part of the Department's Subsurface Utility Investigation is to be considered accurate.

Warranty. Warrant all Utilities Work in accordance with Section 3.20 (Warranty).

Maintenance During Construction. Maintain the Utilities during construction in accordance with the requirements in Section 3.19 (Maintenance During Construction).

3.13.1 REFERENCED STANDARDS AND PUBLICATIONS

General. Perform all Utilities Work in accordance with the relevant requirements of the standards listed by priority in Table III-27.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the

highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

Utility Agreements. The Department is in the process of preparing Master Utility Agreements for this project. Note that a draft Supplemental Agreement is incorporated into this RFP in Appendix O (Utilities and Third Party Agreements) and is to be used by the Design-Builder.

TABLE III-27
REFERENCED STANDARDS FOR UTILITIES WORK

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP; see App. J for utility Agreements
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"
4	UDOT	*Manual for the Accommodation of Utilities and the Control and Protection of State Highway Rights of Way*	n/a	May, 2000	n/a
5	FHWA	Utilities	23 CFR, Part 645, Subpart B	Nov 22, 2000	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.13.2 PERFORMANCE REQUIREMENTS

Avoiding Relocations. In finalizing the design, regardless of who performs or pays for any proposed utility relocation work, the location of Utilities, and the potential impact of their relocation:

- Take all reasonable steps to avoid Utility relocation to the extent practicable.
- If any cross streets are lowered, the Design-Builder must show through value engineering, that it is more economical to relocate the utilities in the cross street, than to raise SR-201 at that location
- If relocation of a Utility is not reasonably avoidable, to the extent practicable:

  Minimize the extent of the Relocation; and

  Minimize the potential costs and delays.

Utility Agreements. Comply with all provisions of the Master Utility Agreements. Comply with all provisions of the Supplemental Utility Agreements.

Project Impacts. Pursue the above goals by taking into consideration the impact of Utility Relocations on the Project as a whole, without regard to whether the Design-Builder is entitled to a Change Order.

3.13.3 PROVISIONS OF UTILITY AGREEMENTS

Department Responsibility. The Department intends to sign a Master Utility Agreement with each Utility Company that owns or operates facilities that are affected by the Project to:

- Establish the framework for addressing Project Utility Relocations and associated issues;
- Allocate responsibilities for the design and construction work between the Design-Builder and the Utility Company; and
- Review supplemental agreements prepared by the Design Builder, prepare the corresponding R-709 and process the R-709 with our Program Development Department of UDOT. This process could take as long as two (2) weeks to complete. Send Supplemental Utility Agreement to utility companies for execution by them along with authorization to proceed with the work covered by the supplemental agreement.
- Establish the method of payment for costs incurred by the Utility Company for Utility design, construction, and inspection.

Department Authority. The Department and the Utility Company shall set the terms of all Utility Agreements and any amendments thereto. The Design-Builder shall have no authority to enter into any agreement with any utility company on the Department's behalf.

Design-Builder Responsibility. Coordinate the negotiation for and preparation of all Supplemental Utility Agreements. Prepare and provide any related written information concerning the Project requested by the Department, such as reports, plans, surveys, and cost estimates, and provide personnel to attend negotiation sessions. If requested, substantiate all costs, including mark-up, direct, and indirect costs, incurred for Utilities-related activities. Deliver six (6) sets each of the Supplemental Utility Agreement along with the corresponding plans and estimates to John Brantly, Region 2 Utility and Railroad Engineering Coordinator, 2010 South 2760 West, Salt Lake City, Utah 84104-4592.

Unidentified Work. Note that utility Work associated with Work that is unforeseen and not addressed in these agreements could become necessary.

Unidentified Utilities. If the Design-Builder identifies conflicts with a Utility owned by an entity other than those Utility Companies listed in Appendix O (Utilities and Third Party Agreements), coordinate with the Department in order for the Department to execute an agreement with the currently unlisted Utility Company. No additional reimbursement will be made to the Design-Builder for this work.

3.13.4 CONTACTS, COORDINATION, NOTIFICATION, AND INSPECTION

General. Coordinate with each affected Utility Company as necessary to accomplish each relocation, including obtaining information, scheduling, design reviews, inspections, approvals, and acceptances by both the Department and the Utility Company. The Design-Builder is responsible for determining potential conflicts with utilities and assisting in determining the ultimate location of the utility facilities to be relocated.

3.13.4.1 Contacts

Through the designated Utilities Coordinator, coordinate and cooperate with the Utility contact persons designated on the list of Utility Company representatives in Appendix O (Utilities and Third Party Agreements), or as otherwise advised by the utility Company.

3.13.4.2 Coordination

3.13.4.2.1 Department Responsibilities

The Department has informed various utility companies about the Project and has identified many Utilities within the Project ROW Limits that may possibly be affected by the Project.

3.13.4.2.2 Design-Builder Responsibilities

Working Relationships. Act diligently to develop a positive working relationship with each Utility Company.

Coordination of Agreements. Coordinate as necessary to negotiate the applicable supplemental agreements between the Department and the affected Utility Company.

Coordination with Utility Companies.

Keep Utility Companies well informed of construction schedules. Design-Builder will provide the time required for the Utility companies to design and construct their facilities as shown in the following sections. **Make special note of the schedule restrictions in place for PacifiCorp and Questar Gas.**

Keep Utility Companies well informed of changes that affect their own facilities**. If the design is changed after a utility has completed their relocation design, or have been relocated by the previous approved design plans, the cost of the second relocation design and/or relocation is to be paid in full by the Design-Builder.** Allow for the additional time the utility may require to modify their existing design or if they have to completely redesign and/or relocate their facility.

Provide the Utility Companies sufficient time to notify their customers of potential impacts on service. Provide monthly schedule updates to affected Utilities.

Keep Utility Companies involved in making decisions that affect their facilities so they may provide uninterrupted service to their customers, or are subject to the least interruption practicable.

Cooperate with the Utility Companies to solve problems by improving their services and systems to the extent that such improvements are consistent with the Design-Builder's scope of Work, and without causing the Department to incur any unnecessary expense.

For utility relocations that are designed by the Design-Builder, the Design-Builder will look at all alternatives before making his final design. The Department and the Utility Company can be billed only for the final design. All preliminary design work looking at alternatives will be at the Design-Builder's cost, and will not be billed to the Department or Utility Company.

For utility relocations that are designed and/or constructed (in whole or in part) by the utility company, the Design-Builder will be responsible for providing any coordination, traffic control, and surveying (line & grade) required by the utility for their placement of the required relocation, and will verify this location prior to the utility being placed in its final relocated position. Coordinate with the utility for the survey staking, so that the utility is ready to construct when the relocation is surveyed. This coordination will be at the Design-Builder's cost, and will not be billed to the utility company

Startup Meetings. Within 28 calendar days of NTP, schedule meetings with each Utility Company, the Design-Builder, and the Department to:

- Review:

  All items that affect the Project schedule

The time required procuring construction materials

The period of time that Utility service may be curtailed

- Reach concurrence on the number and extent of known affected Utility lines or issues
- Establish the methods to be used at each specific location
- Develop procedures for addressing conflicts discovered during design and/or construction

Other Meetings. Throughout the Project, conduct meetings with Utility Companies as necessary to achieve the above goals.

3.13.4.2.3 Utility Company Responsibilities

The Utility Company agreements will require:

- Compliance with signed Utility Agreements
- Attendance at coordination meetings
- Cooperation in the scheduling of construction
- Provision of copies of existing records if the Design-Builder requires additional information for final design

Utility Company Cost. The Utility Companies are responsible for relocation construction costs according to **Utah Code, Section 72-6-116, Regulation of Utilities-Relocation of Utilities,** except as specified in this section. The Design-Builder will use a copy of the Supplemental Agreement listed in Appendix O (Utilities and Third Party Agreements). The Supplemental Agreements will identify the participation amounts of the Department and the Utility Company. In general, the Department is responsible for 100% of relocation costs of Utilities associated with Political Subdivisions (public utilities) and for 50% of relocation costs of Utilities associated with private companies, except those utilities whose facilities are located on private ROW or easements, they will be reimbursed at 100%. <u>All Department related Utility Relocation costs will be Back Charged to the Design-Builder.</u>

3.13.4.2.4 Time Needed for Design Review and Construction

Design Review. Allow the specified amount of time in the schedule for the Utility Company to review and approve Utility Relocation Plans.

Construction. Allow the specified amount of time in the schedule for each Utility to be relocated. If the Design-Builder is performing the relocation, provide sufficient advanced notice to the Utility Company to inspect the installation.

Revision of Time Periods. If a more definitive time commitment is needed from a Utility Company for a particular Relocation, negotiate such commitment with the Utility Company.

3.13.4.2.5 Cost Estimates

General. If a Utility Company is responsible for any payment to the Department, the Department will prepare a cost estimate and submit it to the Utility Company. The exact amount to be paid will be negotiated between the Utility Company and the Department.

Design-Builder Responsibility. If requested by the Department, provide a cost estimate and related information.

3.13.4.3 Notification

All notifications must be given in writing unless otherwise specified.

3.13.4.3.1 Utility Company Performance

Delay in Work. Check the progress of Utility Company Relocation Work and notify the Department if the Design-Builder believes the Utility Company will not meet the time frame(s) for design review of the Design-Builder's plans, construction, or timely inspection. Provide such notice to the Department within five calendar days after discovery.

Permits and Governmental Approvals. If the Utility Company is performing the relocation of their facility, verify that the Utility Company has obtained and complied with required Relocation Permits and government approvals. If the Design-Builder believes the Utility Company does not have the necessary Relocation Permits or governmental approvals, or is in violation of either, notify the Department within seven calendar days after discovery.

Cooperation. Make diligent attempts to obtain the cooperation of each Utility Company as necessary for the Project. If the Design-Builder becomes aware that a Utility Company is not cooperating in providing needed work or approvals, notify the Department within seven calendar days of identifying such problem(s).

3.13.4.3.2 Meetings and Correspondence

Notify the Department at least four calendar days in advance of each meeting with a Utility Company representative scheduled by the Design-Builder, and allow the Department the opportunity to participate in the meeting.

Records. Record and maintain objective minutes of all Utility meetings with the Utility Company and/or the Department. Make these meeting minutes available to the Department within four calendar days of the meeting. Provide to the Department copies of all correspondence between the Design-Builder and any Utility Company within four calendar days of receipt or sending, as applicable.

3.13.4.3.3 Construction

General. Before starting construction that may affect any Utility, notify that Utility Company in writing.

Excavation. As the "excavator" in the area of "underground facilities" within the site, give such notices of excavation as are required under Utah Code Section 54-8a-2.

Overhead Lines. For work adjacent to overhead lines, give appropriate advance notice to the Utility Company. If appropriate notice is not given, accept sole liability for damage to any overhead facilities that might have been prevented by timely delivery of such notices.

3.13.4.3.4 Existing Utilities Not Previously Known

General. If the Design-Builder discovers any existing Utility (excluding service lines) that is not shown in Appendix J (Conceptual Plans and Survey Information) but will be affected by the Project, notify the Department within seven calendar days of discovery. Cooperate with the Department in identifying and notifying the Utility Company, and discontinue Work immediately until the Department and the Utility Company approve a course of action.

3.13.4.4 Inspection

With the CQO, perform whatever inspection, sampling, and testing deemed appropriate by the Design-Builder to comply with its obligations under the Contract Documents and in accordance with the approved QMP.

Right to Inspections. As part of the Department's construction oversight role, subject all materials and each part or detail of the Work to inspection and testing by the Department, at the Department's discretion. When any Government Agency or Utility Company is to accept the Work performed by the Design-Builder, consent to the right of its respective representative(s) to inspect and test the Work. Such inspection will not make such Person a party to the Contract, nor will it change the rights of the parties.

3.13.5 DESIGN AND CONSTRUCTION CRITERIA

3.13.5.1 Approach to Utilities

General. Note that construction of the Project will affect existing and planned Utilities, as well as one canal. Except as stated in this Section, perform all utility Work (including efforts and costs) necessary to accommodate the Project, including the ATMS relocation and/or installation, the watercourse Work, and other Utility Work deemed by the Design-Builder to be convenient for its construction activity.

Utility Work Limits. The limits of Utility Work extend as far as is necessary to accommodate the Project Work, whether inside or outside the Project ROW, and take into account the requirements of the Utility Companies and local agencies with jurisdiction.

Utility Easements. Utility easements will be defined in final design. UDOT will have approval of all utility easements. Utility easements will only be purchased when absolutely required.

Design-Builder's Responsibilities. The Design-Builder's obligations shall include the following activities, all of which shall constitute a part of the utility Work:

Perform all tasks, obligations, and duties assigned to the Department and/or the Design-Builder in the utility Work.

- Identify and verify all Utilities located within or near the Project ROW Limits or otherwise affected by the Project that have not been identified and verified as part of the utility information provided in Appendix J (Conceptual Plans and Survey Information), including surveying and potholing.
- Design all Relocations for which such responsibility is assigned to the Design-Builder. Utility can only be billed for one (1) relocation design.
- Construct all Relocations for which such responsibility is assigned to the Design-Builder.
- Resurfacing and restriping of all streets where necessary due to Utility Relocations.
- Provide any coordination, traffic control, and surveying (line & grade) that the utility may require, in order for the utility to place their facility in the proper location. This will be a Design-Builder cost, and will not be billed to the utility company.
- Do not provide any traffic control and/or surveying (line & grade) for the utility company until requested by the utility. This will be a Design-Builder cost, and will not be billed to the utility company.
- For relocations that are designed and/or constructed (in whole or in part) by the utility company, the Design-Builder will provide any guidance required to the utility for their placement of the required relocation, and will verify this location prior to the utility being placed in its final relocated position. This will be a Design-Builder cost, and will not be billed to the utility company.

- For Relocations that are designed and/or constructed (in whole or in part) by the utility company, verify that each relocated Utility, as designed and constructed, is compatible with and interfaces properly with the remainder of the Project.
- Coordinate with the Utility Companies in the same area, especially in the same trench.
- Design and construct any Utility Relocation not listed in Appendix O (Utilities and Third Party Agreements).
- Prepare and/or negotiate Supplemental Utility Agreements with the Department's oversight and approval.

Responsibilities of Others. The following work will not be the responsibility of the Design-Builder:

- All activities and costs that are identified as the responsibility of a Utility Company or of the Department, or are otherwise specifically excluded from the Work in this Section.
- The cost of purchasing the Utility Easements, for which responsibility is assigned to the Department in Section 3.14 (Right-of-Way), provided that the Design-Builder shall perform the duties and bear the costs assigned to the Design-Builder in Section 3.14.

Department Rights. Without limiting the Design-Builder's obligations under this Section, the Department shall retain all rights to provide approvals, consents, permissions, satisfactions, agreements, and authorizations called for under the Utility Agreements, unless otherwise provided in the Contract Documents.

3.13.5.2 Allocation of Design and Construction Cost Responsibilities

3.13.5.2.1 American Fiber: Tim Larsen, 435-623-5609, Cell, 801-360-1052

P.O. Box 292

Levan, Utah 84639

<u>NO CONFLICTS ARE ANTICIPATED WITH AMERICAN FIBER.</u>

3.13.5.2.2 AT&T Local Network Services Sherry Mosher, 801-606-9920

2420 South 1070 West Willy Salas, 801-606-9955

West Valley, Utah 84119

AT&T Local Network Services lease fiber from Comcast. All agreements will be with Comcast.

. **<u>NO CONFLICTS WITH AT&T LOCAL NETWORK SERVICES OWNED FACILITIES ARE ANTICIPATED.</u>**

3.13.5.2.3 Brighton & North Point Irrigation Elliot Christensen, 801-321-7831

P.O. Box 112107 Gary Brown, 801-240-3069

Salt Lake City, Utah 84147-0107

Design: Perform all design work for Brighton & North Point Irrigation Facilities. There are two (2) crossings of the Brighton Canal on the north frontage road east of 3200 West: one (1) at the existing culvert to the industrial park and one behind the Maverick Station. The existing crossing at the industrial park will need to be replaced. Use a 6.0 feet tall by 12.0 feet wide concrete box culvert meeting HS-20 loading requirements, the flow line will be two tenths below the preceding box floor, which crosses the North Frontage road. The crossing behind the Maverick Station will be a 6.0 feet tall by 12.0 feet wide concrete box culvert meeting HS-20 loading requirements. The flow line's will match the existing ditch bottom but be below the preceding culvert floor. No drainage from the frontage road will be allowed into the Brighton Canal.

Design Time: Brighton & North Point Irrigation will require two (2) weeks to review and approve the design of their facilities.

Cost: Include the design, inspection and/or review and construction costs of the Brighton & North Point Irrigation facilities in the contract price.

Construction. All construction on the Brighton & North Point Irrigation facilities must be accomplished during the non-irrigation season, typically between October 15th and April 15th.

3.13.5.2.4 Comcast Lyndon Lauhingoa 801-401-3048

9075 South 700 West Gary Goldstein 801-401-3041

Sandy, Utah 84070

Design. Comcast will perform all design work for the relocation of lines.

Design Time. Comcast may take up to 2 months to do its design after roadway design plans are delivered to Comcast.

Construction. Comcast will construct all lines and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time: Comcast may take up to two (2) months after its design to do its construction, but it has to be coordinated with other relocation work.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, construction, inspection, and splicing will be equally divided between the Department and Comcast for all lines not within a private ROW or Easement. The Department will reimburse Comcast for 100% of design, construction, inspection, and splicing costs for lines that are on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.5 Electric Lightwave Shauna Jones, 801-924-6674

#4 Triad Center, Suite 200

Salt Lake City, Utah 84180

Design. Electric Lightwave will perform all design work for the relocation of their lines.

Design Time. Electric Lightwave may require up to two (2) months to complete the design and obtain materials after roadway design plans are delivered to Electric Lightwave..

Construction. Electric Lightwave will construct all lines and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time. Electric Lightwave may require up to two (2) months after their design is complete to do its construction, but it has to be coordinated with other relocation work.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, construction, inspection, and splicing will be equally divided between the Department and Electric Lightwave for all lines not within a private ROW or Easement. The Department will reimburse Electric Lightwave for 100% of design, construction, inspection, and splicing costs for lines that are on a private ROW or easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.6 Granger-Hunter Improvement District Ty Thomas, 801-955-2215

2888 South 3600 West

West Valley, Utah 84170

Design: Perform all design work for relocation and/or adjustment of existing Granger-Hunter facilities.

Design Time: Granger-Hunter shall have three (3) weeks approval period after design plans are delivered to Granger-Hunter.

Construction: Construct all Granger-Hunter relocations. All methods and materials used will meet or exceed Granger-Hunter's specifications.

Cost: The Design-Builder is responsible for relocation and/or adjustment costs of existing facilities, include the cost of these facilities in the contract price. In the event Granger-Hunter wants to include any betterments to be constructed by the Design-Builder, Granger-Hunter will negotiate with the Design-Builder for these betterments and will pay the full cost of said betterments to the Design-Builder.

Utility Agreement: The Department will not reimburse the Design-Builder for the cost for design, inspection and/or review and construction of existing facilities.

3.13.5.2.7 Jordan Valley Water Conservancy District Dave Norman, 801-565-4376

8215 South 1300 West

West Jordan, Utah 84088-0070

No Conflicts are anticipated with Jordan Valley Water Cons. Dist.

3.13.5.2.8 MCI Mike Vandenberg, 801-364-8625

5545 Shea Drive

Salt Lake City, Utah 84104

Design. MCI will perform all design work for the relocation of their lines.

Design Time. MCI may take up to two (2) months to complete design and obtain the materials required after roadway design plans are delivered to MCI.

Construction. MCI will construct their lines and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time. MCI may take up to two (2) months after their design is complete to do its

construction, but it has to be coordinated with other relocation work.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, construction, inspection, and splicing will be equally divided between the Department and MCI for all lines not within a private ROW or Easement. The Department will reimburse MCI for 100% of design, construction, inspection, and splicing costs for lines that are on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.9 MetroMedia Fiber Network, Inc. Pete Anderson, 206-988-8608

3433 South 120th Place South Cell, 206-396-6538

Tukwila, Washington 98168

No Conflicts are anticipated with MetroMedia Fiber Network, Inc.

3.13.5.2.10 PacifiCorp (Utah Power) Donald Christensen, 801-220-2218

1407 West North Temple Suite 320

Salt Lake City, Utah 84140

Design. PacifiCorp will perform all design work for the relocation of power lines.

Design Time. PacifiCorp will take up to three (3) months for design of both underground and overhead power lines after roadway design plans are delivered to PacifiCorp. After design is finalized, there will be an internal two-week approval process.

Schedule. In general PacifiCorp cannot have line outages, except for possible limited outages from May 1 through September 1 due to hot weather and the peak demand for power during this time frame.

Construction. PacifiCorp will construct power lines, will survey for placement of poles and guy wire locations, and the Design-Builder will provide the coordination, traffic control and any other surveying that PacifiCorp will require to accomplish their work.

Construction Time. PacifiCorp could take as long as 6 months to construct its lines, including time to obtain materials after the relocation design is complete.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, inspection and construction will be equally divided between the Department and PacifiCorp for all lines not within a private ROW or Easement. The Department will reimburse PacifiCorp for 100% of design and construction costs for lines that are on a private ROW or Easement. All Department related costs will be Back Charged to the Design Builder.

3.13.5.2.11 Questar Gas Kyle Secretan, 801-324-3389

1140 West 200 South Mike Gill, 801-324-3787

Salt Lake City, Utah 84104

Design. Questar will perform all design work for the relocation of their gas lines.

Design Time. Questar may take up to six (6) months for design and acquisition of materials for high pressure (HP) gas lines and, one (1) month for design and acquisition of materials for intermediate high pressure (IHP) gas lines after roadway design plans are delivered to Questar.

Schedule. Questar in general cannot impact its lines from November to March. Their high pressure (HP) lines, cannot be impacted from October 1 through April 15.

Construction. Questar will construct gas lines and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time. Questar can begin relocation of gas lines as soon as design and acquisition of materials are complete and the time is within the above schedule dates. Relocation will have to be coordinated with the Design-Builder.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, inspection and construction will be equally divided between the Department and Questar Gas for all lines not within a private ROW or Easement. The Department will reimburse Questar Gas for 100% of design and construction costs for lines that are on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.12 Qwest Jeff Stapley, 801-974-8505

1425 West 3100 South

Salt Lake City, Utah 84119

Design. Hire a subcontractor from the list provided in Appendix O to perform all design work for the relocation of Qwest lines.

Design Time. Qwest requires a two (2) week approval period after design plans are delivered to Qwest.

Construction. Hire a subcontractor from the list provided in Appendix O (Utilities and Third Party Agreements) to construct all Qwest lines. Qwest will provide all splicing.

Cost. The Design-Builder is ultimately responsible for the costs for design, construction inspection and splicing that State Code would obligated have UDOT to reimburse Qwest.

Utility Agreement. The total cost for design, construction, inspection, and splicing will be equally divided between the Department and Qwest for all lines not within a private ROW or Easement. The Department will reimburse Qwest for 100% of design, construction, inspection, and splicing costs for lines that are on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.13 Salt Lake City Public Utilities Chuck Call, 801-483-6840

1530 South Jefferson Street Nick Kryger, 801-483-6834

Salt Lake City, Utah 84115

Design. Perform all design work for relocation and/or adjustment of existing Salt Lake City Public Utilities.

Design Time. Salt Lake City Public Utilities will have three (3) weeks approval period after design plans have been delivered to Salt Lake City Public Utilities.

Construction. Construct all relocations and/or adjustments of Salt Lake City Public Utilities facilities. All methods and materials used will meet or exceed Salt Lake City's specifications.

Cost. The Design-Builder is responsible for relocation and/or adjustment costs of existing facilities, include the cost of these facilities in the contract price. In the event Salt Lake City Public Utilities wants to include any betterments to be constructed by the Design-Builder, Salt

Lake City public Utilities will negotiate with the Design-Builder for these betterments and will pay the full cost of these betterments to the Design-Builder.

Utility Agreement. The Department will not reimburse the Design-Builder for the cost for design, inspection and/or review and construction of existing facilities.

3.13.5.2.14 UDOT Region 2 ATMS Craig Wright, 801-887-3764

2010 South 2760 West Jim Dunker 801-887-3403

Salt Lake City, Utah 84104-4592

Design. Perform all design work for the relocation of ATMS lines.

Construction. Construct all ATMS lines.

Cost. Include the design costs in the Contract Price. Include the construction costs in the Contract Price.

3.13.5.2.15 XO Communications Kirk Hanson, 801-983-1712

8871 South Sandy Parkway

Sandy, Utah 84070

Design. XO Communications will perform all design work for relocation of their lines.

Design Time. XO Communications may require up to two (2) months to complete the design and obtain materials after roadway design plans are delivered to XO communications.

Construction. XO Communications will construct all lines and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time. XO Communications may require up to two (2) months after their design is complete to do its construction, but it has to be coordinated with other relocation work.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, construction, inspection, and splicing will be equally divided between the Department and XO Communications for all lines not within a private ROW or Easement. The Department will reimburse XO Communications for 100% of design, construction, inspection, and splicing costs for lines located on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.2.16 Manuel Bros. Inc. Gary Smith, 530-272-4213

P.O. Box 995

908 Taylorsville Road, Suite 104

Grass Valley, California 95949

No conflict is anticipated with MBI facilities located on the west side of Bangerter Highway and SR-201.

3.13.5.2.17 Sprint PCS Paul Maddox 925-209-3642

105 Hopeco Road
Pleasanton, California 94523

Design. Sprint PCS will perform all design work for relocation of their facilities.

Design Time. Sprint PCS may require up to one (1) month to complete the design after roadway design plans are delivered to Sprint PCS.

Construction. Sprint PCS will construct all facilities and the Design-Builder will provide the coordination, traffic control and surveying required to accomplish their work.

Construction Time. Sprint PCS may require eighteen (18) months after their design is complete to obtain materials and do its construction, but it has to be coordinated with other relocation work.

Cost. The Design-Builder is responsible for relocation costs.

Utility Agreement. The total cost for design, construction, inspection and splicing will be equally divided between the Department and Sprint PCS for all facilities not within a private ROW or Easement. The Department will reimburse Sprint PCS for 100% of design, construction, inspection and splicing of their communications tower located on a private ROW or Easement. All Department related costs will be Back Charged to the Design-Builder.

3.13.5.3 Design-Builder's Responsibility To Perform

General. Undertake all efforts described in this Section as part of the Work. Also be responsible for undertaking all such efforts for each affected utility. A change order will be executed to pay for only the design and construction costs of utility relocations performed by the Design-Builder. The change order will not cover any item described in this Section as part of the Work or coordination as they are at the Design-Builder's cost .

3.13.5.4 Investigations by Design-Builder

General. Take all actions necessary to verify the existence, exact location, and size of all Utilities affected by the Project. Such actions shall include making diligent inquiry at the offices of the Utility Companies, consulting public records, and conducting field studies (such as potholing), as appropriate. If a surface inspection of the area shows, or gives cause to suspect, the existence of any previously unidentified Utility, or there is cause to suspect that a previously unidentified Utility exists, then undertake all appropriate investigations. If the investigations identify any utility (excluding Service Lines, Utilities requiring relocation solely due to the installation for the ATMS or the watercourse Work, and Utilities outside the Project ROW Limits affected by construction) not described in the Conceptual Plans, or if they result in a determination that any utility is not accurately indicated therein, notify the Department per Section 3.13.4.3 (Notification).

3.13.5.5 Design and Construction

Be responsible for verifying that the plans prepared by and the construction performed by the Utility Company are consistent and compatible with the Utility Agreements and with the Design-Builder's design and construction of the Project.

3.13.5.6 Permits

General. Where the Design-Builder is performing utility construction Work, obtain and comply

with all Relocation Permits for Utility locations both within and outside the ROW. A construction permit from the Department is required for construction of a new facility to be placed within the ROW. A construction permit is not required from the Department for the Relocation, betterment, abandonment, or removal of an existing Utility within the ROW.

3.13.5.7 Abandonment and Protection-in-Place

General. Unless specifically noted otherwise in the RFP Documents or directed otherwise in writing by the owning utility, do not remove abandoned underground Utilities or pipes within the Project ROW Limits. Abandoned underground Utilities and pipes to be left in place shall be abandoned by placement or pumping of concrete slurry, sand slurry, or other material approved by the Department and capping all open ends with a concrete cap that is at least 2 feet thick. Be responsible for Protection-in-Place of all Utilities not requiring Relocation, removal, or abandonment per the utility Company's requirements. Minimum clearances between construction equipment, permanent finished grade, and/or temporary grade and the overhead power lines should be determined directly from the Utility Companies as necessary.

3.13.5.8 Temporary Relocations

Be responsible for the design, construction, coordination, and cost of all temporary Utility Relocations implemented for the convenience of its own construction operations, including locating Utilities, identifying conflicts, obtaining permits, and coordinating with Utility Companies and property companies.

3.13.5.9 Documentation

Daily Records. Maintain a daily record of the Work performed on each Utility Relocation. Submit daily to the Utility Company and the Department a copy of these Work record forms for every day in which any Work was performed.

Database. Maintain a database that tracks the status and progress of each utility Relocation and all associated tasks, from utility investigation to completion of As-Built Documents. This information will be kept current and provided to the Department in a summarized report at least monthly.

3.13.5.10 Standard of Care

General. Carry out Work carefully and skillfully, and support and secure Utilities to be Protected-in-Place so as to avoid damage to them. Maintain flow in drains, sewers and all watercourses to the satisfaction of the Utility Company or the Department.

3.13.5.11 Damage by the Design-Builder

General. If any Utilities are damaged by Design-Builder activities, notify the affected Utility Company (in accordance with the requirements of the utility Agreement), which may have the damage repaired at the Design-Builder's expense. Perform all such repairs to the satisfaction of the Utility Company. Bear all costs associated with damage caused by the Design-Builder, including but not limited to utility downtime, all reconstruction, all remediation of hazards, litigation, loss of product, utility startup, and delay costs. This does not apply if the utility was not identified by Bluestakes.

3.13.5.12 Advanced Transportation Management System

General. The Conceptual Plan does not address the impacts of the ATMS Work on Utilities. Coordinate the Utility Work necessitated by the ATMS Work with the other Utility Work, regardless of the ATMS location relative to the Project. For Utility Relocation Work necessitated

by the ATMS Work, obtain Utility data for areas not covered by Department-provided studies, locate Utilities, identify conflicts and new easements (if any), assist the Department in executing Utility Agreements, and obtain construction permits. Relocate, remove, abandon, and Protect-in-Place the utility in accordance with the Utility Agreement.

3.13.5.13 Completion of Work

Obtain written approval from the respective Utility Company for all as-built construction plans for which the Design-Builder has been responsible.

3.13.5.14 Design

Utility Relocation Plans. Submit the Utility Relocation Plans to the Utility Company for review and approval. Submit to the Utility Company for review and written approval all subsequent changes to designs that have previously been approved by the Utility Company, said changes in design will be at the sole expense of the Design-Builder. Furnish to the Department the completed Utility Relocation Plans before the start of construction of each Utility Relocation. Review the plans for consistency and compatibility with its design, and approved by the Utility Company.

Prepare two (2) separate plans for each Utility Relocation:

- A detailed plan for each specific Utility type, prepared in the format desired by the Utility Company as negotiated in the utility Agreement, and
- A second plan showing all Relocations and known existing Utilities identified by the Department or the Design-Builder. Prepare the second plan set in the SR-201 Design Build Project plan sheet format (Standard Department Format).

3.13.5.15 Construction

As-Built Plans. For all Utility Relocation Work designed and/or constructed by the Design-Builder, provide one set of As-Built Utility plans to the Department and three (3) sets to each Utility Company. The plans shall show the locations of existing Utilities, structures, trees, streets, and existing highway ROW limits.

Project-Wide Utility Plans. Transfer as-built information to a separate set of Project-wide Utility plans, prepared using the SR-201 Design Build Project plan sheet format, which is used for other plans. The purpose of this set of Utility As-Built Documents is to show a comprehensive picture of all as-built Utilities (both existing and modifications made for this Project) for the Project on a single set of plans in the same format as the roadway plans, drainage plans, etc. Show points along the relocated Utility via elevation and stations and offsets to the dominant control line. Required as-built points are:

- Every 100 feet for Utilities paralleling control lines
- At ROW boundaries
- At roadway control lines
- At all angle points

3.14 RIGHT-OF-WAY

3.14.1 GENERAL REQUIREMENTS

General Scope. Acquire all project ROW and conduct all activities related to ROW acquisition, including, but not limited to, deeds, mapping, appraisal, appraisal review, negotiation, acquisition, procurement of title insurance, clearing of title, closing of acquisitions, condemnation support, relocation assistance, clearance and demolition of improvements, and environmental testing and remediation in accordance with the requirements of this Section.

Legal Role. Function as an Agent for UDOT while acquiring Final ROW.

Department Approval. Obtain the Department's approval of all appraisals, requests to acquire Final ROW, acquisition documentation, and requests to commence condemnation proceedings. Provide the Department with all reports and supporting documentation for review and approval during the acquisition process.

ROW Costs. Pay the costs of all services and documentation preparation for Final ROW acquisition and related relocation assistance. The Department will purchase all properties acquired for ROW.

Local Agency Payments. To facilitate reimbursement to the Department of that portion of the ROW costs to be borne by the local agencies, coordinate with the Department and local agencies regarding accounting and approval of these costs.

Additional Properties. Pay the costs of acquisition (and the costs of all services and documentation preparation for the acquisition) of any temporary right or interest in real property that, in the discretion of the Design-Builder is deemed necessary or advisable to acquire, for workspace, Design-Builder lay-down areas, material storage areas, or other convenience. The Department will not be obligated to exercise its power of eminent domain, nor will it have any responsibility for the acquisition, maintenance, or disposition of Additional Properties or of any temporary right or interest therein.

Utilities. For acquisition of existing Utility property interests, comply with the process and requirements set forth in Section 3.13 (Utilities and Third-Party Agreements).

3.14.2 REFERENCED STANDARDS AND PUBLICATION

3.14.2.1 Referenced Standards

General. Conduct all ROW appraisal and acquisition activities in accordance with the relevant requirements of the standards listed by priority in Table III-28.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

TABLE III-28
REFERENCED STANDARDS FOR RIGHT-OF-WAY ACQUISITION

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.14.2.2 Referenced Publications

Supplementary Guidelines. Use the publications listed in Table III-29 as supplementary guidelines for the practices, procedures, and methods to be used in the appraisal and acquisition of ROW. These publications are listed in alphabetical order by the author or issuing agency and then by title, as they have no established order of precedence.

The Design-Builder is required to meet with the UDOT Right of Way Engineer to assure compliance with required standards.

Web Site. The UDOT documents are available on the Internet at .

TABLE III-29
REFERENCED PUBLICATIONS FOR RIGHT-OF-WAY ACQUISITION

Author or Agency	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
FHWA	*23 CFR Part 710.313 (Design-Build Projects)*			
Appraisal Foundation	*Uniform Standards of Professional Appraisal Practices*	n/a	*	USPAP
FHWA	*Right-of-Way Project Development Guide (FAPG)*	n/a	*	n/a
UDOT	*Appraisal and Review Manual*	n/a	*	n/a
UDOT	*Manual of Instruction–Right-of-Way* (Forms, Part 10)	n/a	*	n/a
UDOT	*Project Development Process Manual*	n/a	*	n/a
UDOT	*Right-of-Way Acquisition Procedures*	n/a	*	n/a
	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended	n/a	*	n/a
UDOT	*Mapping and Aerial Phototgrammetry Guidelines*			
UDOT	*Right of Way Acquisition and Relocation Procedures (merged forms in ePm)*			
UDOT	*Draft ROW Process and Procedures Manual.*			

** If no date is given, the most current version as of the date the RFP is initially released is specified.*

3.14.3 RIGHT-OF-WAY SCHEDULE

3.14.3.1 Department Review and Approval

Schedule Submittal. Within 28 calendar days after issuance of Notice to Proceed (NTP), submit a schedule for the acquisition and delivery of final ROW to the Department for review and written approval. The schedule shall be in a format which is approved by the Department (MS Excel, per the UDOT Draft ROW Process and Procedures Manual). In the schedule, include the following:

The beginning date and anticipated completion date for acquisition of the Final ROW

- Priorities for parcels whose acquisition will significantly impact the Project Schedule and/or affect its Critical Path
- Restriction of Department reviews to a maximum of 15 appraisal or acquisition packages every 10 business days

After Department approval, implement the approved schedule as the Final ROW schedule and integrate it into the Project Schedule.

Additional Properties. Notify the Department of all Design-Builder additional properties and temporary rights or interests in real property to be acquired by the Design-Builder. Comply with all requirements in Section 3.17 (Environmental Commitments).

Acquisition Packages. Submit all final and complete appraisal reports(with appraisal reviews) and acquisition packages to the Department for review and approval in accordance with this Section. For submittals of more than one appraisal or acquisition package at any given time, indicate the priority of required review in order to meet the Final ROW schedule.

Relocation Plan. Submit a relocation plan as part of the the acquisition packages (for all parcels identified which will require displacements) to the department for review and approval in accordance with this Section. All acquisitions that will require a relocation must be prioritized to meet the Final ROW schedule.

Review Period. Assume that the Department reviews will require 14 calendar days per 15 appraisal reports or acquisition packages. The Department intends to review these packages as expeditiously as possible. The Department will consider as excess any submittals that require review of more than 15 appraisal reports. Relocations or acquisition packages within any given 14 calendar days, and may defer its review of such excess packages to a subsequent period of 14 calendar days. If the Department elects not to defer its review of excess packages, it will so notify the Design-Builder within 14 calendar days after receipt.

Schedule Delay. Assume responsibility for any delays to the Project Schedule that result from submittal of inadequate or incomplete appraisal reports or acquisition packages.

Definition of Deficiency. If any components of an appraisal or acquisition package contain any error or omission, or if it fails to meet any criteria established in this Section, the Department will determine it to be deficient.

Correction of Deficiencies. Upon Department notification of a deficiency in an appraisal or acquisition package, correct such deficiency and resubmit the package to the Department. The Department will review the resubmittal and notify the Design-Builder of any deficiencies in the resubmitted package within 14 calendar days of the Department's receipt of the resubmitted acquisition package.

3.14.3.2 Final Right-of-Way Scope of Services

General. Complete all administrative activities and prepare all documentation sufficient to acquire the Final ROW. Obtain the Department's review and approval of all appraisals, legal descriptions, acquisition documentation, purchase prices, and funding/closing procedures. Do not commence any negotiations with landowners until the Department approves the acquisition package. Incorporate 35 calendar days into the schedule for negotiations. Include a minimum of one contact per week during the negotiations.

Eminent Domain. If the Design-Builder and landowner cannot agree upon a purchase price acceptable to the Department, the Department may, at its sole discretion, approve an acquisition through condemnation or eminent domain procedures. The Design-Builder shall not begin eminent domain procedures without an approved acquisition package. The Design-Builder will provide legal support services, and title reports, for acquisition through condemnation and eminent domain procedures. The Design-Builder shall incorporate 90 calendar days into the schedule for eminent domain procedures. The 90 calendar days begins on the day the case is received by the court which is at least 30 calendar days after all required documentation is submitted to the Attorney Generals office. (Please note: the 30 day period allows for in state service of the summons to in state grantors or parties of interest. If there are parties of interest who reside out of state and who are temporarily out of the area, this time line may need to be extended.)

Construction Clearance. Do not begin construction on any real estate unless property rights for the Project have been conveyed and recorded in favor of the Department, or a Right of Occupancy Agreement, or Right of Occupancy Agreement has been properly executed and delivered by all necessary parties in accordance with Section 3.14.4.5 (Right-of-Way Negotiations).

Legal Compliance. Complete and document all Final ROW activities in compliance with applicable laws, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; and other rules and regulations. Prevent fraud, waste, and mismanagement.

Communications. In all correspondence with the Department relating to acquisition of real property, include the following information (at a minimum) in a heading:

- County
- UDOT project number
- Highway designation
- Project limits
- Parcel number
- Name-of-record owner(s)
- Project Pin Number
- Charge ID Number
- Proper and complete coding blocks for claims and or other payment requests.

Electronic Summaries. In addition to the standard RW-53/54 forms currently used, shall be submitted with each Right of Way design package submitted. The format of the deeds and electronic summaries may be obtained from UDOT's Central Right of Way Engineer. Electronic copies of all deeds, ownership records, summaries etc. shall be submitted with each Right of Way Design package. Each electronic right of way package shall be on Compact Disk (CD) in a format compatible with UDOT currently adopted software.

3.14.3.3 Final Right-of-Way Surveying and Mapping

3.14.3.3.1 Standards

Perform all Final ROW documents in accordance with the UDOT *Manual of Instruction-Right-of-Way*, Part 10 and industry standards.

3.14.3.3.2 Acquisition Packages

In each acquisition package prepared for each parcel and submitted for Department approval, include the following items:

- Cover Sheet. With the following information:

  Parcel number

  Pin number

  Charge ID number

  Tax ID number

  Station number

  Location of parcel

  Name of owner

  Extent of acquisition (partial or full)

  Type of granting instrument (fee, easement, trustee deed, corporation deed etc.)

- Legal Description. A complete, separate legal description of each parcel that is in a recordable form acceptable to the Department and that includes:

  The form of granting instrument (fee, easement, etc.) adequate to effect the desired acquisition of the parcel; and

  Signature and seal of a Land Surveyor licensed to practice in Utah.

- Parcel Plat. The parcel plat, as prepared by the Land Surveyor, and a half-size copy of the ROW map pertaining to the parcel

- Access Rights. A control of access document identifying the rights of access from the un-acquired remainder property to the Project.

- Relocation Plan

- For condemnation purposes, the package must contain a memo from the Director of R/W to the Attorney General's office. Attached to the memo and the request for condemnation are several documents including copies of the following: Agent's log, Appraisal, Appraisal Review, map, statement of just compensation, ownership record and any other document that would be relevant for the attorney representing the agency.

3.14.3.3.3 Submittal of Documentation

Deliver all reports, correspondence, and documents relating to Final ROW acquisition to the Department in both electronic and hard copy formats, or as requested by the Department.

3.14.4 JOB-SPECIFIC SERVICES

Title Acquisition. As more fully described in the following Sections, provide all services

necessary to:

- Acquire title in the name of the State to the Final ROW, in form and substance acceptable to the Department;
- Relocate displaced businesses and residents; and
- Clear and/or demolish the improvements on the Final ROW.
- For a Federal Land Transfer, follow the guidelines found in 23 CFR Subpart F, Section 710.601 and 49 CFR Section 21.7(a)2.

Guidelines. Maintain a current copy of the UDOT *Manual of Instruction—Right-of-Way*, Part 10, UDOT Right-of-Way Acquisition Procedures, UDOT *Appraisal and Review Manual*, and a current ROW map for public use.

Meetings. Attend ROW meetings as requested by the Department.

Letter to Property Owners. Provide a letter of introduction to each property owner and/or occupant, as approved by the Department, on Department letterhead stationery, and signed by the UDOT ROW Coordinator or his/her designee.

Submittal of Documentation. Deliver all reports, correspondence, and documents relating to Final ROW acquisition to the Department in both electronic and hard copy formats, or as requested by the Department.

3.14.4.1 Title Services

Title Company. Select and contract with one or more title company(ies) approved by the Department.

Title Reports. For each parcel to be acquired by the Department for Project ROW, including fee acquisitions, slope easements, other drainage and roadway ROW or easements, and abandonment of utility easements:

Title Report Review. Review each title report to ensure that:

- The report complies with the format required by this RFP.
- The report clearly indicates which exclusions and exceptions are to be deleted upon acquisition of the subject parcel.
- The report clearly indicates any required deliveries to the title company to clear identified exclusions and exceptions.
- All current owners of record title are contacted and that negotiations or condemnation actions are conducted with all appropriate parties.
- If new parties of interest are discovered during negotiations, or vesting is other than was indicated on the original documents, the acquisition package shall be revised to include all corrected grantors. And, all appropriate forms, deeds or other documents shall be revised accordingly.

Acquisition Package Submittal. Submit to the Department an acquisition package that includes:

- A forty-year sales history on condemnation or total takes
- A five-year property sales history on partial takes
- A preliminary title commitment or preliminary title report dated within 30 days of the submittal date

- If necessary or appropriate, copies of all underlying documents and a plot of all easements, including existing Utility property interests, referenced therein

Title Exceptions and Exclusions. Work with the current owners of record title to each parcel or interest in a parcel or their designee, and all other appropriate parties, to clear any title exceptions or exclusions not acceptable to the Department.

Title Insurance. The Design-Builder is not required to provide title insurance. If the Design-Builder does not provide title insurance the title report must demonstrate the title is free and clear. Any errors in providing a free and clear title will be the full responsibility of the Design-Builder. The Design-Builders Errors and Omissions insurance shall cover any costs and claims associated with errors in providing a free and clear title.

3.14.4.2 Appraisal Services

General. For each ROW parcel acquired by the Department:

Appraisals. Provide the Department with a fair market value appraisal prepared by an appraiser meeting the minimum qualifications established herein.

Guidelines. Prepare the appraisal and appraisal reviews in conformance with law (including the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended), and in accordance with professional appraisal methods and applicable UDOT standards.

Pre-Appraisal Property Inspection. Provide a property (house, building, property, etc.) inspection prior to completion of the appraisal report. Select an inspector from the UDOT approved list. Include all deficiencies (i.e. mechanical systems, electrical systems, etc.), hazardous materials or other waste in a formal Inspection/Waste report. Include the Inspection/Waste report with each appraisal report. Reflect price adjustments for deficiencies identified in the inspection in the appraisal report if they are warranted and supported by market data. If not warranted or supported, the appraiser should not make an adjustment to the value however this decision must be clearly documented in the appraisal report.

Appraiser Selection. Select appraisers from the Department's list of approved appraiser. If a firm is selected from the list, the Design-Builder and firm must obtain final approval of each appraiser who will actually work on the project. All appraisers must be fully qualified to perform the duties assigned as described in the RFP for the appropriate Right-of-Way Service. (This list of approved appraisers is available at the following web site: http://www.udot.utah.gov/esd/ConsultantServices/CSPools.htm.)

Owner Contacts. Establish personal pre-appraisal contact with each owner of record title and each occupant, and document all such contacts using a form approved by the Department. Offer each record title owner or designated representative, in writing, the opportunity to accompany the appraiser on the appraiser's inspection of the parcel. Maintain a record of all such contacts in the parcel file.

Appraisal Report. Prepare a complete appraisal report for each parcel that:

- Complies with and includes all matters required by this Section and the UDOT ROW-related manuals;
- Satisfies the requirements of the *Uniform Appraisal Standards for Federal Land Acquisitions.*

- Satisfies the requirements of the Appraisal Foundation's *Uniform Standards of Professional Appraisal Practices* (USPAP) in effect at the time the appraisal is submitted;

Is in the form approved by the Department; and

- Includes all pertinent special analyses, studies, or reports.

Compensable Interests. Provide the Department with copies of all written leases, licenses, and other occupancy agreements to identify lessees, licensees, and other occupants with potential compensable interests in each parcel, and to determine the value of each such interest.

Appraisal Reviewer. Coordinate with the appraisal reviewer regarding corrections and/or additional information that may be required for a particular appraisal.

Environmental Concerns.

Documentation. Document the environmental condition of each parcel based on field investigations and/or historical review, as appropriate for the particular parcel. Develop the information in coordination with the appraiser(s) and make it available to the appraiser(s). Provide the following documentation in the Appraisal Report:

- An Environmental Site Assessment (ESA) Phase I
- An ESA Phase II, if the ESA Phase I determines that there is a potential environmental risk
- An ESA Phase III if the ESA Phase II if the ESA Phase I determines that there is a potential environment risk
- An ESA Phase III if the ESA Phase II report justifies it, including approximate costs to remediate the parcel to achieve its current use and its highest and best use

Department Notification. Submit timely written notification to the Department of any concerns regarding Final ROW parcels and/or Additional Properties that could require environmental remediation or other special attention.

Backflow Prevention. Examine local ordinances regarding requirements for meter supply backflow preventors, and/or other special conditions. In the appraisal report, consider the installation of any such appurtenances on the parcel remainder as damage and include it as part of the compensation package to the landowner.

3.14.4.3 Appraisal Review

In connection with appraisal review, the Design-Builder shall perform the following:

Appraisal Reviewers. Select an appraisal reviewer that is independent from the appraiser from the Department's list of approved fee appraisers. Meet the requirements specified herein. Select only one appraisal reviewer for the Project to ensure report consistency and fairness.

Advertising Signs. Evaluate all outdoor advertising signs, as required, utilizing the appropriate forms and sign schedule, and/or as instructed by the Department. If applicable, provide location and other information about the signs, which will enable the Design-Builder to provide all appropriate relocation assistance, including advisory assistance and prescribed 90/30 day notices, to the owner of the signs.

Additional Reports. Determine, in consultation with the Department, whether additional appraisal reports or technical expert reports are required. If so, initiate, review, and reconcile each required report.

Review of Appraisals. Review all appraisal reports for each parcel to determine the consistency of methodology, supporting documentation related to the conclusion reached, and compliance with UDOT standards as defined herein and by the Appraisal Foundation's *Uniform Standards of Professional Appraisal Practices* (USPAP), the *Uniform Standards for Federal Land Acquisitions*, and the *Uniform Act*. Obtain from the appraiser, written certification that these standards have been met.

3.14.4.4 Final Right-of-Way Acquisition Package Approval

UDOT ROW Coordinator. Meet with the UDOT ROW Coordinator before beginning ROW acquisition services to discuss resource plans, priority of parcels, and other pertinent issues.

Guidelines. Final ROW acquisition packages submitted by the Design-Builder for Department approval shall follow the guidelines established in the UDOT *Manual of Instruction—Right-of-Way*, Part 10, and comply with the requirements specified herein.

3.14.4.5 Right-of-Way Negotiations

Legal Compliance. Conduct all negotiations in accordance with the requirements of the law. *All acquisition files prepared by the negotiator shall be in full compliance with the Real Property Acquisition Policies Act of 1970, as Amended (the Uniform Act), and the implementing regulations found in Title 49, Code of Federal Regulations, Part 24,* and shall also be in compliance with State Statutes*, including Title 57 Chapter 12.*

Acquisition Agents/Negotiators. All agents working as Acquisition Agents or Negotiators shall be selected from the Department's list of approved acquisition agents. If a firm is selected from the list, the Design-Builder shall obtain approval from the Department for each agent who will actually work on the project. All agents must be fully qualified to perform the duties assigned as described in the RFQ for Right of Way Services.

Contact Reports. Prepare, in a format acceptable to the Department, a separate negotiator's contact report or agent's log, which will document each meeting or conversation with any person (or their appointed representative[s] supported by a written confirmation of appointment) who has a compensable interest in each parcel.

Brochure(s). Produce Department-approved informational brochure(s) as appropriate, and distribute the brochure(s) to all property owners and displacees. Sample brochures are provided for the Design-Builder's use and by the UDOT ROW Coordinator. (As an example, see the brochure that was recently developed by the Design-Builder for the 12300 South Project.)

Presentation of Offer. Within 14 calendar days of the Department's approval of an acquisition package, present (in person, where practical) a written offer to purchase to, and only to, the property owner or owner's designated representative, with a Statement of Just Compensation, a Valuation Summary, the agent's business card, a Summary of Property Owners' Rights, and the appropriate brochure(s). If approved by the department, the agent may also provide the grantor, or owner of record a copy of the appraisal report. (Appraisal reports shall be provided to the grantor for single-family residential properties, however other appraisals for other property types may only be provided to the grantor with the permission of the Department on a case by case basis upon recommendation by the Design-Builder.) The agent shall also provide a receipt for these documents with the request that said receipt be signed by the property owner or designated representative. The agent shall also obtain acknowledgement, from the grantors who are signing

the contracts, that indicated their understanding of the fact, that offers made to them for the acquisition of the property being acquired are not valid unless or until the contract is approved by the Director of Right of Way for the Department. (As an acknowledgement, the grantor or party signing the contract shall initial the statement to that effect which is on the face of the contract.) Upon acceptance of the purchase offer, maintain follow-up contacts as appropriate and secure the necessary documentation and title curative Project Work.

Negotiating for Compensable Interests. Identify lessees, licensees, occupants, or other parties with potential compensable interests and, if appropriate, after consultation with the Department, negotiate with such parties for the acquisition of their compensable interests. Provide response to the verbal or written inquires of any property owner, lessee, licensee, occupant, or other holder of a compensable interest, as applicable, not more than 14 calendar days after an inquiry.

Acquisition Files. Maintain a complete Acquisition File for each ownership. All original documentation related to the purchase of the real property interests will be maintained either in conjunction with or separate from the relocation files in conformance with UDOT standards, manuals, and procedures, and as specified herein. Forward the signed original documents to the Department ROW Section. (If a separate relocation file is set up and maintained, that file must contain a copy of all pertinent information from the acquisition file, sufficient to satisfy the needs of the relocation agent, the Design Build reviewing agent, and the UDOT ROW coordinator or designated department review person.) NOTE: Acquisition Files are not to be confused with Acquisition Packages. See definitions in Section 2.2.

Administrative Settlement. Advise the property owners, lessee, licensees, occupants, and other holders of compensable interests, as applicable, of the administrative settlement process. In all dealings with property owners and other holders of compensable interests, clearly explain that the Department has the ultimate decision authority regarding any settlement requests. All offers to settle, including administrative settlement amounts, are not valid unless or until approved in writing by the Director of Right of Way for the Department. Confer with and deliver to UDOT's ROW Coordinator any settlement request from property owners, lessees, licensees, occupants, or other holders of any compensable interest, as applicable, including a detailed recommendation from the Design-Builder in accordance with standards, manuals, and procedures as defined herein. Deliver the administrative settlement request and the Design-Builder's recommendation to the Department ROW Coordinator within seven calendar days of receipt of the request.

Second Appraisals. If a property owner requests a second opinion of value (or a second appraisal), the owner is to seek assistance from Utah's Private Property Ombudsman. The department can and will pay for a second appraisal <u>if directed to do so by the Ombudsman</u>. In certain circumstances, the agency may opt to pay for an additional appraisal without being directed to do so, but this is at the discretion of the agency and must be pre-approved by the UDOT ROW coordinator.

Right of Occupancy Agreement. (ROO) If a negotiated settlement agreement is not possible, as a second resort, the Design-Builder is to secure a Right of Occupancy Agreement between the record title owner and the Design-Builder that grants to the Department, the Design-Builder, and assignees permission to enter the parcel. If the Design-Builder's best efforts cannot secure such an agreement, provide documentation acceptable to the Department that specifies the conversations, correspondence, and all other efforts made to secure the agreement.

As a last resort, if a Right of Occupancy Agreement cannot be secured, the Design-Builder should attempt to obtain a Right of Entry Agreement. (RE). However, as this generally only allows for temporary occupancy the DB needs to provide documentation acceptable to the department that supports the use of this agreement in lieu of a Right of Occupancy Agreement.

In all cases prior to securing a ROO or an RE the agent must show that they have made a concerted effort to negotiate a settlement agreement with the parties of interest. And, only after those efforts have been exhausted shall the agent attempt to secure other means to gain occupancy unless pre-approved by the Department.

Evaluation of Settlement Requests. If requested by the Department, participate in the evaluation of administrative settlement requests and attend the settlement meetings. When the Department has made its findings regarding a settlement request, the Design-Builder will provide a letter of response regarding the administrative settlement findings to the property owner, lessee, licensee, occupant, or other holder of a compensable interest, as applicable. If within reasonable proximity of the Project, deliver all such responses in person within five calendar days of the findings. If personal delivery is not feasible, mail the response letter with return receipt requested not more than five calendar days following any decision by the Department. Make a follow-up telephone call to the property owner to discuss the settlement offer before mailing. The UDOT ROW Coordinator, on an as-needed basis, will coordinate and call the Department settlement meetings to order. Report to the Department concerning the property of a lease, if any, and provide the Department with a copy of the lease. Determine the remaining lease term; any liens or encumbrances; security deposits; and prorated taxes paid, if any.

Final Offer Letters. Subject to the Department's prior written approval, prepare and deliver a final offer letter to the property owner, lessee, licensee, occupant, or other holder of any compensable interest, as applicable. The letter shall be on the Design-Builder's designed ROW letterhead and shall be signed by the Design- Builder's Project ROW Negotiation Manager.

Conveyance Documents. Prepare and deliver documents of conveyance, including bisection clause and access clause, if applicable, to the property owner, lessee, licensee, occupant, or other holder of any compensable interest, as applicable, and obtain their execution of the same. All signatures on documents to be recorded shall be notarized in accordance with Utah law.

Possession and Use Agreements. Pursue and obtain Right of Occupancy Agreements concurrently with the parcel purchase negotiations. The form of Right of Occupancy Agreements will be provided by the Department and will contain provisions allowing for construction to commence while negotiations are finalized. Pursue and negotiate such strictly in accordance with the law.

Expediting ROW Acquisition. Remain open to all reasonable settlement requests from property owners that are feasible, comply with the regulations as outlined herein, and help expedite the ROW acquisition process. Note that the Department encourages all positive and creative solutions that both satisfy the property owner and promote the success of the Project.

Mediation and or Arbitration. The department encourages the use of mediation and or arbitration as a means for alternate dispute resolution. We encourage all attempts to mediate or arbitrate value or relocation issues in compliance with state statutes.

3.14.4.6 Closing Services

For purposes of closing services, the Design-Builder shall perform the duties below.

Request for Funding. The Design-Builder must prepare a request for funding in accordance with UDOT *Manual of Instruction—Right-of-Way, Part 10* or as directed by the Department. The agency requires a minimum of 14 calendar days to close on a total acquisition.

Escrow Agreement Documents. Prepare escrow agreement and closing documents, including a closing memorandum identifying all parties involved in the closing and listing all documents to be executed and/or delivered in connection with the closing.

Closings. Attend closings; provide curative documents and exhibits as required and in conjunction with the applicable title company. If the property is tenant occupied, the escrow or closing agent shall obtain a copy of the lease, security deposits and pro-rated rents. If the property is to remain occupied, a key/security deposit is to be withheld. (Said deposit shall be at least 1% of the purchase price unless an additional amount is deemed necessary and that amount is approved by the Department.) If the property is to be vacated upon closing, keys to the property must be obtained prior to said closing. Confirm that all conditions to closing are satisfied and notify the Department at least seven calendar days in advance of all closing appointments.

Updating Titles and Insurance. Coordinate with the Department and applicable title company to obtain updated title commitment prior to closing and then obtain an issued title policy based on the approved updated title commitment within 30 calendar days following closing and transmit the same to the Department.

Document Certified Copies. Immediately after closing, obtain and deliver two (2) certified copies of each instrument of conveyance to the Department ROW Coordinator. Within 30 calendar days of closing, provide to the Department a closing binder, including the closing memorandum and an original and two (2) copies of all documents identified in the closing memorandum. Report to the Department concerning the property of a lease, if any, and provide the Department with a copy of the lease. Determine the remaining lease term; any liens or encumbrances; security deposits; and prorated taxes paid, if any.

3.14.4.7 Relocation Assistance

Legal Compliance. Provide relocation assistance strictly in accordance with the law, and, in particular, the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended; State Statutes, including Title 57 Chapter 12; and UDOT policies, practices, and standards.

Written Notice. Provide written notice of relocation assistance and a relocation assistance brochure to potential displaces including potentially displaced property owners or tenants. Produce the relocation assistance brochures based on the UDOT Relocation Assistance Brochures available from the Department.

Interviews. Conduct relocation interviews; complete and maintain interview forms; and discuss with potential displacees general eligibility requirements, programs, and services. Maintain a written record of all verbal contacts.

Eligible Occupants. Give written notice of the pending acquisition to any occupant believed to be eligible for relocation assistance. Any questions as to the eligibility of a potential displacee should be directed in writing to UDOT's ROW Coordinator.

Relocation Assistance. Contact and provide relocation assistance to those parties affected by the Final ROW acquisition and complete relocation forms for all displacees, as required. Prior to use, the Department must approve the format of the form.

Relocation Sites. Locate, evaluate, and maintain files on comparable available housing, commercial, retail, and industrial sites, and make them available to displacees.

Calculate replacement supplement benefits.

Supplements. Compute and submit requests for relocation rental/housing supplements to the Department, using a form with a format approved by the Department. Obtain Department approval of all relocation supplements.

Relocation Eligibility Notices. Relocation assistance and Notices of Eligibility must be signed and approved by a qualified relocation agent as designated by the Design-Builder. Said agents shall be pre-approved by the agency. All agents working as Relocation Agents shall be selected from the Department's list of approved relocation agents. If a firm is selected from the list, the Design-Builder and firm shall obtain approval from the Department for each agent who will actually work on the project. All agents must be fully qualified to perform the duties assigned as described in the RFQ for Right of Way Services.

Inspection. Perform a preliminary decent, safe, and sanitary inspection of each replacement housing comparable used to determine the replacement housing differential payment or supplemental housing payment. Verify, using a Department Approved form, that all replacement housing selected by the displace(s) is decent, safe, and sanitary (DS&S). **No payments shall be** released to the displacee unless or until the replacement property has met the DS&S requirements unless expressly and specifically approved by the department.

Moving Personal Property. For relocation of personal property from a residential property that is owner or tenant occupied: Prepare a Scheduled Move cost estimate. If the displacee elects to claim reimbursement for a commercial move, the displacee shall obtain at least two moving cost estimates from qualified commercial moving companies. (If needed, the agency reserves the right to have the Design-Builder obtain a third bid.) The agent shall also prepare a moving plan with appropriate photographs, sketches, and as needed an inventory of personal property to be moved. Coordinate moves with displacees and moving companies in accordance with UDOT policies and procedures in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended.

For the relocation or moving of personal property from a Non-Residential property the agent or the displacee are to obtain a minimum of two complete bids. (And, if necessary and appropriate, the department may direct and or authorize the Design-Builder to obtain a third bid or estimate.) Prior to obtaining the bids for the non-residential move, the agent shall prepare a moving plan with appropriate photographs, sketches and an inventory of all personal property, which is to be moved. This inventory should be prepared by the displacee, however, if needed, the inventory can be prepared by the agent. Once prepared, the inventory is to be provided to the moving companies to assure that they will prepare consistent and comparable bids for the move and for all associated mechanical, electrical, plumbing and other reasonable and necessary expenses of the move.

All moving expenses must be documented and pre-approved by a qualified agent and by the agency and the maximum eligible amounts should be stated on the displacee's Notice of Eligibility.

Relocation Contact Logs. Maintain relocation contact logs in a format approved by the Department.

Closings and Payments. Attend all closings on replacement properties, if requested by any party involved, and ensure that supplemental payments, if any, are properly distributed. Process and compute increased interest payments on the mortgage of owner-occupied dwellings as required. Note: Replacement housing payments are reimbursements of actual expenses incurred. As such they are not to be released without proof of the qualified expenditure. Receipts and invoices must be filed once the replacement home has been purchased or rented, and the move has been completed. If funds are advanced based upon estimated expenses, any over payments must be

refunded in full to the agency within 30 days of the move from the displacement property and or from the date of closing on a replacement property purchase.

Notices to Displacees. For Owner Occupied Residential property: Deliver to displacees a ninety (90) Calendar Day Notice simultaneous with the delivery of the relocation Notice of Eligibility and the Supplemental Housing Study and the written offer to purchase. For Tenant Occupied Residential property: Deliver to the displacee a ninety (90) Calendar Day Notice simultaneous with the deliver of the relocation Notice of Eligibility and the tenant housing study. Upon acquisition of the property occupied by the displacee or when the agency has obtained the right to occupy that property, deliver to the displacee a thirty (30) Calendar Day notice, if applicable. For Non-Residential property: Deliver to the displacee a 90 Day Notice simultaneously with the written offer to purchase. Note that this notice is advisory only. A 30 day notice to vacate shall subsequently be delivered to the displace when the required vacate date is known. This notice may not be sent any earlier than 60 days from the date the initial 90 day notice was delivered.

If a displacee has not moved after the thirty-Calendar-Day notice expires, immediately notify the Department's ROW Coordinator and prepare a written recommendation to facilitate the displacee's move.

Eviction Proceedings. Assist the Attorney General's office with any eviction proceedings. Serve notice of eviction proceedings to the occupant(s) of the property who have not complied with move dates. Coordinate the eviction process with the local authorities and accompany the Sheriff's Department when the local authorities are carrying out eviction.

Legal Proceedings. Be available for any legal proceedings, such as appeals or hearings.

Securing Vacant Properties. After a property acquisition and relocation, secure the dwelling and/or other structures no later than 48 hours after vacancy, and protect the Final ROW. If additional time is needed to secure the property, the Design-Builder must consult with the Department for an extension.

Relocation Files. Maintain a complete file, separate from acquisition files, on each displacee if appropriate and as needed. (If a separate relocation file is set up and maintained, that file must contain a copy of all pertinent information from the acquisition file, sufficient to satisfy the needs of the relocation agent, the Design Build reviewing agent, and the UDOT ROW coordinator or designated department review person.)

Eminent Domain Relocations. For any parcel referred to the Attorney General's office for eminent domain proceedings that has a relocation issue, undertake all relocation activities that occur after deposit of the court award.

If requested, the Utah Private Property Ombudsman, may request that the relocation issues be mediated or arbitrated. And, if requested the Ombudsman may request a second replacement housing study. If such requests are made, the Design-Builder shall notify the department that these requests have been made. The Design-Builder shall then comply with said requests as required by state statutes.

All correspondence to the displacees or their representative(s) will be prepared on the Design-Builder's designated relocation letterhead and will be signed by the Design-Builder's ROW Project Manager.

Payment. Prepare relocation payment claim submissions for all displacees and all relocation assistance benefits using prescribed and approved forms with all appropriate funding codes. Deliver to each displacee the relocation assistance payments in compliance with separation of function requirements.

3.14.4.8 Property Management of Project

The Design-Builder is responsible for the following property management issues:

Property Security. Provide adequate security to prevent vandalism, trespassing or access by the public to properties acquired, from the time the property is acquired until the project is completed or the properties are turned over to the UDOT. These services may consist of fencing, boarding, posting signs or other actions that will preserve and protect the properties and the public as required by the Department or applicable law.

Property Maintenance. Provide adequate maintenance to prevent waste, preserve resources, and protect property. This may include land and/or improvement maintenance, rodent or nuisance control.

Inspections and Inventory. Conduct inspections of all properties acquired at or before taking possession to confirm all acquired property is included and in acceptable condition (no hazardous materials, in same condition as when acquired, etc.) and that all personal property of the seller has been removed.

An inventory of properties acquired within and outside of the Right of Way shall be provided to the Department. The accounting shall identify all improvements, dates of possession, any missing items or special circumstances, steps taken to secure and protect the property, dates of demolition or other appropriate information. Properties to be turned over to the Department shall be specifically identified and the date listed that the property was turned over to the Department.

Deposits. Document the condition of the property and approve the release of the acquisition deposit to the seller. Document the amounts and reasoning for the retention of any deposit amount. The Department shall be notified and consulted prior to the retention of the acquisition deposit.

Leasing. Lease forms and conditions for leasing property (rent amount, terms, etc.) to any party need to be approved through the UDOT Property Management Section.

Governmental Approvals. The Design-Builder shall be responsible for securing all necessary permits, approvals, reports or other required items from local, state, or federal agencies that may be required for maintaining, removing, cleaning up, leasing or using the property for this project. Notify the Department in writing of all such activities.

Special Requests. Address property management concerns, issues, or situations that develop during the project in a manner and method consistent with good property management principles.

Documentation. Prepare necessary documentation for disposal of improvements, fixtures, and buildings in accordance with applicable laws and submit the same to the Department.

Utility Service. Maintain appropriate utility services and/or arrange for discontinuation of utility services for properties as needed.

Demolition/Removal Requirements. Process all required forms, documents, and permit applications in order to proceed with the timely demolition or removal of any and all improvements, buildings, and fixtures located within the Final ROW, as applicable.

Improvements. Demolish and/or remove all improvements.

Department Notification. Notify the Department upon completion of the demolition and clearance of the Final ROW, as applicable.

3.14.4.9 Administration and Management of Final Right-of-Way

In administering and managing its Final ROW activities:

Acquisitionl Files. Maintain acquisition records on file of all aspects of the acquisition process in accordance with applicable law. Each acquisition file shall include all documents required by the Contract Documents, FHWA, and/or the Department.

Expense Reports. Provide monthly summaries of project expenses, including amounts authorized, amounts paid, and budget forecasting on a parcel-by-parcel and overall project basis

Projected Funding. Provide budget projections and anticipated funding requirements every thirty (30) Calendar Days, or more frequently, as requested by the Department.

Status Reports. Maintain and electronically transmit to the Department, in a format acceptable to the Department, monthly status reports of all parcels and activities related to Final ROW, additional Properties acquisition and disposition, and acquisition and disposition of temporary easements or other property interests. Provide weekly (or as requested) updates to the Department.

Correspondence. Provide copies of all incoming and outgoing correspondence as requested. Number all correspondence in accordance with Section 1 (General Requirements).

Subconsultant Reports. Evaluate and report subcontractor status and performance to the Department monthly, or more frequently, as requested.

Tracking System. Input and update parcel status in Web-based tracking system or as directed by the Department.

3.14.5 DEPARTMENT OVERSIGHT, MONITORING, AND REVIEW

General. The Department or its designee may, at its discretion, review and/or monitor the ROW activities and services performed by the Design-Builder. This will be for oversight as a secondary review. Primary review of all processes and all reports (including, but not limited to: appraisals, appraisal reviews, acquisition packages, offers to purchase, contracts, and all relocation forms and claims shall be conducted by the Design-Builder. The Department will notify the Design-Builder in writing of any Project oversight monitor or reviewer under contract with the Department. The Design-Builder will provide any information requested (in addition to that specifically required elsewhere in the RFP) to the Department to assist in the Department's review and assessment of the progress, timeliness, adequacy, and sufficiency of the Design-Builder's ROW activities.

3.14.6 COST RESPONSIBILITIES OF THE DEPARTMENT

The Department will:

ROW Costs. For each parcel of Final ROW, excluding the Design-Builder's Additional Properties, process and issue all approved warrants for payment of agreed purchase prices or awards, relocation assistance payments, and incidental expenses for the transfer of the Final ROW to the State in accordance with applicable law.

Approvals. Provide final approval of all title reports, appraisals, relocation assistance payments, administrative settlement requests, payments, and other approvals required by the Contract Documents, by the State, or by applicable law.

Delegation of Approvals. At its discretion, delegate some or all of the approval processes, after provision to the Design-Builder of a signed notification.

Legal Support. Coordinate with the office of the Attorney General or contract condemnation counsel to provide legal counsel to file and prosecute condemnation hearings.

3.14.7 COST RESPONSIBILITIES OF THE DESIGN-BUILDER

Row Costs. Pay the cost of, and be responsible for, processing and issuing all payments of agreed purchase prices or awards; relocation assistance payments; and all legal, administrative, and incidental expenses of or related to the Design-Builder's Additional Properties and temporary easements, or other interests in real property acquired for the Project.

3.14.8 PROPERTY FENCE REQUIREMENTS

General. Regarding fences, comply with the policies and procedures of the UDOT *Manual of Instruction—Right-of-Way, Part 20*, as well as the Specifications. Section 02822 (Right of Way Fences and Gates) of the Standard Specifications (DB).

3.14.8.1 Property Fencing for Public Properties

General. To control pedestrian access to the Project from existing public facilities that are high-risk areas (particularly parks, sports facilities, schools, or any highly traveled pedestrian areas), at a minimum, construct a six-foot chain link fence with metal posts. Use normal and good engineering practices in fencing public properties to control pedestrian access to the Project.

3.14.8.2 Property Fencing for Private Properties

New Fencing. For fencing other than UDOT standard Right of Way fence instruct the appraisers to use the cost-to-cure format to compensate an owner of private property for a replacement fence when the ROW line leaves one or more unfenced remainder property(s) that were fenced before the taking. Base compensation for the new fencing on the same type of fence as the property owner's existing fence. Provide all UDOT standard Right of Way fence.

Agreement. When the property owner is paid through the appraisal process for the cost to rebuild the fence on the remainder property, include in the Memorandum of Agreement or the Purchase Agreement the following clause:

> *"It is further understood and agreed that the Grantor has been compensated for the construction of a new fence and shall be responsible for constructing the necessary fencing within thirty (30) calendar days from the date of closing. Grantor specifically understands and agrees that the fences are the property of the Grantor and they shall be liable and responsible for any reconstruction, maintenance, or adjustment with regard to such fencing."*

Temporary Fencing. Make as many efforts as reasonable to ensure that the Property Owners who have been compensated for fencing of the remainder properties erect the fence in accordance with the construction schedule. If necessary to maintain the construction schedule and to control unauthorized access to the ROW by livestock or the public, provide temporary fencing in cases where the Property Owner fails to fence the property within the allotted timeframe. Provide temporary fencing for all shoofly and highway easements. Place temporary fencing prior to any construction activities. Maintain all temporary fencing.

Removal of Fencing. If any existing fencing remains after the Property Owner's retention period has expired, remove the existing fences from the newly acquired ROW and pay all costs associated therewith. Remove all temporary fencing after new fencing has been placed.

Mail Service. Make as many attempts as reasonable to ensure that mail delivery to existing Property Owners is not interrupted, including installing temporary mailboxes during construction, coordinating with U.S. Postal Service mail carriers, and, after Project completion, constructing permanent mailboxes similar to the original mailboxes.

3.14.9 LEASEBACK

General. With the approval of the Department and at the Design-Builder's option, extend a business tenant's lease or to lease back the owner's land or improvements to the owner after possession has been obtained, taking into consideration the Project schedule and the timeframe in which the parcel will be needed for construction.

Documentation. Submit to the Department in writing substantial documentation to justify the lease extension, the amount of rent, and the termination notification clause. Subject to Department approval, negotiate the lease between the tenant and the Department, and obtain all signatures.

Tenant Liaison. Through Final Acceptance, collect the rent from the tenant and move the tenant if the lease expires prior to Construction.

3.15 SURVEY

General Scope. Conduct all surveying and mapping necessary for the completion of design and construction of the Project and the development of As-Built documentation in accordance with this Section.

3.15.1 REFERENCED STANDARDS AND PUBLICATIONS

3.15.1.1 Referenced Standards

General. Conduct all surveying and mapping in accordance with the relevant requirements of the standards listed by priority in Table III-30.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-30
REFERENCED STANDARDS FOR SURVEYING AND MAPPING

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date**	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	AASHTO	*A Policy on Geometric Design of Highways and Streets*	S99-GDHS-3	2001	"Green Book"

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.15.2 PERFORMANCE REQUIREMENTS

Provide surveying in accordance with the current survey industry standards as approved by the Department. Prepare and submit a survey plan to the Department for approval; see Section 3.15.5 (Submittals).

3.15.3 RIGHT-OF-WAY SURVEYING

No Right-of-Way surveying is required for this project. The existing boundary survey is provided in Appendix I (Boundary Survey).

3.15.4 PROJECT CONTROL

Maintain existing Project controls, and install and maintain additional controls. Refer to Appendix J (Conceptual Plans and Survey Information) for existing survey information.

3.15.5 SUBMITTALS

Survey Plan. Prepare and submit a survey plan to the Department for approval prior to initiating survey activities. The plan should address the following:

- Monuments and control
- Coordinate system and datum
- Mapping standards and tolerances
- Legal survey standards and tolerances
- Construction survey standards and tolerances
- Acceptance survey standards and tolerances
- Amend Record of Survey Map, as necessary

Survey Control. Submit digital and paper copies of the section corners, ROW markers, and Subdivision and County monuments. Include paper copies of all field notes.

3.16 PUBLIC INVOLVEMENT

Department Goal. The Department's ongoing objective is to maintain a high level of public involvement by listening to, receiving input from, educating and informing the stakeholders throughout the Project development period. It is imperative that the Department and Design-Builder gain and maintain public support.

Objectives. To achieve this goal, the Department and the Design-Builder will implement a well-executed public involvement plan with the following objectives:

- Afford members of the public opportunity to provide input to the project, including final design, aesthetics, access, and MOT.
- Keep the public informed about the Project and its status.
- Notify the public in advance of construction activities and potential impacts.

Definitions.

Stakeholder. A Project stakeholder is an individual or group whose interests might be affected in a specific manner, whether real or perceived, by the construction and operation of the Project. The individual members of a stakeholder group are deemed to share the same or similar interests and concerns.

Strategies. Public involvement strategies are proposed action steps that, together, constitute an action plan for achieving the objectives for the identified stakeholders.

General Scope and Strategies.

Provide general Project information, the overall Project schedule, and materials that will help the public deal with construction impacts on a daily basis.

Coordinate advisory group activities and integrate their input.

Promote the Department's vision for the Project.

Meet the public involvement requirements of this Section 3.16.

Department Approval. Obtain the Department's final approval of all actions before they are taken.

Incentive Award. The Department will provide an incentive award for public involvement in accordance with Section 2.11 (Incentives and Price Reductions).

3.16.1 CONTEXT SENSITIVE SOLUTIONS

General. The Department has made every effort to balance the principles of Context Sensitive Solutions (CSS), which include addressing the transportation need, being an asset to the community, and being compatible with the natural and built environment during the environmental phase of the project. Continue to implement CSS in final design and construction.

3.16.2 PUBLIC NOTIFICATION

General. Disseminate information in a timely and appropriate manner. Provide notification of roadway closures and detours and respond to personal contacts from the public and media in accordance with the requirements in Table III-31, at a minimum.

TABLE III-31
ADVANCE NOTIFICATION AND RESPONSE TO PERSONAL CONTACTS

Type	*Businesses*	*Motorists*	*Residents*	*News Media*	*Local Government*
Road Closure			*Minimum Advance Notification*		
Overnight (ramp or cross street)	48 hours	48 hours	48 hours	48 hours	As required by permit or 48 hours
Daytime (temporary)	1 week	48 hours	1 week	48 hours	As required by permit or 1 week
Cross street	***3 Separate Notices*** 1) 6 months, seasonal 2) Approx. 1 month 3) Exactly 1 week	2 weeks, by VMS	1 month	Exactly 1 week	1) 6 months, seasonal 2) Approx. 1 month 3) Exactly 1 week
Overnight (full corridor)	1 week	1 week	1 week	1 week	1 week
Emergency closure (any location)	**1 hour (those on database)**	**1 hour (those on database)**	**1 hour (those on database)**	**1 hour**	**1 hour**
Personal Contact			*Maximum Response Time*		
Telephone	24 hours	24 hours	24 hours	4 hours	12 hours
U.S. Mail	1 week	1 week	1 week	1 week	1 week
E-mail	24 hours	24 hours	24 hours	24 hours	24 hours
Face-to-face	24 hours	24 hours	24 hours	12 hours	12 hours

A week is a 7-day calendar week.
VMS = variable message sign

3.16.3 DESIGN-BUILDER REQUIREMENTS

General. Perform the responsibilities indicated in this Section, and recommend innovative strategies and other action plans in addition to those herein.

3.16.3.1 Staffing

Experienced Specialist. Provide, at a minimum, a full-time Public Involvement Manager to manage the Design-Builder's public involvement activities who is qualified and experienced in all aspects, including:

- Work with the public on a one-on-one basis
- Media relation's support
- Newsletter and advertising production
- Committee facilitation
- Web site design and maintenance
- Direct mailing
- Telecommunications
- Email and fax database development

- Public speaking
- Response letters

Key Person. The Public Involvement Manager shall be one of the Design-Builder's Key Personnel, as defined in Section 3.1 (General Requirements), with public involvement as their primary duty.

Department Approval. Obtain Department approval of the individual proposed to be the Public Involvement Manager, and any replacement for this position.

Partnering and Kickoff Workshop. Conduct a Project Public Involvement kickoff workshop, attended by the Public Involvement Manager, within 21 calendar days of NTP, that will build a team relationship between the Design-Builder's public involvement staff and the Department in order to promote public satisfaction with the Project. At the meeting, detail the Department's goals and expectations for the public involvement program.

3.16.3.2 Public Involvement Plan

General. Within 30 Calendar Days of NTP, submit for Department review and approval an overall Public Involvement Plan, based on the Region Two Public Involvement Plan (Design Phase), that identifies stakeholders, messaging, promotional and activity tools, public involvement/information processes, context-sensitive solution integration, and the advancement of commitments made in the EA. Prepare quarterly updates to the Public Involvement Plan with specific actions and messages as approved and audited by the Department. Submit a quarterly report detailing the actions completed and the success of the tools used in accordance with the quarterly plan. Submit a final evaluation of public information and public involvement activities based on the Public Involvement Plan within 30-days of completion of the Project.

3.16.3.3 Business and Residential Mitigation Plan

Within 45 Calendar Days of NTP, submit for Department review and approval an overall Business and Residential Impact Mitigation Plan that identifies Project impacts on businesses and residences and planned mitigation actions. In the plan, address the following specific areas of concern:

- Changes in public access
- Optional parking identification
- Schedule notification procedures
- Snow and garbage removal
- Mail delivery
- Construction signage
- "Business as Usual" signage
- Special services for businesses
- Access and route maps

3.16.4 ADVISORY COMMITTEE

Community Coordination Committee Formation. A Community Coordination Committee (CCC) shall be formed to represent Salt Lake City, West Valley City, other municipal stakeholders and local residents, local schools, trucking and transport companies, area businesses and other local entities. Through the use of Project study-phase committee rosters, personal interviews, referrals from key stakeholders and the Department develop a list of candidate

members from various entities including, but not limited to, the groups listed above. Include Committee members from areas throughout the corridor. The number of members will depend upon the number of businesses, organizations, neighborhood groups, etc., but shall include a minimum of 24 members. Submit the names and affiliations of the proposed committee members to the Department for review and approval at least 60-days following award of contract.

Committee members will represent the interests of and provide input from Project stakeholders to the Project Team, and communicate information about the Project and Project Schedule to stakeholders.

In order to focus responsibilities, each CCC meeting shall follow items as specified on an agenda.

Community Coordination Committee Meetings. At minimum, [quarterly] with the CCC to ensure that the Project meets local needs.

Community Coordination Committee Responsibilities.

- Address final design and access issues to advance commitments reached through public involvement during the Study process and in the EA.
- Evaluate Design-Builder's performance on MOT operations.
- Evaluate Design-Builder's performance on public involvement / information activities.
- Participate in determining Incentive Awards to the Design-Builder.
- Certain individual members also shall represent the CCC at sub-committee meetings to facilitate communication.

Subcommittees. With input from Salt Lake City, West Valley City and the Department, establish subcommittees to deal with specific issues and represent specific stakeholder groups including, but not limited to, [residents] area businesses and trucking and transport companies. Hold subcommittee meetings monthly beginning with the committee formation, until approval is reached on specific topics. Include at least the following topics:

- Design and access issues
- Neighborhood MOT plans
- Traffic calming measures
- Advance notice of all construction activities
- Landscape and Aesthetics

Public Meetings. At all public meetings, detail the input of the CCC and subcommittees, and the responsiveness of the Design-Builder to the concerns raised in these committees and during presentations to the city councils of Salt Lake and West Valley.

Meeting Support. Provide notification, agenda items, presentations, meeting spaces, refreshments as appropriate, all staffing, and minutes of the meetings. Within four calendar days of the meeting, make these minutes available to the general public and mail them to all attendees.

3.16.5 INVOLVEMENT OF STAKEHOLDERS

General. Maintain high stakeholder satisfaction by keeping them well informed and educated throughout the duration of the Project, as well as on a daily basis, as appropriate, so they may see the end-product benefits and avoid unnecessary delays. Keep the public informed about precautions taken for safety, MOT strategies, the ultimate benefits of the Project improvements,

and any direct financial impacts on them or their businesses. Increase the satisfaction of the stakeholders by keeping them informed.

The following are Project stakeholders:

- The Cities of Salt Lake and West Valley
- Salt Lake County representatives
- State legislators
- The Federal Highway Administration (FHWA)
- The Wasatch Front Regional Council (WFRC)
- The Department
- Public and nongovernmental organizations
- Local businesses
- Trucking and transport companies
- Residents and neighborhood groups
- Local schools
- Members of the general public, including commuters potentially impacted by the interchange reconstruction
- Infrequent travelers and visitors
- CCC and subcommittee representatives

3.16.5.1 Project Stakeholder Evaluations

Pre-construction surveys. Develop, administer and analyze surveys of Project Stakeholders prior to construction to evaluate stakeholder concerns and expectations regarding the Department and upcoming construction. Compile a report of survey results for the Department and Project Team. Use survey information to refine Public Involvement / Public Relations efforts.

Post-construction surveys. Develop, administer and analyze surveys of Project Stakeholders following construction to evaluate stakeholder attitudes regarding the Department the Design-Builder and the construction process. Compile a report of survey results for the Department and Project Team.

3.16.5.2 Project Stakeholder Notifications

Local Municipalities. Proactively involve Salt Lake City and West Valley City in the public involvement process. Make monthly presentations at city council meetings detailing progress and the anticipated future schedule. Contact the cities for advisory committee member suggestions.

Salt Lake County Representatives. Coordinate with Salt Lake County representatives, including those of the Parks and Recreations Department. Make quarterly presentations to the representatives and any appropriate County committees detailing stakeholder involvement, progress, and the anticipated future schedule. In particular, explain in detail how the Project is addressing and mitigating potential impacts on all recreation facilities.

State Legislators. Provide State Legislators with timely information about the Project's progress, budget, and schedule, and how stakeholder concerns are being addressed. Make quarterly reports that detail all work with advisory committees and the Cities of Salt Lake and

West Valley. Compile the number of telephone inquiries responded to and web site hits, and forward this information to the appropriate legislators, with prior Department approval.

FHWA, WFRC, and UDOT. Coordinate with the FHWA, the WFRC, and the Department to ensure that they have the most recent and accurate Project information. Place Project updates in various groups' newsletters and make presentations to the groups. This shall be coordinated directly with the Department and the respective groups.

Public and Nongovernmental Groups. Several groups will have a significant interest in the Project, such as trucking and business associations, and local transportation-oriented organizations. Invite these groups to be represented on subcommittee advisory groups. Meet with each group individually. Provide presentation materials and speakers for group meetings.

Local Businesses. Communicate openly with and inform local businesses of the avenues available to them to communicate and address problems as they arise. Implement strategies to include the following:

Community Coordination Committee. Include representatives of potentially impacted businesses from Salt Lake City and West Valley City on the Committee.

Main Contact Person. The Public Involvement Manager shall visit businesses to provide them with diagrams for traffic flow and guidance for delivery routes. Begin these activities at least two (2) months before the anticipated start of construction and continue at regular intervals throughout the Project. Provide businesses with the telephone number(s) of the Project hotline and with the direct telephone number, cell telephone number, and e-mail address of the Public Involvement Specialist.

Maps. Develop and furnish construction maps to local businesses to distribute to their customers and delivery drivers.

Direct Fax or E-mail. Develop and maintain a comprehensive email and fax database for schedule notifications, meeting announcements, and updates. Each week, fax or email information to local businesses to update them on the status on the Project and any detours or closures. As construction progresses, email or phone in updates of closures or other significant impacts on business access at least 48 hours in advance of the action. Email or fax a notification of emergency closures within 1 hour of occurrence (in accordance with the table presented under 3.16.2).

Information Packet. Develop a detailed information packet that includes construction plans, the scheduled timing of pertinent construction activities, the telephone hotline number, Web site address, and traffic action plans. Provide this information packet to impacted local businesses and Chambers of Commerce before implementing any long-term non-emergency road or lane closures.

Residents and Neighborhoods. In order to maintain an open dialogue, inform residents and neighborhood groups of the Public Involvement Manager's contact information in order to facilitate communication and address problems as they arise.

Provide specific information monthly about the following issues that significantly affect the neighborhood including, but not limited to:

- Traffic and detour plans
- Changes to drainage systems (permanent or temporary)
- Property impacts during construction
- Property restoration after construction

- Access and design
- Relocation resources
- Need for and location of noise walls
- How to provide input to the project

Schools. Meet regularly, as needed, with the appropriate officials in Granite and Salt Lake School Districts and potentially impacted schools to evaluate traffic detours and pedestrian safety, including bus and walking routes. Include school and/or School District representatives on the CCC or appropriate subcommittee.

Post Office. Meet with the post office to complete a Federal Land Transfer for the ROW that may be required. The Post Office must review the plans for the area to determine impacts to their property (the Post Office is on spread footings). The Design-Builder will also have to address concerns related to snow removal on the SR-201 Collector/Distributor ramp and security of the property.

3.16.6 MULTIMEDIA REQUIREMENTS

General Public. Provide to the general public, including Salt Lake, West Valley, Tooele and Magna residents not directly impacted by construction, commuters, and interested citizens, project information that is timely, accurate, and reflects the quality of the project and the Department's commitment to being environmentally sensitive.

Develop a multimedia educational campaign to inform the public about the Project and explain the issues in depth. Use a combination of methods to reach and interact with different segments of the public such as a Web site; designated locations where the public can pick up the latest information; email, faxes, newsletters; and radio, television, newspaper and traffic reports coordinated through the Region Public Involvement Coordinator and UDOT Community Relations.

Update motorists regularly on the Project status through:

- Signage that provides general "trail-blazing" information for locally affected businesses
- Hotline telephone number within the construction area
- Directional and access information
- VMS
- Highway Access Radio (HAR)

Library of Presentation Materials. Develop diverse materials, including informational brochures with long- and short-term Project plans, maps, and telephone numbers, multimedia presentations, and fliers. Make the materials available in public places, such as post offices, libraries, city buildings, schools, and to commuters who call the designated telephone numbers or access the Project Web site.

Web Site. Create a Project Web site including but not limited to basic Project information, new developments, maps with optional routes and detours, a master plan description, short-term plans, presentation materials, received public input, the opportunity to provide input, etc.

Telephone Information Line. Although visitors and infrequent travelers will experience minimal impacts from the Project, they could be confused by unexpected detours or closures.

Reduce the amount of inconvenience and frustration for infrequent travelers and visitors by creating awareness of the Project and making information available to them well in advance of any detours or closures. An information hotline, with a recorded message, will be checked daily. The recording will be updated, as necessary and left messages will be logged.

Support of News Media Relations. The Department will be the news media spokesperson. Work closely with UDOT Community Relations and the Region Two Public Involvement Coordinator to develop and implement a comprehensive, strategic Public Information and Media Relations Plan for the project that will include both major Utah media and local neighborhood media. All media communications must be approved by the UDOT Community Relations office. Support the Department with, at a minimum:

- Regular communication with local neighborhood publications
- A crisis communication plan for initiating and maintaining communications with the Department in the event of a crisis
- Help with organizing any media events including press conferences, groundbreakings and ribbon cuttings
- Drafting and finalization of press releases
- Press kits and other media collateral
- Development and placement of display advertising
- Development and placement of public service announcements
- Maps for news media use
- Speaking points
- Project tours

Contact Mailing List. Develop an extensive database of stakeholders, including their names, addresses, e-mail addresses, comments and resolutions, etc. Include in the database a record of each request for information in the form of face-to-face meetings, telephone calls, and e-mails, as well as the action taken to respond effectively, the timeliness of the response, and the result. Submit a weekly report of e-mail comments and questions received, as well as responses, to the UDOT Region 2 Public Involvement Coordinator.

Public Open Houses. Provide meeting space, displays, presentation materials, staff, and notification for a minimum of three (3) public open houses during the project. Discuss the Project one-on-one with interested citizens and offer them the opportunity to comment about project details, both verbally and in writing.

Newsletters. Write and produce, at minimum, three strategically timed, direct mail newsletters to provide stakeholders with general Project overviews and schedule information.

Updates. Fax or email updates or "heads-up" advisories to business and local communities to keep them informed of construction impacts.

3.16.7 DEPARTMENT RESPONSIBILITIES

General. Develop a list of criteria by which to judge the effectiveness of the public communications plan (e.g., whether newspaper reports are helpful and how well signage is communicating). The Department will administer a questionnaire to advisory committees and also audit the database and hotline to ensure that stakeholders' concerns are being addressed appropriately.

State Legislators. Through the course of construction, periodically meet with State legislators on a one-on-one basis to determine their satisfaction with the Project and with the Department, and to determine whether their constituents' needs are being met.

3.17 ENVIRONMENTAL COMMITMENTS

General Scope. Implement all of the Project's environmental protection commitments in accordance with the requirements of this Section, including referenced standards and publications, performance requirements, environmental protection program, permits and approvals, and required submittals, Section 01355 (Environmental Protection) of the Standard Specifications (DB), Appendix E (Environmental Information), and all applicable regulatory agency requirements. Appendix E includes a summary of the Project-specific environmental commitments that are described in this Section.

(INSERT***)*** The principal environmental documents for this project, all of which are incorporated into this RFP as Appendix E, are:

(***INSERT***)

3.17.1 REFERENCED STANDARDS

General. Implement the environmental commitments of the Project in accordance with the relevant requirements of the standards listed by priority in Table III-32.

Conflicts and Priority. If there is any conflict in standards, generally adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard. (***INSERT***)

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-32
REFERENCED STANDARDS FOR ENVIRONMENTAL PROTECTION

Pri-ority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.17.2 PERFORMANCE REQUIREMENTS

Protect the environment in accordance with the following performance requirements:

A. Document the measures taken to minimize impacts on the environment from the design, construction, the environment, and long-term operation of the Project.

B. Develop, implement, operate, and maintain an environmental protection plan for the Project, including provisions for meeting all permit requirements, environmental monitoring and reporting, environmental protection training, and qualified environmental personnel.

C. Document the environmental protection plan.

D. Obtain all required environmental regulatory permits and approvals other than those previously secured as Department-provided approvals.

E. Implement any additional environmental commitments that result from Design-Builder actions and consultations with regulatory agencies.

3.17.3 ENVIRONMENTAL PROTECTION PROGRAM

Develop and implement an environmental protection program that incorporates the following Design-Builder responsibilities:

Preparing Applications. Prepare all applications for environmental approvals other than the Department-provided approvals. Negotiate all environmental approvals and conditions with the applicable regulatory agencies, with Department oversight and consultation.

Department Approval. After the Department has reviewed each application and supporting documentation, signed as the applicant if required, and returned the application to the Design-Builder, submit the completed application to the appropriate regulatory agency. Allow the Department 14 calendar days to review, then approve or disapprove the application.

Documentation. Provide the Department with copies of all environmental submittals, correspondence, and secured environmental approvals within seven calendar days, and maintain records of each in accordance with the guidelines herein.

Potential Amendments. (***INSERT***) and that such approvals may require amendment as the design work progresses. With the Department's support and oversight, coordinate with regulatory agencies and governmental entities to obtain all such amendments to the Department-provided approvals and to ensure compliance with the conditions and schedules as set forth in such amendments.

Design-Builder Initiated Changes. If previously issued environmental approvals become invalid because of Design-Builder initiated changes to the Project, with the Department's support and oversight undertake all necessary actions, such as application revisions, supplements, reassessments, and coordination with the appropriate governmental entities, to secure or amend the environmental approvals. Pay any additional Project costs and accept responsibility for any schedule delays associated with securing the additional environmental approvals.

Coordination by FHWA or Department. In cases that require the Department or FHWA personnel to coordinate directly, such as with a Section 7 Consultation with the U.S. Fish and Wildlife Service [USFWS], provide necessary support regarding Project design and potential environmental impacts in the form of personnel and/or data to assist in securing environmental approvals.

3.17.4 PERMITS AND APPROVALS

Table III-33 summarizes the environmental permits and approvals needed for the Project, gives the status of each, and cites the Subsection in which detailed requirements are described.

TABLE III-33
SUMMARY AND STATUS OF ENVIRONMENTAL PERMITS AND APPROVALS

Permit or Approval	*Agency or Governmental Entity with Jurisdiction*	*Status*	*Details in Section*
Air Quality Approval Order	UDEQ	Design-Builder to obtain	3.17.4.2 (Air Quality)
NPDES /UPDES General Permit	UDEQ	Design-Builder to obtain	3.17.4.3 (Water Quality)
Section 404 Permit (Wetlands)	COE	Design-Builder to obtain	3.17.4.4 (Waters and Wetlands)
Construction-Related Permits and Clearances	Various	Design-Builder to obtain	

3.17.4.1 Social Conditions, Economics, Right-of-Way Acquisitions, Relocations

3.17.4.1.1 Design and Construction Measures

Throughout the project, business and landowners and residents will be consulted and notified as the project develops to ensure that their concerns are addressed. The business and community advisory groups have already been formed and will continue to hold meetings throughout the project. See Section 3.16 (Public Involvement).

3.17.4.1.2 Permanent Mitigation Measures

No permanent mitigation measures are required for social conditions, economics, and right-of-way acquisitions and relocations.

3.17.4.2 Air Quality

3.17.4.2.1 Construction Mitigation Measures

Mitigation measures for construction-related impacts on air quality include minimizing construction emissions through BMP's and maintaining construction equipment engines. Operational tailpipe vehicle emissions will be minimized through increasingly stringent tailpipe emissions limits for both gasoline-fueled and diesel-fueled vehicles. Non-tailpipe emissions will be minimized through street sweeping and other general maintenance measures.

Comply with the approved Emissions Control Plan (ECP). If one of the following pieces of equipment is brought on site, a UDEQ Approval Order (AO) must be obtained:

- Crusher
- Screen
- Diesel generators
- Concrete batch plant
- Hot mix asphalt plant

Note the AO approval process takes a minimum of 90 days.

3.17.4.2.2 Permanent Mitigation Measures

No permanent mitigation measures are required for air quality.

3.17.4.3 Noise

3.17.4.3.1 Design

Provide a final noise analysis and recommendation based on final design (horizontal and vertical alignments) and UDOT's Noise Wall Policy.

3.17.4.3.2 Construction Mitigation Measures

Comply with the design and the Standard Specifications (DB).

3.17.4.3.3 Permanent Mitigation Measures

No permanent mitigation measures are required of the Design-Builder for noise.

3.17.4.4 Water Quality

3.17.4.4.1 Construction Mitigation Measures

Conduct all construction in accordance with applicable laws for minimizing impacts on water quality; see Section 3.5 (Drainage).

3.17.4.4.2 Permanent Mitigation Measures

See Section 3.5 (Drainage).

3.17.4.5 Waters and Wetlands

3.17.4.5.1 General Design-Builder Responsibilities

Complete permitting requirements of the agencies and entities listed below regarding permanent fill, temporary impacts, and potential surface water quality impacts of the Project.

Conduct construction activities so as to avoid and minimize impacts on the stream channels associated with vehicle crossings and temporary placement of fill.

Secure approvals under Sections 401 and 404 of the Clean Water Act for permanent impacts and temporary construction crossings of stream channels, wetlands, and other jurisdictional waters of the U.S. during the Project.

3.17.4.5.2 Construction Mitigation Measures

General. Do not extend any construction activities or other destructive activities into wetlands outside the Project ROW. Do not directly impact wetlands outside the ROW by the temporary rerouting of water; by discharge of sediments, storm drainage, wash water, contaminated water, or hazardous substances; or by other means.

Identification and Delineation. Identify and delineate wetlands adjacent to the ROW and construction activities outside the ROW by referring to the EA. Identify wetlands within 33 feet of the ROW, or if the area is outside the ROW, within 33 feet of the construction area through signage, flagging, or other means such that wetlands may be easily identified.

Temporary Environmental Fencing. If the construction activity will be performed within 33 feet of a wetland that is located outside the ROW, install temporary environmental fencing to provide a barrier between construction activities and wetlands. Extend the temporary environmental fencing laterally for a minimum of 33 feet beyond the edge of the wetland or work area. Optionally, use permanent fencing instead of temporary fencing, provided that all other requirements relating to permanent and temporary fencing are met.

Placement of Fill. Do not place fill temporarily or permanently outside the ROW without first obtaining written clearance from the COE and the Department.

3.17.4.5.3 Permanent Mitigation Measures

Mitigation must be developed according to the guidelines established by the U.S. Army Corps of Engineers.

3.17.4.6 Wildlife and Threatened and Endangered Species

Comply with applicable governmental rules governing threatened and endangered (T&E) species, raptors, and migratory birds, including the Endangered Species Act (16 United States Code [USC] 1531 et seq.), the Migratory Bird Treaty Act (MBTA) (16 USC 703-712), and the Eagle Protection Act (16 USC 668). To date, no T&E species have been identified on the site of the Project ROW.

If changes to the Appendix J (Conceptual Plan and Survey Information) are initiated by the Design-Builder and result in impacts on areas outside of the ROW described in the Department-provided approvals, make a field determination and verification of wildlife and vegetation impacts for all additional properties as well as for the Design-Builder's staging areas, field office sites, borrow sites, stockpile locations, etc.

3.17.4.6.1 Construction Mitigation Measures

Sensitive Wildlife Areas Discovered During Construction. If sensitive wildlife areas are discovered during the course of the Project, comply with any requirements that may be imposed by the Department and coordinate with the Department, the USFWS, and the Utah Division of Wildlife Resources (UDWR). In cooperation with the above-referenced agencies, determine and implement an approach that least impacts the species.

Mitigation for T&E Species. At this time, no mitigation for T&E species is required.

3.17.4.6.2 Permanent Mitigation Measures

No permanent mitigation measures are required of the Design-Builder for wildlife or for threatened and endangered species.

3.17.4.7 Historic and Archaeological Preservation

3.17.4.7.1 Known Sites

Minimize impacts to the sites identified in the Environmental Assessment (Appendix E).

3.17.4.7.2 Sites Discovered During Construction

If a suspected historic, archeological, or pale ontological item or feature, prehistoric dwelling site, or artifact of historical or archeological significance is encountered, immediately suspend construction operations in the vicinity of the discovery. Promptly notify the Design-Builder Archaeologist and the Region 2 Archeologist. Prohibit employees from scavenging or collecting artifacts.

3.17.4.8 Hazardous Waste Sites

3.17.4.8.1 Known Contaminated Sites

Remediation. The Work includes possible remediation of hazardous substances from known or suspected contaminated areas in accordance with applicable governmental rules (including the regulations and requirements of the U.S. Environmental Protection Agency [EPA], UDEQ, and OSHA) and the following sections. For those properties to be acquired by the Department, obtain a No Further Action (NFA) letter from governmental agencies. If remediation of contaminated material excavated from other project areas is required, complete the remediation before using, disposing of, or selling such material. Within three (3) weeks of completion, document the

remedial activities with a remediation report to the Department.

Known Sites. Refer to the Environmental Assessment (Appendix E) for a list of the known sites.

Removal of Existing Contamination. Remove all known contamination on property acquired.

3.17.4.8.2 Sites Discovered During Construction

Suspension of Work. If abnormal conditions are discovered during construction that indicate the presence of a hazardous substance, immediately suspend work in the area and contact the Department and the Design-Builder Environmental Compliance Manager. Abnormal conditions include the presence of barrels; buried storage tanks; aboveground tanks; obnoxious odors; excessively hot earth; stained or discolored soils; smoke; and unidentifiable powders, sludges, or pellets.

Remediation Plan and Report. Develop a written remediation work plan for the site in accordance with UDEQ and EPA regulations and requirements. Develop an opinion of probable construction costs for the remediation plan. Obtain approval of the remediation plan from the Department and appropriate governmental agencies. Remediate the hazardous substance in accordance with Governmental rules, regulations, and requirements. Within 14 calendar days of the completion of the remediation, document the remedial activities and regulatory approvals with a remediation report to the Department.

Change Orders. Refer to Section 2.5.4 (Changes) regarding Change Orders if hazardous substances are discovered and are required to be removed during the course of the Project.

3.17.4.9 Fugitive Light

3.17.4.9.1 Construction Mitigation Measures

Shield nonconstruction areas from all temporary construction lights. Aim construction lighting directly at work areas. Comply with all applicable governmental rules regarding lighting and hours of construction.

3.17.4.9.2 Permanent Mitigation Measures

No permanent mitigation measures are required of the Design-Builder for fugitive light.

3.17.4.10 Landscaping

Expedite revegetation and minimize invasion of nonnative species to disturbed sites, in accordance with the requirements of Section 3.12 (Landscaping and Aesthetics) and the final design and landscape plans.

3.17.5 SUBMITTALS

Submit the following information and documentation, at a minimum, to the Department and to regulatory agencies as directed by the Department and required by this RFP and environmental approvals:

- Construction Monitoring Plan, as required by Section 01355 1.2 (Environmental Monitoring and Reporting) in the Standard Specifications (DB)
- Environmental contact tree
- Environmental Monitoring Reports
- Mitigation Plan

- Investigative work plans, site investigative reports, and remediation work plans as necessary for hazardous material discovery and remediation
- Wetlands delineations and appropriate Section 404 Permit Application for the design or temporary construction impacts as necessary;
- Mitigation Monitoring Reports, as required by resource-specific mitigation plans
- Additional plans and reports identified in Department-provided approvals. The regulatory agency approvals secured by the Design-Builder, and resource-specific mitigation plans.

Schedule. Submit the above documentation in accordance with the requirements herein and as necessary to maintain compliance with all applicable laws, rules, regulations, and environmental approvals granted for the Project.

3.18 QUALITY

3.18.1 GENERAL

General Scope. Assume the primary responsibility for the overall quality of the Work, including products of subcontractors, required fabricators, suppliers, and vendors under the oversight of the Department and in coordination with relevant governmental agencies.

3.18.2 QUALITY ASSURANCE

Perform all of the Quality Assurance (QA) tasks required to ensure that the final project complies with all of the terms of the Contract. These shall include but not be limited to the following:

3.18.2.1 Design Quality Control (DQC)

Perform all of the Design Quality Control checks outlined in Appendix D, Draft Quality Management Plan.

Members of the DQO who perform design QC shall be employees of the designer and shall not have responsibility for construction production. All design work shall be checked by senior experienced engineers. Senior experienced engineers shall be engineers that have significant relevant qualifications and experience in the design discipline and type of work being checked and shall have an equal or higher level of qualifiactions and experience than the engineer(s) in the discipline being checked. Senior experienced engineers shall not check the work which they are involved in actually designing.

3.18.2.2 Design Proof of Compliance (DPOC)

Perform all of the design audits outlined in Appendix D, Draft Quality Management Plan, to substantiate that the required quality control checks and reviews are being performed and that the project calculations and design comply with the Contract documents.

Members of the DQO who perform design POC shall be employees of the designer and shall not have responsibility for construction production.

3.18.2.3 Construction Quality Control (CQC)

Perform all of the Quality Control (QC) inspection, sampling, and testing needed to ensure that the final installed product meets or exceeds the specifications outlined in the contract documents. It is expected that the QC group will be part of the Design-Builders production organization and will work seamlessly with them to guarantee effective results.

Quality Control documentation is primarily for the use of the Design-Builder. The Department does not require copies of this information.

Members of the CQO who perform CQC functions may be employees of constructors and may have construction production responsibilities in addition to QC responsibilities.

Describe in your proposal the QC organization that will be used on this Project.

3.18.2.4 Construction Proof of Compliance (CPOC)

Perform Construction Proof of Compliance tasks as outlined in Appendix D, Draft Quality Management Plan. CPOC provides inspection and testing verification that the project was built in compliance with the Contract documents. Construction Proof of Compliance is divided into two subcategories: Inspection Proof of Compliance and Testing Proof of Compliance.

In addition to the minimum qualifications outlined in Appendix D, personnel performing IPOC or TPOC shall successfully complete 2 weeks of UDOT training (40 hours per week) before performing any CPOC activities. The training will be conducted by UDOT staff specifically for Design-Builder CPOC personnel for the SR-201 project. Design-Builder personnel who fail to achieve an acceptable rating at the end of the training shall not be eligible to perform CPOC functions.

3.18.2.4.1 Inspection Proof of Compliance (IPOC)

Inspect all Project Work. This documentation shall show that all materials and equipment were installed in accordance with contractual requirements or industry standards whichever governs. In conjunction with Department oversight inspections, these inspections will form part of the basis for project acceptance.

Members of the CQO who have IPOC responsibilities shall not be employees of constructors or subsidiaries of constructors, and shall not have construction production responsibilities.

3.18.2.4.2 Testing Proof of Compliance (TPOC)

Perform all Proof of Compliance (POC) sampling and testing outlined in the Department's Minimum Sampling and Testing Requirements except as follows:

1. Select Fill Materials such as untreated base course and granular borrow. The Department will take these samples and perform the tests.
2. Hot Mix Asphalt (HMA). The Department will take these samples and perform the tests.
3. Portland Cement Concrete Pavement. The Department will locate cores. The Design-Builder will take the cores. The Department will measure the cores. The Department will break Design-Builder provided cylinders. The Design-Builder will provide correlation of beams for flexural strength with 28-day compressive strength.
4. Lean Concrete Base. . The Department will locate cores. The Design-Builder will take the cores. The Department will measure the cores. The Department will break Design-Builder provided cylinders.
5. Structural Concrete. The Department will break Design-Builder provided cylinders.
6. Asphalt Material Samples. The Department will take all samples and perform all tests.

In conjunction with Department oversight testing, the POC testing results will form part of the basis for project acceptance.

Members of the CQO who have TPOC responsibilities shall not be employees of constructors or suppliers working on or providing materials to the project.

The frequency of POC sampling and testing shall meet the minimum requirements defined by the Department in its Minimum Sampling and Resting Requirements that are by this reference included in the contract.

Approximately one POC test sample out of every ten shall be a split-sample that shall be used by the Department for independent assurance testing. The Department establishes the schedule determining when split-sample will be taken. Split-samples shall be taken in the presence of the appropriate Department representative and used by the Department for independence assurance testing. Such correlation tests ensure the quality of the Design-Builder's testing procedures and accuracy of its testing equipments. If the Design-Builder's POC tests and the Department's independent assurance tests do not statistically correlate, the Design-Builder will be required to identify the problem and fix it in an efficacious manner. If the correlation problem is significant, it may be required to shut the work down until the issue is resolved.

3.18.2.5 Documentation

Maintain construction workmanship and materials quality records of all POC inspections, sampling and tests performed. Submit to the Department in electronic and hard copy format POC inspection reports and material sampling and testing results within twenty-four (24) hours following the inspection or test.

Store the inspection reports and testing results in the UDOT provided materials database. The purpose of electronic storage of inspection reports and test data and results is to facilitate the retrieval and manipulation of information to promote timely and accurate decisions during the construction of the Project. Store all POC inspection reports and test data in the materials database on a daily basis in a manner approved by the Department.

The database shall as a minimum include the following information on each test taken:

i. Date of test.
ii. Type of test.
iii. Location of test.
iv. Test results.
v. Test ID number
vi. Reference to random number selection process.
vii. Technician
viii. Specification limits
ix. Material class
x. Sample information
xi. ID of equipment used

The electronic database shall be available for data entry no later than 60 days after NTP or five days before the first POC test, whichever is later. If POC inspections and tests are made before that date, hard copy information shall be kept and entered into the database no later than 7 days after the system is available.

3.18.2.6 Referenced Standards

General. Develop and implement the quality program in accordance with the relevant requirements of the standards listed by priority in Table 3.18-1.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of the initial release date of the RFP.

TABLE 3.18-1
REFERENCED STANDARDS FOR QUALITY

Priority	*Author or Agency*	*Title*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*
2	UDOT	Request for Proposals, SR-201 Design-Build Project
3	UDOT	*Quality Assurance Manual*
4	UDOT	*Materials Minimum Sampling and Testing Guide*

*** Only to the extent that the standards therein exceed the other listed standards.*

3.18.2.7 Definitions

Construction Quality Organization: The persons on the Design-Builder's Team who are involved in Construction Quality Control and Construction Proof of Compliance activities.
Design Quality Organization: The persons on the Design-Builder's Team who are involved in Design Quality Control and Design Proof of Compliance activities.
Independent Assurance: An independent assessment (by a party not responsible for production, Quality Control, Proof of Compliance, or acceptance) of the reliability of the test results and inspection processes obtained in the Proof of Compliance and Owner Verification activities. The results of IA tests are not to be used as a basis of acceptance of materials.
Owner Independent Assurance: Owner independent assurance comprises split sampling and testing performed by the Department's Laboratory at the minimum frequencies outlined in the Department's Material Sampling and Testing Frequency Manual. These tests and observations of both the CPOQ and the Owner Verification Inspection (OVI) sampling and testing procedures are performed to:

- Confirm that all testers are qualified and certified and that test equipment meets requirements.
- Confirm that all test methods and procedures are performed accurately.

Owner Verification Inspection (OVI): Owner verification inspection is the oversight inspection of the Design-Builder's Work by the Department that includes:

- Department checks to see if design and construction meets the requirements of the contract.
- The Department's participation in the QCP meetings.
- Audits of all documentation to confirm that the Design-Builder is achieving the Contract obligations and commitments.
- The Department's oversight verification inspection of items fabricated off-site, including but not limited to structural steel, and precast and prestressed concrete structures.

Owner Verification Testing (OVT): Owner verification testing is the sampling and testing performed by the Department to check for contract compliance. Material sampling and testing performed by Department personnel to statistically compare and validate the results of the POC's tests, in accordance with Appendix D of the UDOT *Quality Assurance Manual*..

Owner Quality Assurance: The Owner's plan(s) and activities associated with the Department's involvement in oversight of the quality of work performed by the Design-Builder.

Proof of Compliance: The sum of the efforts performed by the Design-Builder to demonstrate that the work complies with the requirements of the contract. Includes Design Proof of Compliance (DPOC) and Construction Proof of Compliance (CPOC). Includes inspection, tests, audits, documentation, etc.

Quality Check Point (QCP): A Quality Checkpoint is a point in time when construction has proceeded to a defined stage at which representatives of the Design-Builder and the CPOC organization determine the progress to date by reviewing the following:

- All daily inspection reports
- CQO and OVT reports
- Settlement data
- Pile driving records
- String line measurements
- Audits and other pertinent data

The Design-Builder shall notify the Department 24 hours in advance of when a quality checkpoint will occur to give the Department's oversight representative the option to attend. The CPOC representative then decides whether or not to recommend to the Department that the Work be accepted. If the work is not in compliance, the CPOC representative will notify the Design-Builder of the non-conformance. If the work is in compliance, the CPOC representative will recommend to the Department that the work be accepted. No additional Work shall take place past the QCP until all parties mutually agree that the Work up to that point is acceptable.

Quality Assurance (QA): All those planned and systematic actions necessary to provide confidence that the Design-Build Work complies with the Contract and that all elements of the Design-Build Work will perform satisfactorily for the purpose(s) intended. Quality Assurance includes Quality Control, Proof of Compliance, Oversight, Owner Verification, and Independent Assurance.

Quality Assurance Manager (QAM): An employee of the Design-Builder who reports directly to the top management of the Design-Builder organization. The QAM is neither responsible for production nor reports to any member of the Design-Builder's production organization. The QAM is responsible for the Quality of the Work produced by the Design-Builder, and has stop-work authority.

Quality Control (QC): The activities performed by the Design-Builder, designer, producer, or manufacturer to assess design, production and construction processes so as to control the level of quality being produced in the end product. Components may include checking, materials handling and construction procedures, calibrations and maintenance of equipment, shop drawing review, document control, production process control, and any sampling, testing, and inspection done for these purposes. The purpose of QC is to modify the processes so that the products will meet the Contract requirements when checked and tested at the point of acceptance, and can be incorporated into the Project.

Quality Management Plan (QMP): The plan described in Section 3.18 and Appendix D. The plan included in Appendix D is in a draft form, the format of which is acceptable to the Department. The Proposer shall complete this plan and augment it to match their approach to quality management. The final plan is subject to review and approval by the Department.

Quality Organization: The Design Quality Organization (DQO) is the Design-Builder's organization designated in the Proposal to manage and implement the Design Quality Management Plan (DQMP). The Construction Quality Organization (CQO) is the organization designated in the Proposal to manage and implement the Construction Quality Management Plan (CQMP).

3.18.3 DEPARTMENT INDEPENDENT ASSURANCE AND VERIFICATION

The Department shall perform independent inspections and tests to validate the Design-Builder's POC inspections and tests and to ensure that the quality of the finished to product meets the contractual requirements. The results of these inspections and tests along with Design-Builder POC inspections and test data will form the basis for Final Owner Acceptance.

The Department will perform independent assurance tests and owner verification testing and inspection. As described above, the independent assurance testing will be performed to validate the accuracy of the POC testing – ensuring that the Design-Builder is using approved test procedures and accurate test equipment

The Department will also perform verification inspection and testing. These inspections and tests will be performed at times and places selected by the Department. They will be totally independent of the Design-Builder POC inspections and tests. The Design-Builder shall rectify any problems identified by the verification inspections and tests in a prompt and effective manner.

These tests and inspections will form part of the basis for project acceptance.

3.18.4 QUALITY MANAGEMENT PLAN

Included in Appendix D is a draft Quality Management Plan that is acceptable to the Department. As part of the proposal, the Proposer shall finalize this plan based on its individual approach to project quality management. Of particular importance, the Proposer needs to complete the organization chart and staffing plan.

All reference material noted herein, or in the Quality Management Plan are hereby included as part of the contract documents.

General. Develop and implement a written QMP, in close coordination with the Department and any relevant government agencies, for all elements of the Project, including, but not limited to, management, administration, design, construction, maintenance of public and private facilities, geotechnical investigations, and environmental monitoring and compliance. Develop the quality management plan (QMP) for the Project, subject to Department approval, using the draft QMP in the Appendix as a guide.

Format. Use the format in the draft QMP in the aAppendix.

Department Approval. Submit the QMP for Department review and approval. The Department will approve or disapprove the QMP submission within five (5) Working Days of its submission. After QMP approval, submit any changes to the QMP Plan, quality program staffing levels, or Key Quality Personnel for written Department approval (in advance of their implementation). The QMP must be approved by the Department before any Work is performed on any element of the Project.

3.18.5 DEPARTMENT AUTHORITY

Department's Role. The Department's role in the quality program is to:

- On a spot-check basis, actively participate in quality checkpoint (QCP) on-site meetings.
- Review the CPOC organization's statistical evaluation of the results of material sampling and testing.
- Oversee the Design-Builder's quality program activities to ensure adherence to the QMP.
- Audit the CPOC organization's records.
- Conduct owner verification inspection and testing (oversight, sampling, inspection, and evaluation) and owner independent assurance (OIA), including the off-site inspection and testing for all off site inspection and testing.
- Perform the final investigation, final audit of CPOC records, and final acceptance of work..

Access to Testing Facilities. The Department reserves the right to:

- Check testing equipment for compliance with specified standards and check testing procedures and techniques.
- Access the testing facilities of independent testing agencies, at no additional cost to the Department, to witness testing and verify compliance of testing procedures, testing techniques, tester certifications, and test results.

Right to Stop Work. If there is evidence that the QMP procedures are not adequate, or if a problem is encountered during the oversight reviews or becomes evident during construction, the Department may, at its sole discretion, stop Work until appropriate quality procedures have been established and implemented. In addition, the Department retains authority to stop Work without liability wholly or in part, if the Design-Builder fails to:

- Correct conditions that is unsafe for Project personnel or the general public.
- Correct unacceptable construction practices.

3.18.6 START OF CONSTRUCTION

General. Except for conducting preliminary meetings and developing the QMP, do not begin any construction or Project Work requiring design review before the Department has approved the QMP. Do not begin any construction Work for any component until the design for that component has been completed and the release for construction (RFC) has been signed and stamped by a Professional Engineer licensed in Utah.

3.18.7 PERFORMANCE REQUIREMENTS

Develop and maintain a quality program that maintains consistency in the Project's quality functions, as carried out by the Design-Builder, the DPOC and CPOC organizations, and the Department, and meets the following goals:

- Facilitates efficient and effective Project operations.
- Uses teamwork to overcome quality challenges.

- Enables the Design-Builder, the DPOC and CPOC organizations, and the Department to support each other.

3.18.8 MANAGEMENT REQUIREMENTS

General. In Section 1 (Management) of the QMP:

- Describe the quality management organization, including the number of full-time equivalent employees and an organization chart showing the lines of authority and reporting responsibilities; and
- Identify the name, position, qualifications, duties, quality management responsibilities, and authorities of each person proposed for a quality management function.

Personnel. For persons and organizations performing quality management functions:

- Give them sufficient authority and organizational freedom to identify quality problems, and to recommend, provide, and verify implementation of solutions; and
- Place them at an organizational level high enough to ensure that Project schedule, performance, or cost will not influence implementation of quality management measures.

3.18.8.1 Key Staffing Positions

Key Quality Management Positions. In the QMP, name the persons who will fill the three key quality management positions listed in the following paragraphs. Each of these key quality managers shall:

- Be Key Person on the Project
- Except for the Environmental Quality Manager, be a Professional Engineer licensed in Utah

Quality Manager. The Quality Manager is responsible for the overall management and implementation of all elements of the QMP. The Quality Manager will report both to the Design-Builder and to the Department. The Quality Manager cannot be replaced without the Department's prior written approval. A request to replace the Quality Manager shall name a proposed replacement manager who is required to be on-site within ten (10) Working Days of Department approval of the change.

Construction Proof of Compliance Manager (CPOCM): The CPOCM is responsible for the quality of the construction elements of the Project.

Design Proof of Compliance Manager (DPOCM): The DPOCM is responsible for the quality of the design elements of the Project.

Environmental Quality Manager (EQM): The EQM is responsible for the quality of the environmental protection and compliance elements of the Project. T

3.18.8.2 CPOC Staff Qualifications

General. CPOC staff is required to:

- Have been trained in the applicable procedures for inspection of Work, geotechnical and environmental monitoring, and material sampling and testing.

The professional training and experience of the CPOC staff (including biologists, hydrologists,

and geotechnical engineers) shall be commensurate with the scope, complexity, and nature of the activity to be inspected, monitored, or tested. Portable or satellite field laboratories shall be under the direction of personnel certified by the Western Alliance for Quality Transportation Construction (UDOT TTQP (OR WAQTC)).

Department Right To Remove. The Department has the authority, by written notice, to have any of the following removed permanently from the Project:

- A tester who does not perform the CPOC tests in accordance with the test methods
- A tester who does not report test results accurately
- An inspector or geotechnical or environment monitor who, in the opinion of the Department, does not exercise good judgment in the performance of duty
- A tester who is not certified per Table 3.18-1 (Certifications Required for On-Site Inspection and Material Sampling and Testing)

Certifications. CPOC personnel performing on-site inspection and material sampling and testing are required to have the certifications listed in Table 3.18-1.

TABLE 3.18-1
CERTIFICATIONS REQUIRED FOR ON-SITE INSPECTION AND MATERIAL SAMPLING AND TESTING

Material or Technician Type	*Qualification Requirement*
Field Technician for:	
Concrete sampling and testing	ACI Concrete Field Testing Technician, Grade I or UDOT TTQP (OR WAQTC) Concrete Testing Technician
Aggregate sampling and testing	UDOT TTQP (OR WAQTC) Aggregate Testing Technician
Soils and embankment sampling and testing	UDOT TTQP (OR WAQTC) Embankment and Base Testing Technician
In-place density testing	UDOT TTQP (OR WAQTC) In-Place Density Testing Technician
Asphalt sampling and testing	UDOT TTQP (OR WAQTC) Asphalt Testing Technician
Field Inspector for:	
PCC paving and PCC batch plant	1 year of related experience or ACI Concrete Field Testing Technician, Grade I
Embankment	1 year of related experience and UDOT TTQP (OR WAQTC) Embankment and Base Testing Technician
Structural concrete	3 years of related experience and ACI-Concrete Field Testing Technician, Grade I
Structural steel	3 years of related experience and AWS-Certified Welding Inspector QC Inspector
Asphalt hot-mix plant and asphalt paving	1 year of related experience
Precast/prestressed concrete	ACI Concrete Field Testing Technician, Grade I and PCI QC Personnel Certification, Levels I and II
Type of Technician:	
Concrete laboratory technician	UDOT Laboratory Testing Technician
Asphalt mix technician	UDOT Superpave Mix Design Technician
Generic laboratory technician	UDOT Laboratory Testing Technician

ACI = American Concrete Institute
PCI = Precast/Prestressed Concrete Institute
UDOT TTQP (OR WAQTC) = Western Alliance for Quality Transportation Construction

3.18.8.3 CPOC Staff Responsibilities

The CPOC inspection staff and geotechnical and environmental monitors shall check for compliance with all permits, environmental monitoring, and construction operations. Staff shall be on-site to monitor all field operations for their appropriate disciplines. Construction operations requiring continuous field sampling and testing shall proceed only in the presence of the assigned CPOC staff personnel.

Inspection. All on-site Work shall be inspected by the CPOC staff, except that certain portions of the Work may be inspected by qualified individuals who are employees of or retained by manufacturers, vendors, or Suppliers, if approved in writing by the Department.

Utilities. The CPOC's staff is responsible for the following:

- Coordinating with the Utility Owners and Design-Builder to ensure that adequate notification is provided to the Utility Owners for them to inspect construction activities performed on or around their utility.
- Ensuring that the Utility Owner has the opportunity to conduct design reviews of utility modifications.

- Ensuring that payment is made in a timely manner to the Utility Owner by the Design-Builder for any inspection Work completed by the Owner.

Department Oversight. The Department's oversight staff will periodically review the Field performance and test results of the CPOC staff. The CPOC organization shall perform statistical reviews (including but not limited to normal distribution, control charts, percent within limits) of the inspection and test results and submit monthly summaries to the Department.

PDA Firm. The Design-Builder shall employ a PDA subcontractor that reports directly to the CPOCM. The PDA firm shall have a minimum of five (5) years of experience in monitoring the driving of steel piles with the PDA and in performing CAPWAP analyses.

3.18.8.4 CPOC Staffing Levels

QMP Updates. The staffing levels in the Proposal shall be updated in the QMP and again, as necessary, during the course of the Project to reflect the actual construction schedule. The size of the CPOC staff shall reflect the complexity, needs, shifts, and composition of the construction activities consistent with the construction schedule, relative locations of the Work to be covered, geotechnical considerations, environmentally sensitive areas, and specific nature of the Work. The Department shall review and approve staffing levels for adequacy in meeting Project needs.

3.18.9 ADMINISTRATION REQUIREMENTS

General. In Section 2 (Administration) of the QMP, describe the procedures for coordinating and ensuring the consistency and quality of all Work performed or provided for the Project by all participants.

3.18.9.1 Personnel Qualifications and Certifications

In the QMP, specify procedures that:

- Familiarize all personnel with all requirements of the Contract Documents pertaining to their responsibilities;
- Educate, train, and certify (as appropriate) personnel performing activities affecting or measuring the quality of the Work and ensure that they achieve and maintain reasonable proficiency; and
- Ensure that personnel performing the Work do so according to the QMP.

3.18.9.2 Document Control

General. In the QMP, specify procedures for meeting documentation requirements and document control for the filing of design criteria, reports and notes, calculations, plans, specifications, schematics, support materials, etc., and for the specific responsibilities of personnel to satisfy these requirements. Maintain all such documents for the duration of the Contract and organize, index, and deliver them to the Department upon FOA as well as within five (5) Working Days of receipt of any such request form the Department. Use a format for the documentation that is acceptable to the Department. In the QMP, identify by name the document control supervisory personnel for the maintenance and management of records and documents pertinent to POC activities. The Department strongly encourages using videotaped and electronic documentation of the Project.

3.18.9.3 Change Documentation

General. In the QMP, specify measures to control the receipt and issuance of documents, such as instructions, procedures, drawings, and any changes thereto, which prescribe activities affecting quality. With these measures, ensure that approved documents, including all authorized changes thereto, are reviewed for adequacy, approved for release by authorized personnel, and distributed to and used at the locations where the prescribed activity is performed. Ensure that any changes to documents are reviewed and approved by the same organizations that performed the original review and approval, unless the Department allows, in writing, another responsible organization to perform such reviews and approvals.

3.18.9.4 Audits

General. In the QMP, specify a comprehensive series of planned periodic audits to determine the effectiveness of the Quality Program. Require that audits be performed by appropriate trained personnel of the POC in accordance with the written procedures or checklists. For audit results, specify that the management having responsibility in the areas audited shall document, review, and act upon them. The POC shall take follow-up action, including re-audit of deficient areas, as indicated.

3.18.9.5 Design Changes

General. In the QMP, specify procedures for tracking and distributing design changes made after the release-for-construction design drawings.

3.18.9.6 As-Built Drawings

General. In the QMP, specify procedures to be used in preparation and submission of the final As-Built drawings to ensure accurate and timely documentation of the constructed Project.

3.18.9.7 Scheduling Reviews and Submittals

General. For each design item, segment, or construction phasing review, include oversight reviews in the Initial Monthly Plan Update and Monthly Plan Updates. Keep the Department, and other affected governmental Agencies up to date on the exact timing of reviews with day-to-day communications. Allow five (5) Working Days in the schedule for each milestone review and 10 Working Days for each full review of designs.

Bear the schedule impacts of revisions arising from the Department's and municipality's review and caused by noncompliance with Contract requirements, including the Department's time for reviewing revisions.

Coordinate frequently and early regarding resolution of previously identified issues.

3.18.9.8 Progress Payment Documentation by POC

Material Sampling Tracking. The CPOC shall obtain and track manufacturers' certificates for all materials accepted by certifications and shall document receipt of the Department's "Approved for Shipment" certificates. A manufacturer's certificate of compliance will be used for acceptance of materials as identified in Appendix C (Materials Sampling and Testing Manual).

Quality Documentation. The CPOC Manager shall review monthly progress payment requests to ensure that acceptable quality documentation is on file for all payment items.

3.18.9.9 Contract Price Adjustments

Quality-Based Price Adjustments. A quality value has been established for various materials, based on Section 2.6.12 (Correction for Nonconforming Work: Warrantees) Any deviations from these specifications are subject to Contract Price reductions as in the Standard Specifications-

(DB) and in Section 2.11 (Incentives and Price Reductions).

The Department will base any price reduction on the documentation of testing and inspection results provided by the CPOCM, the quantity of noncompliant materials, and/or additional OVT.

3.18.9.10 Documentation

General. Collect and retain each of the following types of data in written form during the performance of the Work, all of which shall be in a form acceptable to the Department. Make this documentation available to the Department daily throughout the Project.

Daily Manpower and Equipment Reports. Maintain daily manpower and equipment reports for construction-related activities, and require subcontractors to do the same.

Daily Occurrence Log. Maintain, in narrative form, a daily occurrence log of construction activities by the POC or its designee(s). In this log, document all significant occurrences on the Project, including:

- Unusual weather
- Asserted Force Majeure events
- Events and conditions causing or threatening to cause any significant delay, disruption, or interference with the progress of Work
- Significant injuries to a person or property
- All activities on the current Monthly Plan Update that are being actively prosecuted
- (In a standard format) all labor, materials, and equipment expenses incurred

Hazardous Materials. For hazardous material remediation Work, maintain the data required by the QMP in Section 6 (Environmental Requirements) separately for each site.

Utilities. The POC shall:

- Oversee coordination with Utilities
- Document (for the Project team's use) design, construction, rework, and protection of Utilities
- Maintain the above-required data separately for each Utility facility

Specific Items of Work. Document specific Items of Work as required in Chapter 3 of the RFP; i.e. MSE walls, geotechnical, surveying, public involvement, etc.

Other Work. For all other nonconstruction Project Work, maintain separately for each element of the Work to the data required in the daily occurrence log.

Quality Records. Document all quality, inspection, and test activities, any delays encountered; Work that does not conform to the requirements of the Contract and design/ and the corrective actions taken regarding such nonconforming Work. All documentation shall be provided in accordance with the requirements of Section 1 (General Requirements).

Monthly Certification. As part of the monthly progress report, provide a written certification signed by the DPOCM and the DPOCM, indicating that the QMP and all of the measures and procedures provided therein are functioning properly and are being fully complied with, that the work meets the requirements of the RFP, and that the work meets the RFC plans and specifications.

CPOCM Weekly Reports. The CPOCM shall also maintain and submit weekly records with

evidence that all required activities and/or tests have been performed, including the following:

- Type, number, and results of all current quality management activities, including reviews, inspections, materials analysis, tests, audits, and monitoring of Work performance
- Closely related data, such as the qualifications of personnel and the procedures and equipment used
- Identity of the inspector or data recorder, the type of test or observation employed, the results and acceptability of the Work
- Minutes of all QC meetings
- The nature of any nonconforming Work causes for rejection, etc.
- Proposed corrective actions(s) for any nonconforming Work, corrective action(s) taken, and results of corrective action(s)

Materials and Equipment Conformance Record. Maintain documentary evidence that materials and equipment conform to the procurement requirements, have it available at the job site at least 24 hours before installation or use of such material and equipment. Retain this documentary evidence at the job site and provide sufficient evidence to identify specific requirements, such as all Contract Documents, codes, standards, and specifications met by the purchased material and equipment. Assess the effectiveness of the QC at intervals consistent with the importance, complexity, and quantity of the product or services; require all subcontractors to do the same.

The Department reserves the right to inspect and review these documents at any time.

Weekly Scheduling Notice to Department. Notify the Department in writing by Friday noon of each week of planned construction activities, including fabrication. In this notification, describe the anticipated construction activities for the following week (Monday through Sunday) to allow the Department to schedule its resources. For activities (fabrication, etc.) occurring beyond 60 miles of the Project area, give the notification at least 10 Working Days before the planned Work.

CPOC Final Inspection. At the completion of Work, the CPOC Manager shall jointly conduct a final inspection with the Department, including inspection of Work and associated as-built documents, certifications, other documentation, and Design-Builder clean-up requirements. Accomplish this inspection within five (5) Working Days of notification that the Project is ready for final inspection. During the inspection, examine the Work and review CPOC documentation. The Department and theCPOCM will jointly agree upon a list of nonconforming Work and include the list in quality documentation with an agreed-upon date of correction for each deficiency.

Design-Builder Corrections. Ensure that each deficiency identified during the final inspection has been corrected before the agreed-upon completion date.

Final Certificate of Compliance. At completion of the Project, submit with the final invoice a Certificate of Compliance, signed by the Project Manager and CPOCM, indicating that all materials incorporated in the Project conform to the Contract requirements.

Final Owner Acceptance. The Department has sole responsibility and authority for the FOA of all Work.

3.18.10 INVESTIGATIONS AND TESTING REQUIREMENTS

General. In Section 3 (Investigations and Testing) of the QMP:

- Describe procedures for coordinating and ensuring the consistency and quality of materials and products supplied by various vendors;
- Describe procedures for ensuring the quality and documentation of Project field investigations, including geotechnical investigations and testing, field surveying, and the Project mapping coordinate system, and traffic counts; and
- Include assurance of the qualifications of all laboratories.

3.18.11 DESIGN REQUIREMENTS

General. In Section 4 (Design) of the QMP, describe design quality management practices and processes that are intended to:

- Place responsibility for design quality on the Design-Builder;
- Ensure that Work is designed and built in accordance with the Contract;
- Ensure that all Design Documents are prepared in accordance with generally accepted design and engineering practices, and meet all the requirements of the Contract; and
- Allow the Department to fulfill its responsibility to exercise due diligence in overseeing the design process and design products.

3.18.11.1 Quality Requirements

Quality Procedures. In the QMP, specify procedures for ensuring the quality of all design plans, specifications, reports, calculations, and other Design and Construction Document. Formulate these procedures to ensure that appropriate quality requirements are specified and included in all design and construction documents and that deviations form such requirements are controlled. For any deviations from these procedures, obtain the advance written approval of the Department.

3.18.11.2 Design Checks

Quality Procedures. In the QMP, specify quality procedures for preparing and checking all plans, specifications, calculations, reports, and other documentation submitted to the Department to ensure that they are independently checked and back-checked in accordance with generally accepted engineering practices. Include specific procedures for verifying computer programs used and their output, and the process and procedures that the DPOC managers will employ to demonstrate that the QMP is understood and followed by the design personnel. Clearly identify the design engineer and checker on all final Design and RFC Documents.

3.18.11.3 Design Adequacy

General. In the QMP, specify the level, frequency, and methods of checking the design adequacy of the Project, including the methods by which all Design Documents, calculations, and reports shall be independently checked, verified for adequacy of design, and back-checked in accordance with generally accepted design and engineering practices by senior experience engineers from the Design-Builder's staff.

3.18.11.4 Design Coordination

General. In the QMP, specify detailed procedures for coordinating Work performed by different persons, firms, or disciplines on related tasks, in the same geographic area, or in adjacent geographic areas. Formulate these procedures to ensure that, under such circumstances, no conflicts, omissions, or misalignments occur between drawings or between the drawings and the specifications, and that the Design-Builder coordinates the review, approval, release,

distribution, and revision of documents. Optionally, structure such procedures as an interdisciplinary review process, conflict identification process, omission identification process etc.

3.18.11.5 Unique Design Features

In the QMP, specify those elements of the Contract Documents, Design Documents, and Construction Documents that require special attention to or emphasis on quality, including applicable standards of quality or practice to be met, level of completeness, and/or level of detail required.

3.18.11.6 Design Changes

Initiation. Both the Design-Builder and the Department may initiate design changes (during design or after final design).

Appropriate Changes. The Department may deem design changes to be appropriate for several reasons, including errors in the final design plans or specifications, unexpected or changed conditions in the field, and design alternatives proposed by field or other personnel.

Invalid Change. Requests for information (e.g., earthwork settlement releases, additional alignment information, and dimensions) and design engineer evaluation of nonconforming constructed Work do not constitute valid design changes. Design changes to make constructed or partially constructed Work acceptable will not be allowed.

Procedures. In the QMP, include a process to propose, receive, track, respond to, and distribute design changes, and to identify the general goal, the participants, the participants' responsibilities, and a Work process for each change. Request review and approval by the DPOC and the Department of all design changes. The DPOC, the Department, and the Design-Builder shall jointly determine the procedures and timing of reviews, with the mutual understanding that a timely and expeditious design change process benefits all parties.

Quality Checks. For all design changes, perform the same quality checks as were performed on the original design, and conform to all provisions of the Contract. Make no design change without first obtaining the written approval of the Design Manager of the original design. Make no design change affecting a Utility without obtaining the written approval of the appropriate Utility Owner. Require that all design change plans, sketches, memoranda, specifications, calculations, and reports shall be signed, stamped, and dated by a Professional Engineer in responsible charge licensed in Utah.

Certification. In all cases, the DPOCM shall certify in writing that the design change:

- Has been designed in accordance with Contract requirements
- Has been checked in accordance with the approved QMP; and
- Is consistent with other elements of the original design.

Costs. Bear all costs associated with making any change, whether initiated by the Design-Builder or the Department, unless the Department has approved a change to the Contract.

3.18.11.7 Design-Builder's Design Quality Control Checks

General. Require, at a minimum, that a senior experienced engineer check all designs, including making independent calculations for all structural elements. Alternatively, if a checking engineer is not available within the design firm or if the design firm does not have a documented, operative, and effective quality program consistent with the approved QMP, employ an independent firm to conduct the quality checks. The DPOC shall have a documented, operative,

and effective quality program consistent with the approved QMP.

3.18.11.8 Design Reviews

3.18.11.8.1 General

DPOC Review. The DPOC will review all designs to ensure the development of the plans and specifications in accordance with the requirements of the Contract.

Department Review. The Department will review enough of the design to verify compliance with the Contract Documents. The Department will audit, as needed, the DPOC and Design Documents to verify compliance with the Contract Documents. The Department will be invited to attend all reviews. Submit for review five (5) hard copies and one (1) electronic copy of all review Plans and Specifications.

Participation. Require, at a minimum, that the engineer-in-responsible-charge of the Work and the appropriate design manager(s) for the discipline(s) involved in the design (e.g., structures design manager and highway design manager) be present for and participate in all reviews.

Document Copies. For any type of review, the Department reserves the right to take to its offices copies of Design Documents being reviewed for further review and examination.

3.18.11.8.2 Oversight Reviews

General. The DPOCM shall conduct oversight reviews, and the Department will participate in these reviews and comment as requested or as it otherwise deems necessary. These reviews will be conducted in the office of either the Design-Builder or its design engineer and in the presence of the design personnel, with the intent of minimizing disruption of ongoing design Work. The DPOCM, design staff, and Department shall jointly determine the materials to be complied for each review. Formal assembly and submittal of drawings or other documents will not be required, but the Design-Builder is encouraged to provide informal submittals to facilitate reviews. The review may be of progress prints, computer images, draft documents, working calculations, draft specifications or reports, or other design documents. If mutually agreed upon for specific review items, the over-the-shoulder review may consist of a transfer of electronic files between the designer and the Department's review team.

3.18.11.8.3 Milestone (30% and 60%) Reviews

General. The DPOCM will conduct formal milestone reviews at the 30% and 60% stage of project elements to determine whether the Contract requirements and design are being followed and that QC/QA activities are following the approved QMP. For these reviews, prepare a formal design submittal that includes, as a minimum, design drawings, calculations (as appropriate), reports, specifications, geotechnical data, environmental requirements, and any other relevant design information. The DPOCM shall compile and maintain documentation of the review. The Department will be invited to attend these reviews.

Structures. The Department will participate in a full review of all structures at the type, situation, and layout (TSL) (Sheet Ones) stage of design.

3.18.11.8.4 Release-for-Construction Reviews

General. The Design-Builder will conduct RFC reviews at its offices or its Designers' offices on items, components, or segments whose design is 100-percent complete. The DPOCM shall prepare for these reviews a full set of drawings and other documents stamped "Checked and Ready for Review."

3.18.11.8.5 100% Design Review

The DPOCM will review the 100-percent design in a formal review. The Department will be invited to attend this review.

Certification. When the 100-percent design is complete, the DPOCM shall certify all of the following related to the Work:

- The design is in accordance with the Contract requirements.
- The design has been checked in accordance with the approved QMP.
- No design exceptions exist that have not previously been approved by the Department.

3.18.11.8.6 Final Design Review

Redline Documentation. Develop a method to redline the 100%-design review package, then use it to document the comments provided by the DPOCM and the Department at the 100% review.

Redline Incorporation. Develop a method to document the incorporation of redlined 100% review comments in the final design. Incorporate the review comments and resolve any remaining design questions to the Satisfaction of the DPOCM and the Department.

Final Design Submittal. Prepare a formal final design submittal that includes:

All design plans

- Design calculations
- Design reports
- Specifications
- Estimated quantities
- Electronic files, in the format(s) specified in the Proposal documents

Department Acceptance of Final Design. All plans, reports, and specifications shall be signed and stamped by the engineer-in-responsible-charge. The DPOCM and the Department will verify that its comments given at the 100% design review have been incorporated to its satisfaction. If necessary, resubmit revised final design documents to the DPOCM and the Department. The DPOCM and the Department will conduct its review and accept or reject the final design within five (5) Working Days of receipt of the final design documents.

3.18.11.9 Design Review Documentation

Records. Prepare a written record of each design review, including informal oversight reviews:

- List the participants in each review or visit.
- Report all items discussed.
- Identify discrepancies noted and report corrective action(s) taken or planned.
- Identify follow-up action items, due dates, and the responsible party.
- Identify items needing resolution and time constraints for resolution.

Reports. Maintain a record of internal quality activities and summarize them in monthly progress reports. Submit to the Department a report of each design review, including oversight visits, within five (5) Working Days of the completion of the review or visit.

3.18.11.10 Acceptance of Design

General. Department acceptance of the design will occur essentially at the time of acceptance of construction. The DPOCM shall submit all documents required for final approval, with a certification that the constructed Work has been built in conformance with the Contract documents, design documents, and the construction documents prepared and approved by the DPOCM.

3.18.11.11 Quantity Estimate

General. Provide quantity estimates required for Work covered by plans. To facilitate quality sampling and testing, use units that are consistent with the units used to determine the frequency of sampling and testing. For example, if the number of compaction tests to be taken is based on a specific number of cubic yards of embankment, then the quantity estimate shall also be in cubic yards.

3.18.11.12 Schedule Requirements

Plan Updates. Submit the proposed design and oversight review schedule with the Initial Monthly Plan Update within the Proposal Plan Update. Incorporate revisions to the schedule in the Monthly Plan Updates.

Reviews. On the schedule, indicate the date and location of each scheduled review. Coordinate the number of reviews in a given time period with the Department.

3.18.12 CONSTRUCTION REQUIREMENTS

General. In Section 5 (Construction) of the QMP, describe construction quality management requirements that are intended to:

- Place responsibility for construction quality on the Design-Builder.
- Ensure that Work is constructed in accordance with the Contract, plans, and specifications.
- Allow the Department to fulfill its responsibilities of exercising due diligence in overseeing the construction.

Goal. It is the goal of the Department to have the Project constructed with the highest quality of workmanship and with the least adverse impact on the public, the environment, and long-term maintenance costs.

3.18.12.1 Work Conditions

General. In the QMP, specify procedures to ensure that all activities affecting the quality of the Work are accomplished under suitably controlled conditions, using appropriate equipment, and with assurance that all prerequisites to the proper accomplishment of a give task by a work have been satisfied. Coordinate these activities with the Department safety representative.

3.18.12.2 Quality Procedures

General. In the QMP, describe specific procedures to be followed to ensure that all the Work conforms to all requirements in the Contract Documents and the design documents being used as the basis for construction, and that all materials, equipment and elements of the Work incorporated in the Project will perform satisfactorily for the purpose intended. Specifically include the procedures for inspecting, sampling, testing, checking, and documenting the Work, including all Work performed by subcontractors.

3.18.12.3 Materials

In the QMP, specify procedures and measures to:

Purchase. Ensure that all purchased materials, equipment, and services conform to the Contract Documents and the design documents. Include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by subcontractors, inspection at the manufacturer or vendor source, and examination of products upon delivery.

Identification and Control. Identify and control materials, equipment, and elements of the Work to prevent the use of incorrect or defective materials and equipment. With these procedures, maintain identification of each item by appropriate means, either on the item or on records traceable to the item, as necessary, throughout fabrication, erection, installation, and use of the item.

Status Identification. Indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon each individual material, piece of equipment, and element of the Work. To preclude inadvertent bypassing or duplication of such inspections and tests, specify how to identify items that have satisfactorily passed required inspections and tests.

Handling. Control the handling, storage, shipping, cleaning, and preservation of materials and equipment to prevent damage or deterioration.

3.18.12.4 Inspection

Work. In the QMP, describe a program for inspection of all Work, including examinations, measurement, and tests of materials or elements for each Work operation, where appropriate, to verify quality. Do not limit such inspections to those required for quality testing purposes. If the design documents specify mandatory inspection points that require witnessing or inspecting by the CPOC and approval of the designated representative before Work shall proceed, indicate the specific inspection points in all appropriate documents.

Production Plants. In the QMP, specify procedures for plant inspection for production of hot-mix asphalt, PCC, and structural concrete.

3.18.12.5 Field Procedures

Quality. In the QMP, specify procedures to address all elements that affect Project quality in production, placement, and finishing (i.e., surfacing, embankments, paving, and structural concrete). Include elements such as management and process control personnel, testing equipment and laboratory facilities, testing frequencies, aggregate production, stockpile management, proportioning, mixing and processing, transporting, placing, spreading, depth or thickness, finishing, compaction, joints, and mix designs.

3.18.12.6 Dispute Resolution

System. In the QMP, recommend a system to resolve disputes that may arise in the POC sampling and testing process. If the dispute resolution system includes a dispute resolution laboratory (DRL), recommend a DRL that is not a participant in the quality process of either the Design-Builder or the Department and is AASHTO accredited.

Maintain all materials for the dispute resolution laboratory.

Refer to Section 2.6.19 (Procedures for Resolution of Dispute) for additional information.

3.18.12.7 Shop and Falsework Drawings

In the QMP, specify personnel assigned to shop drawing review and approval, including falsework drawings and other critical structure shop drawing; procedures for documenting

reviews and approvals and for obtaining corrective action, when necessary; and procedures for checking compliance with shop drawing and falsework drawing requirements.

3.18.12.8 Testing

Test Procedures. In the QMP, specify written test procedures for all testing required to demonstrate that all materials, equipment, and elements of the Work will perform satisfactorily for the purpose intended and will meet the standards specified in the Contract Documents and the design documents. In the test procedures, incorporate the requirements and acceptance limits contained in applicable design documents, and include provisions for verifying that all prerequisites for the given test have been met and that adequate test instrumentation is available and used. Require test results to be documented and evaluated to verify that test requirements have been satisfied.

Equipment Certifications. In the QMP, specify measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly maintained, controlled, calibrated, certified, and adjusted at specified times or frequencies to maintain accuracy within necessary limits.

Instrumentation. In the QMP, specify procedures and personnel to be used to ensure that specified instrumentation is installed, maintained, and monitored in accordance with applicable specifications.

Coordination. In the QMP, set forth a program to coordinate inspections and testing by local agencies and Utility Owners.

Qualification of Laboratories. Laboratories must be AASHTO accredited and UDOT qualified. Arrange for laboratory independent quality material testing (IQMT) to be conducted by independent testing laboratories (i.e., not owned by or directly affiliated with the Design-Builder) that comply with the requirements of the AASHTO Accreditation Program (AAP) certification for applicable tests. Laboratories may be owned by or under contract to the POC. Obtain AAP accreditation for all AASHTO and ASTM test methods to be performed by the testing laboratory, and for those that are modified or referenced and ASTM test methods to be performed by the testing laboratory, and for those that are modified or referenced by State test methods. Submit a copy of the current website demonstrating accreditationto the Department upon receipt by the testing laboratory.

Field Laboratories. Satellite (field) laboratories may be used, where appropriate, for testing. Equipment in the satellite laboratories shall be certified by ASSHTO or the Department at the start of Work, and annually thereafter. The laboratory shall have written policies and procedures to ensure the satellite laboratories performing testing activities on the Project are capable of providing testing services in compliance with applicable test methods. The policies and procedures shall address inspection and calibration of testing equipment, as well as a correlation-testing program between the accredited laboratory and portable or satellite facilities.

POC Testing. The TPOC organization shall perform testing in accordance with the minimum sampling and testing manual in Appendix C for items requiring on-site acceptance tests. Conduct tests in accordance with the requirements (location, frequency, lot sizes, test methods, etc.) in Appendix C (Materials Sampling and Testing Manual) in Volume IV. the Department will statistically compare results of the POC's testing with the OVT, in accordance with the procedures contained in Appendix D of the UDOT *Quality Assurance Manual*. If the results of the POC material tests are statistically validated by the Department's tests, they are the basis of acceptance. Perform initial POC tests and OVT side-by-side to establish a confidence level between the results of the POC tests and OVT. Exercise sound judgment in the testing approach

and increase the frequency of testing in situations in which quantities may be small but location is critical, such as sliver fills.

POC Test Reporting. Use a Department-approved standardized form for reporting POC test results.

3.18.12.9 Nonconforming Work

General. See Section 2.6.12 (Correction of Nonconforming Work; Warranties).

Nonconformance Report Identification. The POC shall identify and document in a nonconformance report (NCR) all elements of the Work that have not, or are believed to have not, been constructed in accordance with the approved drawings and specifications. The NCR shall be submitted to the IQM in writing within 24 hours of identification, and a copy sent to the design engineer.

NCR Remediation. In the NCR, the ICQM shall clearly describe the element of Work that is nonconforming and the reason for nonconformance. The design engineer (or a designated designer with equivalent experience and State registration) who signed and stamped drawings for the Work shall evaluate and determine whether a nonconformance exists; and the effect of the nonconformance on performance, safety, durability, long-term maintenance, and the life of the item. Document remedial actions and have them stamped by a Professional Engineer licensed in Utah. The ICQM must also sign the NCR, stating that remedial actions to be employed have undergone the same level of inspection and testing as required for the original design.

Removal of Work. If the Department does not agree with the remedial actions set forth in an NCR, it has the authority to call for removal of the nonconforming Work.

Biweekly NCR Reports. The POC shall maintain a log of all NCRs and submit it biweekly to the Department. The POC shall number each NCR sequentially; give a brief description and status of the nonconforming Work, and, if the NCR has not been closed, an expected closure date. The Department will not grant acceptance for any portion of Work that has an outstanding NCR.

Department NCR. The Department shall retain the right to write its own NCRs based on its observance of Work. Department-generated NCRs require the same review and ultimate closure as NCRs generated by the POC.

3.18.12.10 Supplemental Drawings

Shop and Working Drawings. Submit signed and stamped design drawings from the design team to the construction team. The construction team shall then:

- Generate supplemental drawings (shop and working drawings) as necessary to clearly define, control, construct, and inspect the Work; and
- Send the shop and working drawings back to the design team for review and internal approval.

Shop Drawings. On shop and working drawings for permanent Work, include structural steel fabrication plans, anchor bolt layouts, shop details, erection plans, equipment lists, and any other information specifically required by the Contract specifications or local agencies. Submit the shop and working drawings to the design team for review and approval by the design engineers who prepared the Project design documents.

POC and Department Reviews. The POC shall prepare and review shop drawings, working drawings, and calculations for excavation shoring, cribs, cofferdams, falsework, overhead signs, temporary support systems, formwork, and other temporary Work that describe the methods of construction proposed to be used for the Work. The Department will not review or regularly

receive copies of these submittals unless it specifically requests to do so. However, the Department reserves the right to request copies of these submittals for audit purposes.

Reviews by Local Agencies and Utilities. Consult with the Department and all other applicable local agencies that may require review of shop and working drawings, and coordinate the preparation, submittal, and review of all such shop and working drawings. Where permits are required from Utility Companies or local agencies, submit shop and working drawings to them for review and approval in accordance with their requirements; see Section 3.13 (Utilities and Third-Party Agreements).

Public Safety. Submit shop and working drawings of Work elements that could adversely affect public health, welfare, or safety to the Department and the local agency with jurisdiction for review and approval at the same time they are submitted to the original design engineer for review and approval.

Bridge Superstructure Shop Drawings. Do not begin fabrication of any bridge superstructure elements without POC-approved shop drawings.

Design-Builder Responsibility. Accept all liability for temporary items used in the Work. The receipt of submittals for temporary Work shall in no way constitute approval of the planned Work or acceptance of any liability by the Department. Accept sole risk for any procurement or fabrication of materials without POC-approved shop drawings.

Approval of Shop Drawings. Before considering shop drawings to be approved:

Stamp and sign them by a Professional Engineer licensed in Utah.

- Stamp them "Approved for Construction."
- Sign them by the Design-Builder QC review.
- Obtain review by the DPOCM.

At least one (1) Working Day before the start of any on-site Work detailed by those drawings, provide all necessary approvals of shop and working drawing and copies of all approved drawings to the Department's oversight engineer. For off-site fabrication, provide the approvals and drawings at least seven (7) Working Days in advance to the Department Engineer for Materials. Make no changes to any approved shop or working drawing after approval.

3.18.12.11 Quality Checkpoints

General. Establish quality checkpoints (QCP) at certain stages of the construction process, as listed below, to ensure that only acceptable Work is incorporated into the Project. With the POC, the engineer-in-responsible-charge, and the Department's oversight representative, review the progress of Work to date, including inspection reports, process and acceptance test reports, settlement data, pile driving records, string-line measurements, audits, and other pertinent data. The POC shall coordinate the review group members to ensure that the QCPs are reached in a timely fashion so that the Design-Builder is not delayed. When a QCP is reached, the Department's oversight representative shall respond within four (4) working hours of notification of embankment checkpoints and within 24 working hours of notification of all other QCPs. Provide necessary documents to determine the acceptability of Work, such as inspection reports, test reports, settlement data, etc. to all parties at the time of QCP notification. Do no additional Work past the QCP until all parties mutually agree that the Work up to that point is acceptable.

Establish QCPs at the stages of construction listed below.

Embankments.

- After completion of drainage and Utility installations and before backfill
- In accordance with contract specification, Section 02330 for lift requirements and at intervals of embankment construction of every 5 vertical feet (applicable to all embankments, including walls)
- After completion of MSE Wall panel placement
- At completion of embankment placement to establish the settlement monitoring baseline

Structures.

- Before the placement of the leveling pad of an MSE wall or other type of retaining wall (to confirm subgrade materials)
- At completion of bridge embankment settlement and before the start of bridge foundation pile driving
- At approval of pile-driving submittals (including design calculations, wave analysis, and hammer type)
- After completion of pile-driving at each structure support (pile group) (including pile-driving results and records)
- Before concrete placement of any substructure element including pile infilling
- After girder and diaphragm placement
- Before concrete placement of deck, approach slabs, diaphragms, and parapet walls, but with forms, reinforcement, and inserts in place
- Before beginning construction of box culverts (to conform subgrade materials)
- Before concrete placement for cast-in-place (CIP) retaining walls and box culverts, but with forms, reinforcement, and inserts in placer.

Surfacing and Paving.

- Before placement of each course above subgrade on permanent roadways components (UTBC, Granular Borrow, lean base, etc.)
- Before placement of each roadway surfacing lift (including base courses, asphalt concrete paving, and PCCP) on permanent roadway components

Noise Walls.

- After completion of every 500 feet of noise wall

Drainage

After placement of pipe or box, before placement of backfill.

Environmental Controls

Before any construction occurs, other than to install BMP's and environmental controls, verify that all BMP's and environmental controls, as designed by the Design-Builder's Environmental Control Supervisor, are installed according to design and RFP requirements.

3.18.13 ENVIRONMENTAL COMPLIANCE AND MONITORING REQUIREMENTS

General. In Section 6 (Environmental Compliance and Monitoring) of the QMP, describe the methods, processes, and procedures to provide for the effective implementation and documentation of the environmental protection, training, compliance, and monitoring program.

See Section 3.17 (Environmental Information) for the environmental protection program requirements.

3.18.14 MAINTENANCE OF PUBLIC FACILITIES REQUIREMENTS

General. In Section 7 (Maintenance of Public Facilities) of the QMP, specify procedures to follow in the maintenance of detours constructed on the Project; and for controlling noise, dust, and debris associated with the hauling operations using off-site haul roads. In such procedures, identify provisions to be implemented in providing safe and effective alternative routes for the public, as well as safe and convenient access to residences and businesses affected by construction activities.

For performance requirements and design and construction criteria, see Section 3.19 (Maintenance During Construction).

3.18.15 SURVEY VERIFICATION

General. In Section 8 (Surveying) of the QMP, specify procedures to follow in verifying the Construction Surveying, Property Surveying, establishment of ROW markers, As-Built Plans, re-established County and Subdivision Monuments, and Record of Survey Map.

3.19 MAINTENANCE DURING CONSTRUCTION

3.19.1 DESIGN-BUILDER RESPONSIBILITY

General. The Design-Builder is responsible for the operations, maintenance and repairs to the existing facilities and facilities constructed under this contract, beginning 30 days after notice to proceed or on the day construction work begins whichever occurs first, and ending on the day of final acceptance, at which time the Warranty Agreement will govern such work.

The only maintenance that will be performed by the Department inside the project limits will be snow-plowing of the roadways open to use by the general public. This snow-plowing will be done as part of the normal course of plowing the public roadways in the vicinity of the project, and no special measures will be taken by the Department when plowing inside the project limits. The Design-Builder shall be responsible to maintain any channelization devices that may be displaced or damaged by plowing operations.

The Design-Builder's maintenance work includes routine maintenance, emergency and operational response, and inspections and repairs required on an "as needed" basis throughout the life of the Agreement in a manner acceptable to Department. Department reserves the right to perform such work as it deems necessary with its own forces, and/or to enter into special contracts for the maintenance of specific items, and to backcharge the Design-Builder.

Work done under the Agreement shall be performed in conformance with the most current Department standards in effect at the time that the work is being performed.

Perform the operations and maintenance portions of the Project in a safe, reasonable, and prudent manner and shall employ good business practices and appropriate management techniques. Furnish all labor, materials, equipment and necessary services (such as highway safety controls) in connection with the operation, maintenance, and/or repair.

3.19.2 MAINTENANCE OF THE RIGHT-OF-WAY

General. Keep the Right of Way and work site clean and free from rubbish and debris throughout all phases of construction, including suspension of the Project, until Final Acceptance.

Abate dust nuisance by cleaning, sweeping, and sprinkling with water, or other means as necessary. The use of water resulting in mud on streets and paved areas will not be permitted as a substitute for sweeping or other methods. Take care to prevent spillage on haul routes. Remove spillage immediately and clean the area.

Furnish and operate a self-loading motor sweeper with spray nozzles as necessary to keep paved areas acceptably clean wherever construction, including restoration, is incomplete.

Discharge of smoke, dust, or any other air contaminants into the atmosphere in such quantity as will violate applicable environmental laws or governmental approvals is a permit violation. Pay fines from such violations.

As construction is completed, daily:

- Clean and broom paved surfaces adjoining the Project. Rake and clean other surfaces of the Project site.

- Adhere to the dust-control, erosion control, noise abatement and other site procedures required by the Contract Documents.

Failure to maintain the Project free from accumulation of waste and rubbish as set forth above or otherwise failure to comply with use of site and clean-up procedures required by the Contract Documents, and failure within a 24 hour period after receipt of oral notice, subsequently confirmed in writing, to commence and continue correction of such failures with diligence and promptness, DEPARTMENT may after such twenty-four (24) hour period, immediately, without prejudice to other remedies Department may have, correct such deficiencies. In such case, Department shall deduct from payments then or thereafter due, the cost of correcting such deficiencies. If payments then or thereafter due are not sufficient to cover such amounts, pay the difference to Department on demand.

3.19.3 MAINTENANCE OF ROADWAYS

General. Complete all components of the work required to allow for unrestricted traffic access to mainline lanes and shoulder prior to substantial completion. Any closure will be subject to the requirements of Section 2.8.10 (Failure to Complete on Time).
Existing Pavement. The Design-Builder is responsible for maintaining all existing pavement including pothole repair.
Drainage. The Design-Builder is responsible for maintaining and providing adequate drainage on the project until FOA.
Lighting. Responsible for maintenance and operation of all lighting systems until FOA. Maintenance and operation will include, but not be limited to, the following:

- Replacement of lamps, as required.
- Replacement or repair of any damaged equipment or underground cable.
- Maintenance concerning a public safety issue (including exposed wires and knockdowns), within 1 hour of notice.
- Routine maintenance and other maintenance not of a public safety nature, within 24 hours of notice.

Signing. Maintain all signs, signing supports, and foundations until FOA (of the entire Project). Replace or repair signs and/or sign supports that have been blown or knocked down at no additional cost to the Department.
Signals.

- Maintain existing traffic movements and traffic signal operations during the course of the Project.
- Maintain and protect traffic as required by the agency with jurisdiction at the jobsite when actively working at surface street locations.
- Provide an adequate number of traffic personnel on-Site to facilitate the safe and efficient movements of traffic when working on a surface street roadway and disrupting the normal flow of traffic or signal operations.

Signal Shutdown. Effectively maintained existing traffic signal operations during the prosecution of the work. However, signal shutdown will be required during those periods when existing controllers and cabinets are being removed and the new cabinets and controllers are being installed. Signal shutdown shall be approved in advance by the Department. Limit signal shutdown at the various intersections to those hours approved by the agency with jurisdiction over the facility where the equipment is located.

Maintenance and operation of traffic signals. Responsible for maintenance and operation of all traffic signal equipment until partial acceptance, as defined under Section (Acceptance-Partial), of the installation at that intersection. Maintenance and operation shall meet requirements of the FHWA *Manual on Uniform Traffic Control Devices* (MUTCD) and shall include, but not be limited to:

- Replacement of lamps, as required.
- Signal timing and phasing, as approved by the Department.
- Functioning pedestrian detection.
- Functioning vehicle detection.
- Functioning traffic signal interconnect.
- Replacement or repair of any damaged equipment or underground cable.

Emergency Maintenance. Provide emergency maintenance around the clock (24 hours a day, 7 days a week) until partial acceptance of the signal. Respond to the dispatcher within 15 minutes when called or paged by the dispatcher, and be on-Site to initiate repairs within 1 hour. Provide the Department with contact names and 24-hour telephone numbers so that the Department can access this emergency service at any time.

- Emergency maintenance (1-hour response) shall be limited to problems related to public safety, such as a dark or flashing intersection, improper pedestrian timing, twisted signal heads, exposed wires, and knockdowns.
- Other routine maintenance (not affecting public safety) shall be initiated within 24 hours of notice.

Access to Public Facilities. Maintain uninterrupted access to all public facilities, as affected by the Project. Access shall mean providing a clear and easily understood route into and out of an existing facility or business. Provide all necessary signing to convey that the route to the facility or business is open to traffic. Department will determine whether the signing is adequate. Provided access for all types of vehicles, including WB-20 trucks needed for deliveries.

Temporary Asphalt. Provide temporary asphalt pavement for any unpaved location under traffic. If temporary pavement is not placed as required the Department may withhold payment until the pavement is placed.

Snow Removal. The Department will be responsible for snow removal on the travel way only. The Design-Builder will be responsible for snow removal in the work zone. In addition, the Design-Builder will be required to remove snow that is impacting the safety of the traveling public on the traveled way.

3.19.4 EMERGENCY RESPONSE

Cooperation. Cooperate with law enforcement and other emergency response agencies in their response to accidents, fires, spills, or other emergencies in any area affected by the Project, including those on the construction Site and on traffic lanes open to the public. Cooperate in all agency investigations of accidents and other incidents within the Project corridor.

Emergency Access. Work with emergency service providers to address their concerns about emergency access to and in the corridor. This may include installing gates to allow emergency personnel to access the Project area.

Notification.

- Notify the Department, the Utah Highway Patrol (UHP), and all emergency service providers in the affected area in writing of any access closures at the construction Site.

- Notify the Department and the UHP of the names, pager numbers, telephone numbers (business, residence, and cellular) of personnel to contact in case of emergencies along the Project. This contact list shall be updated as necessary.

Use of Design-Builder Resources.
Make personnel and equipment available to respond to all emergencies, except when such emergency is life-threatening to the personnel.

3.19.5 MAINTENANCE OF RIVER AND FLOOD CONTROL CHANNELS

General. Keep construction material away from drainage structures, flood control channels, rivers and any waterways. Do not allow lumber, blocking, chips, loose piles, rubbish, and all flotsam, jetsam, and contaminants of whatever nature to be deposited in above mentioned waterways. Should any such item be found floating near the site, it shall be immediately removed at Design-Builders expense.

Maintain all water courses, drainage ways, drainage systems, and irrigation systems and collect and convey storm water flows that are less than or equal to the 10-year storm event to avert flooding of active roadways and properties abutting the right-of-way.

3.19.6 MAINTENANCE OF LANDSCAPE

Perform the following maintenance practices until FOA:

Watering. Use the automatic irrigation to keep the tree, shrub and groundcover plantings watered.

Mowing. Mow grass areas, unless designated otherwise.

Weed Control. Monitor and control weeds as specified in Section 3.12.3.12 (Invasive Weed Control).

Pruning. Prune damaged branches on trees and shrubs to prevent further injury or disease.

Insect and Pest Control. Monitor plant materials for any insect or pest problems that will damage the material and mitigate the problem in a manner approved by the Department.

Erosion Control. Replace mulch around trees and shrubs to the specified depth and limits as needed. Repair eroded areas and replace erosion control fabric if needed to prevent continued erosion.

Plant Replacement. Replace plant materials as noted in Section 3.20 (Warranty).

Irrigation System. Perform annual winterization activities to shut down the system, including cleaning out all water in the system with compressed air. Check bubbler heads, valves, and other system components for damage or wear and make system repairs prior to restarting the system the next season.

3.19.7 MAINTENANCE OF PROPERTY

General. Preserve public and private property at all times. Witness or reference land monument and property marker locations by a registered land surveyor before moving, disturbing or damaging.

Responsible for damage or injury to public or private property resulting from any act, omission, neglect, or misconduct in the method of executing the Project, defective work or materials, or nonperformance of the Agreement.

Restore any damaged or injured property to a condition similar or equal to that existing before the damage or injury occurred. The repairing, restoring, rebuilding, or making good such damage or injury shall be at no additional cost to Department.

3.19.8 MAINTENANCE OF ENVIRONMENTAL COMPLIANCE

General. The Mitigation Plan described in Section 01355 (Environmental Protection) of the Standard Specifications (DB), the Environmental Requirements of the Contract Documents and applicable environmental approvals require that certain activities take place during and after construction. Conduct the activities as described in those documents including the following:

- Prior to the start of work, identify the edge of any wetland located within fifty (50) feet of the estimated limits of work area. Identify the wetland edge with stakes, flags, or construction fencing. Maintain the boundary markers in place throughout construction and make all construction personnel aware of the markers.
- Prior to any site activity, including site preparation or clearing, the Design-Builder shall attend a pre-construction conference on-site with Department and the regulatory agencies.
- Conduct all construction under the supervision of an Environmental Compliance Manager (ECM). Throughout construction, the ECM shall submit weekly reports to the Department Project Manager regarding the status of the project and any problems encountered. The cost of the ECM included in the Proposal Price.
- Conduct environmental inspections and monitoring during construction. Conduct wetland monitoring and inspections for the first three (3) growing seasons after construction to document wetland mitigation success/failure and to identify problems and corrective actions, in accordance with the Mitigation Plan.
- Upon completion of all work included in the Mitigation Plan, submit a request for a Certificate of Compliance to Department. Recorded at the appropriate Registry of Deeds the Certificate of Compliance and send a certification of recording to the Department on the approved form.

3.19.9 MAINTENANCE OF CONSTRUCTION SURVEY

General. Establish and constantly maintain a thorough and redundant survey control network for construction. At a minimum, the survey network shall meet all of the requirements and follow the formats set forth by the industry standards. Provide all notes, computations, and other records used in the work to Department using a format acceptable to Department.

During Construction provide, upon request from the Department, all survey notes, electronic files, and other data to allow Department to audit the survey procedures against the approved Quality Management Plan and for conformance with best industry practices. Department also reserves the right to perform an independent verification of survey at any time. The Design-Builder is solely responsible for the accuracy of construction layout and maintenance of the survey control network.

Adherence to the industry standards and guidelines as a minimum requirement will allow DQO, CQO, and the Department to efficiently perform over-the-shoulder and detailed reviews of the construction survey portion of the work. Land survey tasks shall also include:

- Construction Staking Control Plan;
- Plan for and complete centerline or offset line staking for field review;

3.19.10 MAINTENANCE OF AESTHETIC TREATMENT

General. Monitor the appearance of the aesthetic treatments on any walls or bridges for any defects, flaws, or vandalism during the construction period. Note and bring to Department's attention defects, flaws, or vandalism.

The Design-Builder is responsible for cleaning up vandalism on the Project until Final Acceptance.

3.20 WARRANTY

General Scope. Warranty the Work in accordance with the requirements of this Section and of Section 2.5.4 (Control of Work).

Warranty Term. In general and except as specified otherwise in this Section, warrant the Work for two (2) years after the date of FOA.

3.20.1 REFERENCED STANDARDS

General. Warranty the project in accordance with the relevant requirements of the standards listed by priority in Table III-36.

Conflicts and Priority. If there is any conflict in standards, adhere to the standard with the highest priority. However, if the Design-Builder's Proposal has a higher standard than any of the listed standards, adhere to the Proposal standard.

Ambiguity. If there is any unresolved ambiguity in standards, obtain clarification from the Department before proceeding with design or construction.

Version and Date. Use the most current version of each listed standard as of The initial publication date of this RFP.

TABLE III-36
REFERENCED STANDARDS FOR WARRANTY

Priority	*Author or Agency*	*Title*	*Document or Report No.*	*Date*	*Comments, Short Forms*
1**	Design-Builder	*Proposal for SR-201 Design-Build Project*	n/a	*	Proposal
2	UDOT	Request for Proposals, SR-201 Design-Build Project	n/a	***	RFP
3	SHRP	*Distress Identification Manual for Long-Term Pavement Performance Project*	SHRP-P-338	*	n/a

** If no date is given, the most current version as of 10-17-03 is specified.*
*** Only to the extent that it exceeds another listed standard.*
****Includes the original release of the RFP and all addendums.*

3.20.2 GEOTECHNICAL ELEMENTS

3.20.2.1 Maximum Permissible Settlements

General. Based on the tolerance limits of pavement and structures, warrant that the maximum permissible settlements during the designated Warranty periods will be as stated in the following Sections.

3.20.2.1.1 Pavements

Transverse direction: Maximum 0.25 inch per 12-foot lane width

Maximum tolerable longitudinal direction: 0.25 inch per 30 feet

Allowable total post-construction settlement, including approach slabs: 2 inches

3.20.2.1.2 Deep Foundations Supporting Bridges

Maximum total settlement: 1 inch

Maximum differential settlement:

- Between piles within each foundation: 0.5 inch
- Between adjacent foundation supports: 0.75 inch

3.20.2.1.3 Deep Foundations Supporting Walls

Maximum total settlement: 1 inch

Maximum differential settlement: 0.5 inch per 30 feet

3.20.2.1.4 MSE Walls

The following maximum movements (all measured at the wall face), will be measured and applied for the wall warranty period. The parenthetical entries represent examples of the maximum allowable movements, typically for the minimum length of measurement.

Differential Settlement (measured at wall face).

- Single-stage walls: 1% (6 inches per 50 lineal feet of wall)
- Two-stage walls, first stage (wire facing): 5% (12 inches per 20 feet of wall)
- Two-stage walls, second stage (panels): 0.5% (3 inches per 50 feet of wall)

Horizontal alignment: 0.8% (3 inches per 30 lineal feet of wall)

Vertical Alignment: 0.8% (1 inch per 10-foot vertical segment of wall)

Overall Plumbness: 0.6% (1.5 inches for 20 foot height of wall)

3.20.3 PAVEMENT

Distress Trigger Values. Warrant that, during the warranty period, the allowable level and extent of severity for the various distress types identified do not exceed those trigger values identified in Table III-37 (Distress Trigger Volumes for Rigid Pavements) and Table III-38 (Distress Trigger Values for Flexible Pavements) for the two pavement types. If these values are exceeded, take the recommended corrective action to bring these parameters within the limits.

FOA. At FOA, warrant that the pavement will have no identifiable distress, as defined by SHRP *Distress Identification Manual for Long-Term Pavement Performance Project* (SHRP-P-338). If these criteria are not met, take corrective action in accordance with the guidelines outlined in Tables III-38 and III-39 below.

Warranty Period. If distress types exceed the allowable level of severity at the end of five (5) years after Substantial Completion of the Project, take corrective actions, as outlined below:

3.20.3.1 Rigid Pavements

TABLE III-37
DISTRESS TRIGGER VALUES FOR RIGID PAVEMENTS

	Allowable Severity		
Distress Type	*Level*	*Extent*	*Corrective Action*
Cracking:			
Corner Break	Low Severity: Crack not spalled for more than 10% of the length of crack; no measurable faulting; and corner piece not broken into two or more pieces	Low Extent: 2 panels per lane-mile	Repair full depth
Durability "D" Crack	Crescent-shaped hairline cracking with no loose or missing pieces	Not allowed	Replace total slab.
Longitudinal Cracking	Low Severity: Crack widths <1/8", no spalling, and no measurable faulting; or well-sealed and with a width that cannot be determined	Low Extent: 4 slabs per lane-mile	If cracking exceeds low severity, replace full depth of slab.
Transverse Cracking	Low Severity: Crack widths <1/8", no spalling, and no measurable faulting; or well-sealed and with a width that cannot be determined.	Low Extent: 4 slabs per lane-mile	Replace according to UDOT Standard Drawings, Section 450.
Joint Deficiencies:			
Joint Seal Damage—Transverse	Low Severity: Transverse joint sealant damage as described by the Strategic Highway Research Program (SHRP): extrusion, hardening, adhesive failure, cohesive failure, or complete loss of sealant	Low Extent: 10% of joint length per lane-mile	Reseal joint.
Joint Seal Damage—Longitudinal	Allowable: Longitudinal joint sealant damage as described by SHRP: joint sealant damage. Extrusion, hardening, adhesive failure, cohesive failure, complete loss of sealant. Why is this "allowable" when transverse damage is "Low Severity"?	Low Extent: 10% of joint length per lane-mile	Reseal joint.
Spalling—Longitudinal Joint	Low Severity: Spalls <3" wide (measured to center of joint) with loss of material; or spalls with no loss of material and no patching.	Low Extent: <5% of joint length per lane-mile	If severity is low, fill void with hot-pour sealant. If low severity is exceeded, repair to partial depth.
Spalling—Transverse Joint	Low Severity: Spalls <3" wide (measured to center of joint) with loss of material; or spalls with no loss of material and no patching.	Low Extent: <5% of joint length per lane-mile or 25% of a joint.	If severity is low, fill void with hot-pour sealant. If low severity is exceeded, repair to full depth.
Surface Defects:			
Surface Crazing	(Not applicable)	Low Extent: <1% of surface area per lane-mile	Seal.
Scaling	Deterioration of upper concrete surface	Low Extent: <1% of surface area per lane-mile	Seal.
Map Cracking	Cracks that extend only into the upper surface of slab, compromising structural capacity	Not allowed	Replace total slab.
Polished Aggregate Damage	Surface mortar and texturing worn away	Low Extent: Skid resistance value >45 at end of 5 years	Abrade or grind surface to exceed established skid resistance values.
Popouts	Small pieces of pavement >1 inch in diameter broken loose from surface	More than 3 per square yard (yd$^{2)}$	Remove and replace.

TABLE III-37
DISTRESS TRIGGER VALUES FOR RIGID PAVEMENTS

	Allowable Severity		
Distress Type	*Level*	*Extent*	*Corrective Action*
Miscellaneous Distress:			
Blowups	Not applicable; however, severity levels can be defined by ride quality and safety.	Low Severity: within established ride quality and skid- resistance criteria	Within 24 hours, Department will perform temporary repair; within six (6) months, Design-Builder must repair to full depth.
Faulting of Transverse Joints and Cracks	None allowed		If the structural integrity of the pavement section is compromised, replace the full depth of the slab.
Lane-to-Shoulder or Lane-to-Lane Dropoff; Lane-to-Lane or Lane-to-Shoulder Ramp Separation	Allowable: maximum ¼ inch; mean width < ¼ inch	2% of joint length per lane-mile	Retrofit No. 5 tie bars @ 3-foot centers; grind and overlay.
Patch/Patch Deterioration	None allowed		Replace to full depth.
Water Bleeding and Pumping	Seeping or ejection of water from beneath the pavement through cracks	Not allowed	Underseal slab and seal joint.

3.20.3.2 Flexible Pavements

TABLE III-38
DISTRESS TRIGGER VALUES FOR FLEXIBLE PAVEMENTS

	Allowable Severity		
Distress Type	*Level*	*Extent*	*Corrective Action*
Cracking:			
Fatigue Cracking	Low Severity: An area of cracks with no cracks or only a few connecting cracks; cracks not spalled or sealed; pumping not evident	Low Extent: <5% of the wheelpath defined as a 3-foot wide pass centered 3 feet off the lane line each side per lane-mile	Repair to full depth and overlay.
Block Cracking	Low Severity: Cracks with mean width < or = ¼"; or sealed cracks with sealant material in good condition and with a width that cannot be determined	Low Extent: <5% of surface area per lane-mile	Seal cracks and overlay.
Edge Cracking	Low Severity: Cracks with no breakup or loss of material	Low Extent: <10% of pavement edge per lane-mile	Seal crack.
Longitudinal Cracking	Low Severity: Cracks with mean width < or = ¼"; sealed cracks with sealant material in good condition and with a width that cannot be determined	Low Extent: <10% of pavement edge per lane-mile	Reseal crack and overlay.
Transverse Cracking	Low Severity: An unsealed crack with mean width < or = ¼"; or sealed cracks with sealant material in good condition and with a width that cannot be determined.	Low Extent: <100 cracks per lane-mile; no 3 cracks (no cracks??) within 50' stretch	Seal or reseal crack or joint and overlay.
Patching and Potholes:			
Patch/Patch Deterioration	None allowed		Repair to full depth.
Potholes	None allowed		Repair to full depth.
Surface Deformation:			
Rutting	<1/8 inch deep	Low Extent: <5% of traveled surface per lane-mile	Rotomill and overlay.
Shoving	<1/8 inch deep	Low Extent: <5% of traveled surface per lane-mile	Repair to full depth or Rotomill and overlay.
Surface Defects:			
Bleeding	Low Severity: An area of pavement surface discolored (relative to the remainder of the pavement) by excess asphalt.	Low Extent: 2% of surface area per lane-mile	Surface-treat with plant mix friction course.
Polished Aggregate	Reduction in surface friction.	Low Extent: 2% of surface area per lane-mile	Surface-treat with skid-resistant seal or overlay.
Raveling	Low Severity: Aggregate or binder beginning to wear away, but no significant progression yet; some loss of fine aggregate.	Low Extent: <2% of surface area per lane-mile.	Surface-treat with plant mix surface treatment or overlay.
Miscellaneous Distress:			
Lane-to-Shoulder Dropoff	Allowable: maximum ¼"; mean width, <¼"	Low Extent: 5% of joint length per lane-mile	Restore shoulder elevation.
Water Bleeding and Pumping	Seeping or ejection of water from beneath the pavement through cracks	Not allowed	Seal or reseal.

TABLE III-38
DISTRESS TRIGGER VALUES FOR FLEXIBLE PAVEMENTS

	Allowable Severity		
Distress Type	*Level*	*Extent*	*Corrective Action*

3.20.4 LANDSCAPING AND AESTHETICS

General. Warrant planting and irrigation systems for one (1) year from FOA to assure the Department that it is receiving prime quality plant material that has been selected, handled, planted, and maintained in a thorough and careful manner.

Warranted Materials. The warranty covers, at no expense to the Department:

- Replacement of the landscape materials when they are no longer healthy, as determined by the Department, for the duration of the warranty period.
- Repair of the irrigation system

Plant Replacement. For warranty replacement, replace plant material within the planting season, as specified by Section 02936 (Vegetation Establishment Period) of the Standard Specifications (DB). Remove dead plants within seven calendar days of written notification by the Department. Replace materials with the same species, variety, and size of the originally specified material, unless otherwise approved by the Department. If a replaced material requires another replacement due to the conditions described by this warranty, also warrant the new replacement for the duration of the warranty period. The replacement warranty will not be enforced if the plant material dies because of improper maintenance procedures by the Department, vandalism, fire, flood, hail, or other natural conditions beyond the control of the Design-Builder. Remove dead material under these conditions. Keep records of the condition of each tree, including dates of vandalism, destruction or damage. Submit the dates of any observed vandalism or damage to the Department for review prior to replacement.

Irrigation System Repair or Replacement:

Repair or replace all irrigation system malfunctions or defects for one (1) year from FOA. The replacement warranty will not be enforced if the irrigation system is damaged by vandalism.

Department Review at FOA. After FOA, review the completed landscape installation with the Department and the pertinent City representative. Review once during the warranty and maintenance period, and then at the end of the period. During reviews, note plant material health, mulching, erosion controls, maintenance concerns, and replacement needs.

Summary of Warranties. Table III-40 summarizes the required Design-Builder warranties for landscape work. See also Section 2.6 (Control of Work) for required Project-wide Design-Builder warranties.

Final Review. At the end of the warranty period, review with the Department the installed plantings and the irrigation system for compliance and condition. Provide a record drawing of the irrigation system, including any revisions or adjustments made to the system since it was installed. Include any operating instructions from the manufacturer concerning the irrigation system with the record drawings.

3.20.5 DRAINAGE

TABLE III-39
SUMMARY OF DRAINAGE WARRANTIES

General Subject	*Warranty Period (after FOA)*
Drainage and Irrigation Facilities	5 years
Agricultural Concrete Structure	5 years
Wells and Springs (quantity)	3 years
Wells and Springs (quality)	3 years

3.20.6 SUMMARY OF WARRANTIES

TABLE III-40
SUMMARY OF PROJECT WARRANTIES

General Subject	*Warranty Period (after FOA)*
Geotechnical:	
Pavements	5 years
Bridge Foundations	2 years
MSE Walls	2 years
Pavement:	
Rigid Pavements: Cracking	5 years
Rigid Pavements: Joint Deficiencies	5 years
Rigid Pavements: Surface Defects	5 years
Rigid Pavements: Miscellaneous Distress	5 years
Flexible Pavements: Cracking	5 years
Flexible Pavements: Patching and Potholes	5 years
Flexible Pavements: Surface Deformation	5 years
Flexible Pavements: Surface Defects	5 years
Flexible Pavements: Miscellaneous Distress	5 years
Landscape and Aesthetics:	
Plantings and Irrigation System	1 year

3.21 LIMITATIONS OF OPERATIONS

General. The Limitation of Operations to be considered in the Design-Builder plans for the Project is listed below. Although this listing is intended to be a comprehensive summary, assume full responsibility for addressing and complying with all limitations described within the Contract Documents. Incorporate the limitation of operations into the Baseline Schedule, Project Plan, and Budget, as they are essential to the successful accomplishment of the Project.

Environmental Requirements. Particularly address the commitments within the Environmental Assessment (EA) for the Project. For additional information, see Appendix E (Environmental Information) and the requirements described in Section 3.17 (Environmental Commitments).

Before Undertaking any Field Activities:

- Ensure that ROW is cleared or legal right of entries obtained where field activities will occur;
- Ensure that the resources of the quality organizations (DQO and CQO) are in place to monitor any field activities; and
- Provide release for construction documents that are signed and stamped by the Design-Builder and accepted by the DQO and the Department.

Upon completion of the above prerequisites, construct the environmental fencing or ROW fencing along the ROW line or easement line.

Work Hours. Work hours shall conform to the requirements of the State laws and Agency Requirements.

Utilities. Maintain existing Utility services at all times.

Water and Drainage. Maintain all drainage pass-throughs and irrigation throughout the Project. Use erosion control devices to protect adjoining property.

Construction Staging. Restrict off-corridor staging facilities to those areas in the Project Vicinity that are fully approved by permitting agencies and the Department.

Temporary Pavement. Provide and maintain a hard surface for traveling in all areas where temporary pavement is necessary.

Access.

Businesses. Maintain service and access to all businesses throughout construction during their business hours; see Section 3.7 (Maintenance of Traffic).

Private Property. Maintain access at all times.

Roadways.

Refer to Section 3.7.3.4 (Limitations) for restrictions.

APPENDICES

APPENDIX A STANDARD SPECIFICATIONS (DB)
APPENDIX B STANDARD DRAWINGS
APPENDIX C MATERIALS SAMPLING AND TESTING MANUAL
APPENDIX D DRAFT QUALITY MANAGEMENT PLAN
APPENDIX E ENVIRONMENTAL ASSESSMENT
APPENDIX F ATMS REQUIREMENTS
APPENDIX G GEOTECHNICAL INFORMATION
APPENDIX H LANDSCAPING REPORT
APPENDIX I BOUNDARY SURVEY
APPENDIX J CONCEPTUAL PLANS AND SURVEY INFORMATION
APPENDIX K INTERCHANGE MODIFICATION REPORT
APPENDIX L HYDROLOGY REPORT
APPENDIX M BRIDGE AS-BUILTS
APPENDIX N PHASING REPORT
APPENDIX O UTILITIES AND THIRD PARTY AGREEMENTS
APPENDIX P FORMS
APPENDIX Q NOT USED
APPENDIX R NOT USED
APPENDIX S NOT USED
APPENDIX T NOT USED
APPENDIX U NOT USED
APPENDIX V NOT USED
APPENDIX W NOT USED
APPENDIX X NOT USED
APPENDIX Y NOT USED
APPENDIX Z NOT USED