



Camino Real Regional Mobility Authority

El Paso Streetcar Infrastructure Project

EXHIBIT A

GENERAL CONDITIONS

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ARTICLE 1 - ABBREVIATIONS AND DEFINITIONS

1. APPLICABILITY

Wherever the following terms are used in these General Conditions, Plans, Technical Specifications or other Contract Documents, the intent and meaning will be interpreted as shown below.

2. ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ASTM	American Society for Testing and Materials
BOPP	Business Opportunity Program and Policy
CFR	Code of Federal Regulations
DBE	Disadvantaged Business Enterprise
DMS	Departmental (TxDOT) Material Specification
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
HUB	Historically Underutilized Business
IMSA	International Municipal Signal Association
ITS	Intelligent Transportation System
NEC	National Electrical Code (Published by NFPA)
NEPA	National Environmental Policy Act
OSHA	Occupational Safety & Health Administration, U.S. Department of Labor
PS&E	Plans, Specifications, and Estimates
PSL	Project-Specific Location
QA	Quality Assurance
QC	Quality Control
RPLS	Registered Public Land Surveyor
RRC	Railroad Commission of Texas
SSPC	The Society for Protective Coatings
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TMUTCD	Texas Manual on Uniform Traffic Control Devices
TxDOT	Texas Department of Transportation
USC	United States Code

3. DEFINITIONS

3.1. **Actual Cost.** Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the work.

3.2. **Add Alternate.** Additional items of work that may be included as part of the Contract work only if they come within the Project budget identified by the CRRMA.

3.3. **Addendum.** Change in proposal forms developed between advertising and bid submittal deadline.

3.4. **Additive Alternate.** A bid item contained in a proposal that is not a regular item or a replacement alternate bid item. The additive alternate item(s) include work that may be added to the base bid at the time of letting.

3.5. **Advertisement.** The public announcement required by law inviting bids for work to be performed or materials to be furnished.

3.6. **Affiliates.** Two or more firms are affiliated if they share common officers, directors, or stockholders; a family member of an officer, director, or stockholder of one firm serves in a similar capacity in another of the firms; an individual who has an interest in, or controls a part of, one firm either directly or indirectly also has an interest in, or controls a part of, another of the firms; the firms are so closely connected or associated that one of the firms, either directly or indirectly, controls or has the power to control another firm; one firm controls or has the power to control another of the firms; or the firms are closely allied through an established course of dealings including, but not limited to the lending of financial assistance.

3.7. **Anticipated Profit.** Profit for work not performed.

3.8. **Architect or Architect of Record.** A person registered as an architect or licensed as a landscape architect, in accordance with State law, exercising overall responsibility for the design or a significant portion of the design and performs certain Contract administration responsibilities as described in the Contract; or a firm employed by the CRRMA to provide professional architectural services.

3.9. **Arterial Highway.** A highway used primarily for through traffic and usually on a continuous route.

3.10. **Award.** The CRRMA's acceptance of a Contractor's Proposal for the Contract that authorizes the CRRMA to enter into the Contract.

3.11. **Board.** The CRRMA Board of Directors.

3.12. **Bridge.** A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) having a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.

3.13. **Calendar Day.** Any day shown on the calendar, beginning and ending at midnight.

3.14. **Certificate of Insurance.** A form approved by the CRRMA covering insurance requirements stated in the Contract.

3.15. **Change Order.** Written order to the Contractor detailing changes to the specified work, item quantities or any other modification to the Contract.

3.16. **City.** The City of El Paso, Texas.

3.17. **Consultant.** The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under contract to the CRRMA to perform professional services.

3.18. **Contract.** The agreement between the CRRMA and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract Documents.

3.19. **Contract Documents.** Elements of the Contract including, but not limited to the Plans, Technical Specifications, General Conditions, Contract bonds, change orders, and supplemental agreements.

3.20. **Contract Time.** The number of calendar days specified for completion of the work.

- 3.21. **Contractor.** The individual, partnership, limited liability company, corporation, or joint venture and all principals and representatives with which the Contract is made by the CRRMA.
- 3.22. **Controlled Access Highway.** Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.
- 3.23. **Control of Access.** The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.
- 3.24. **Control Point.** An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.
- 3.25. **Cross-Sections.** Graphic representations of the original ground and the proposed facility, at right angles to the centerline or base line.
- 3.26. **CRRMA.** The Camino Real Regional Mobility Authority.
- 3.27. **Culvert.** Any buried structure providing an opening under a roadway for drainage or other purposes. Culverts may also be classified as bridges.
- 3.28. **Cycle.** The activity necessary for performing the specified work within the right of way project limits once.
- 3.29. **Daily Road-User Cost.** Damages based on the estimated daily cost of inconvenience to the traveling public resulting from the work.
- 3.30. **Days.** Calendar days unless otherwise specified in the Contract Documents.
- 3.31. **Debar (Debarment).** Action taken by the CRRMA, TxDOT or federal government pursuant to regulation that prohibits a person or company from entering into a contract, or from participating as a subcontractor, or supplier of materials or equipment used in a highway roadway or rail contract.
- 3.32. **Detour.** A temporary traffic route around a closed portion of a road.
- 3.33. **Direct Traffic Culvert.** Concrete box culvert whose top slab is used as the final riding surface or is to have an overlay or other riding surface treatment.
- 3.34. **Disadvantaged Business Enterprise.** A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which is at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.
- 3.35. **Divided Highway.** A highway with separate roadways intended to move traffic in opposite directions.
- 3.36. **Easement.** A real property right acquired by one party to use land belonging to another party for a specified purpose.
- 3.37. **Engineer.** The CRRMA or its designated representative.

3.38. **Expressway.** A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.

3.39. **Family Member.** A family member of an individual is the individual's parent, parent's spouse, step-parent, step-parent's spouse, sibling, sibling's spouse, spouse, child, child's spouse, spouse's child, spouse's child's spouse, grandchild, grandparent, uncle, uncle's spouse, aunt, aunt's spouse, first cousin, or first cousin's spouse.

3.40. **Final Acceptance.** See Section 4.17.

3.41. **Force Account.** Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.

3.42. **Freeway.** An expressway with full control of access.

3.43. **Frontage Road.** A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road, or insulator road).

3.44. **General Conditions.** The general and special conditions contained in Articles 1 through 8 and applicable to the project.

3.45. **Good Industry Practice.** The exercise of the degree of skill, diligence, prudence, and foresight which would reasonably and ordinarily be expected from time to time from a skilled and experienced engineer, constructor or maintenance contractor seeking in good faith to comply with its contractual obligations, complying with all applicable laws and engaged in the same type of undertaking under circumstances and conditions similar to those within the same geographic area as the Project.

3.46. **Hazardous Materials or Waste.** Hazardous materials or waste include but are not limited to explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.

3.47. **Highway, Street, or Road.** General terms denoting a public way for purposes of vehicular travel, including the entire area within the right of way. Recommended usage in urban areas is highway or street; in rural areas, highway or road.

3.48. **Historically Underutilized Business.** A corporation, sole proprietorship, partnership, or joint venture formed for the purpose of making a profit certified by the Texas Building and Procurement Commission, and 51% owned by one or more persons who are economically disadvantaged because of their identification as members of certain groups, including African Americans, Hispanic Americans, Asian-Pacific Americans, Native Americans, or women, and have a proportionate interest and demonstrate active participation in the control, operation, and management of the business' affairs. Individuals meeting the HUB definition are required to be residents of the State of Texas. Businesses that do not have their primary headquarters in the State of Texas are not eligible for HUB certification.

3.49. **Incentive and Disincentive Provisions.** An adjustment to the Contract price of a predetermined amount for each day the work is completed ahead of or behind the specified milestone, phase, or Contract completion dates. The amount of the incentive and disincentive is determined based on estimated costs for engineering, traffic control, delays to the motorists, and other items involved in the Contract.

3.50. **Independent Assurance Tests.** Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the CRRMA or its designated representative and are not used for acceptance purposes.

3.51. **Inspector.** The person assigned by the CRRMA to inspect for compliance with the Contract any or all parts of the work and the materials used.

3.52. **Instructions to Proposers.** The Instructions to Proposers included in a Request for Proposals containing the requirements for submitting a Proposal for a project.

3.53. **Intelligent Transportation System.** An integrated system that uses video and other electronic detection devices to monitor traffic flows.

3.54. **Interim Completion.** Substantial Completion of the Interim Milestone Work in accordance with the requirements of Article 4.16 of these General Conditions.

3.55. **Interim Milestone Work.** The work detailed in Volume 2 of the Technical Specifications, plus certain track work, together generally described as follows:

- (a) completion of the maintenance and Storage Facility (MSF) including obtaining an Occupancy Permit from the City.
- (b) completion of a Minimum Operating Segment (MOS) that includes but is not limited to: track construction, systems construction, TPSS, traction power electrification, systems testing, and certification, such that the PCC cars can be received and Acceptance Testing of the vehicles be performed. The MOS shall include all track work including the two turnouts and connecting track on Santa Fe to the MSF and all track work within the MSF.

3.56. **Intersection.** The general area where 2 or more highways, streets, or roads join or cross, including the roadway and roadside facilities for traffic movements within it.

3.57. **Island.** An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.

3.58. **Joint Venture.** Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid proposal.

3.59. **Key Personnel.** The positions designated as such in the Instructions to Proposers and/or contract documents for a project.

3.60. **Lane Rental.** A method to assess the Contractor daily or hourly rental fees for each lane, shoulder, or combination of lanes and shoulders taken out of service.

3.61. **Letting.** The receipt, opening, tabulation, and determination of the apparent best value proposal.

3.62. **Letting Official.** The Executive Director or any CRRMA employee empowered by the Executive Director to officially receive Proposals and close the receipt of Proposals at a letting.

3.63. **Licensed Professional Engineer.** A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.

3.64. **Limits of Construction.** An area with established boundaries, identified within the highway or street right of way and easements, where the Contractor is permitted to perform the work.

3.65. **Local Street or Road.** A street or road primarily for access to residence, business, or other abutting property.

3.66. **Maintenance and Storage Facility (MFS).** The facility described in detail in Volume 2 of the Technical Specifications to be used for the storage and maintenance of the PCC rail vehicles and related equipment.

3.67. **Major Item.** An item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or \$100,000 whichever is less. A major item at the time of bid will remain a major item. An item not originally a major item does not become one through the course of the Contract.

3.68. **Major Participant.** A subcontractor of Contractor responsible for greater than 5% of the original Contract.

3.69. **Manual of Testing Procedures.** TxDOT manual outlining test methods and procedures maintained by the Materials and Pavements Section of the Construction Division of TxDOT.

3.70. **Material Producer List.** TxDOT maintained list of approved products.

3.71. **Materially Unbalanced Proposal.** A proposal that generates a reasonable doubt that award to the Proposer submitting a mathematically unbalanced proposal will result in the lowest ultimate cost to the CRRMA.

3.72. **Mathematically Unbalanced Proposal.** A proposal containing prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the Proposer's anticipated profit, overhead costs, and other indirect costs.

3.73. **Median.** The portion of a divided highway separating the traffic lanes in opposite directions.

3.74. **Milestone Date.** The date that a specific portion of the work is to be completed, before the completion date for all work under the Contract.

3.75. **National Holidays.** January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, and December 24 or December 25.

3.76. **Nonhazardous Recyclable Material.** A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.

3.77. **Nonresident Proposer.** A Proposer whose principal place of business is not in Texas. This includes a Proposer whose ultimate parent company or majority owner does not have its principal place of business in Texas.

3.78. **Nonresponsive Proposal.** A proposal that does not meet the criteria for acceptance contained in the proposal form.

3.79. **Non-Site-Specific Contracts.** Contracts where a geographic region is specified for the work and work orders, with or without plans, detail the limits and work to be performed.

3.80. **Notice to Proceed (NTP).** Written notice to the Contractor to begin the work. The NTP may include the date when work and time charges will begin, the allowable number of calendar days, and plan sheets providing details specific to a location or to an item of work for non-site-specific work. A NTP is part of the Contract.

- 3.81. **Notification.** Either written or oral instruction to the Contractor. Voice mail is oral notification.
- 3.82. **Owner.** The CRRMA or its designated representative.
- 3.83. **Owner's Representative.** The CRRMA or its designated representative.
- 3.84. **Pavement.** That part of the roadway having a constructed surface for the use of vehicular traffic.
- 3.85. **Pavement Structure.** Combination of surface course and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.
- 3.85.1. **Base Course.** One or more layers of specified material thickness placed on a subgrade to support a surface course.
- 3.85.2. **Surface Course.** Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.
- 3.85.3. **Subgrade.** The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.
- 3.86. **Payment Bond.** The security executed by the Contractor and the Surety, furnished to the CRRMA to guarantee payment of all legal debts of the Contractor pertaining to the Contract.
- 3.87. **Performance Bond.** The security executed by the Contractor and the Surety, furnished to the CRRMA to guarantee the completion of the work in accordance with the terms of the Contract.
- 3.88. **Plans.** The drawings approved by the CRRMA, including true reproductions of the drawings that show the location, character, dimensions, and details of the work and are a part of the Contract.
- 3.89. **Power of Attorney for Surety Bonds.** An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a Surety in signing bonds.
- 3.90. **Prequalification.** The process for determining a Contractor's eligibility to propose work.
- 3.91. **Project-Specific Location.** A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the Contract.
- 3.92. **Proposal.** A proposal, inclusive of a technical proposal and a price proposal submitted by a Proposer in response to the RFP issued by the CRRMA for the Project.
- 3.93. **Proposal Bond.** The security executed by the Contractor and the Surety furnished to the CRRMA to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.
- 3.94. **Proposal Error.** A mathematical mistake made by a Proposer in the unit price entered as part of the price proposal component of a Proposal.
- 3.95. **Proposer.** An individual, partnership, limited liability company, corporation, or joint venture submitting a Proposal for the proposed Contract.
- 3.96. **Punch List.** The list of work which remains to be completed after Substantial Completion has been achieved and before Final Acceptance, and shall be limited to items of work

necessary to correct minor imperfections and deviations from the requirements of the Contract Documents, but have no material effect on the use, safety or operability of the Project.

3.97. **Quality Assurance.** Sampling, testing, inspection, and other activities conducted by the CRRMA to determine payment and make acceptance decisions.

3.98. **Quality Control.** Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.

3.99. **Ramp.** A section of highway for the primary purpose of making connections with other highways.

3.100. **Recurring Maintenance Work Contracts.** Contracts or work for which maintenance is needed at the same location on more than one occasion (e.g., mowing contracts for which mowing cycles are requested on multiple occasions).

3.101. **Referee Tests.** Tests requested to resolve differences between Contractor and CRRMA test results. The referee laboratory is the Construction Division of TxDOT.

3.102. **Regular Item.** A bid item contained in a proposal and not designated as an additive alternate or replacement alternate bid item.

3.103. **Rental Rate Blue Book for Construction Equipment.** Publication containing equipment rental rates.

3.104. **Replacement Alternate.** A bid item identified in the proposal form that a Proposer may substitute for a specific regular item of work.

3.105. **Responsive Proposal.** A proposal that meets all requirements of the Instructions to Proposers for acceptance.

3.106. **Right of Way.** A general term denoting land or property devoted to transportation purposes.

3.107. **Roadbed.** The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have 2 roadbeds. Highways with a flush median are considered to have 1 roadbed. Frontage roads are considered separate roadbeds.

3.108. **Road Master.** A railroad maintenance official in charge of a division of railway.

3.109. **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.

3.110. **Roadway.** The portion of the highway (including shoulders) used by the traveling public.

3.111. **Routine Maintenance Contract.** A Contract let through the routine maintenance contracting procedure to preserve and repair roadways, rights of way, and appurtenances.

3.112. **SBE Program.** The CRRMA's program, adopted pursuant to its Business Opportunity Program and Policy (BOPP) and applicable to CRRMA contracts and procurements that do not involve federal financial assistance. Certified SBEs under the BOPP include small, minority-owned, women-owned, historically underutilized, and disadvantaged business enterprises certified as such by: TxDOT; the Texas Unified Certification Program for Federal DBE Certification; the Texas Building and

Procurement Commission's Historically Underutilized Business (HUB) Program Certification; or any other certification that the CRRMA finds acceptable.

3.113. **Shoulder.** That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.

3.114. **Sidewalk.** Portion of the right of way constructed exclusively for pedestrian use.

3.115. **Small Business Enterprise.** A firm (including affiliates) whose annual gross receipts do not exceed the U.S. Small Business Administration's size standards for 4 consecutive years.

3.116. **State.** The State of Texas.

3.117. **State Holiday.** A holiday authorized by the State Legislature excluding optional state holidays and not listed in "National Holidays." A list of state holidays can be found on TxDOT's website.

3.118. **Station.** A unit of measurement consisting of 100 horizontal feet.

3.119. **Subcontract.** The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract Documents.

3.120. **Subcontractor.** A Subcontractor is defined as an individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract, excluding a material supplier, a hauling firm hauling only from a commercial source to the project, truck owner-operator, wholly-owned subsidiary, or specialty-type businesses such as security companies and rental companies.

3.121. **Subsidiary.** Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.

3.122. **Substantial Completion.** This term shall have the meaning set forth in Article 4.16 of these General Conditions with respect to the Interim Milestone Work and in Article 4.15 of these General Conditions with respect to the Project as a whole.

3.123. **Substructure.** The part of the structure below the bridge seats but not including, bearings, drilled shafts, or piling. Parapets, back walls, wing walls of the abutments, and drainage structures are considered parts of the substructure.

3.124. **Sun Metro.** The Mass Transit Department for the City of El Paso.

3.125. **Superintendent.** The representative of the Contractor who is available at all times and able to receive instructions from the CRRMA and to act for the Contractor.

3.126. **Superstructure.** The part of the structure above the bridge seats or above the springing lines of arches and including the bearings. Flatwork construction may be considered superstructure.

3.127. **Supplemental Agreement.** Written agreement entered into between the Contractor and the CRRMA and approved by the Surety, covering alterations and changes in the Contract. A supplemental agreement is used by the CRRMA whenever the modifications include assignment of the Contract from one entity to another or other cases as desired by the CRRMA.

3.128. **Surety.** The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.

3.129. **Surplus Materials.** Any debris or material related to the Contract not incorporated into the work.

3.130. **Suspension.** Action taken by the CRRMA, TxDOT or federal government pursuant to regulation that prohibits a person or company from entering into a contract, or from participating as a subcontractor, or supplier of materials or equipment used in a road or rail improvement contract.

3.131. **Technical Specifications.** Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to DMSs, ASTM or AASHTO specifications, or TxDOT bulletins and manuals, imply the latest standard or tentative standard in effect on the date of the proposal. The CRRMA will consider incorporation of subsequent changes to these documents in accordance with Article 3, "Scope of Work."

3.132. **Traffic Lane.** The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

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

3.134. **Truck Owner-Operator.** An individual who owns and operates 1 truck for hire.

3.135. **Utility.** Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or storm water that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.

3.136. **Verification Tests.** Tests used to verify accuracy of QC and QA and mixture design testing.

3.137. **Wholly-Owned Subsidiary.** A legal entity owned entirely by the Contractor or subcontractor.

3.138. **Work.** The furnishing of all labor, materials, equipment, and other incidentals necessary for the successful completion of the Contract.

3.139. **Written Notice.** Written notice is considered to have been duly given if delivered in person to the individual or member to whom it is intended or if sent by regular, registered, or certified mail and delivered to the last known business address; sent by facsimile to the last known phone number; or sent by e-mail to the last known address. The date of the letter will serve as the beginning day of notice. Unclaimed mail or failure to provide current mailing address will not be considered a failure to provide written notice.

ARTICLE 2 - EXECUTION OF CONTRACT

1. EXECUTION OF CONTRACT

Provide the following within 15 calendar days after written notification of award of the Contract.

1.1. **Contract.** Execute the Contract as prescribed by the CRRMA.

1.2. **Bonds.** Execute the performance and payment bond in the full amount of the Contract with the powers of attorney. Furnish the payment and performance bonds as a guaranty for the protection of the claimants and the CRRMA for labor and materials and the faithful performance of the work.

Sample versions of the standard performance and payment bonds are included as exhibits to the Contract.

1.3. **Insurance.** Submit a certificate of insurance showing coverages in accordance with Contract requirements.

Insurances must cover the work for the duration of the Contract and must remain in effect until final acceptance. Failure to obtain and maintain insurance for the contracted work may result in suspension of work or default of the Contract. If the insurance expires and coverage lapses for any reason, stop all work until the CRRMA receives an acceptable certificate of insurance.

Provide the CRRMA with a certificate of insurance verifying the types and amounts of coverage shown in Table 2. The certificate of insurance must be in a form approved by the Texas Department of Insurance. Any certificate of insurance provided must be available for public inspection.

**Table 2
Insurance Requirements**

Type of Insurance	Amount of Coverage
Commercial General Liability Insurance	Not Less Than: \$1,000,000 each occurrence \$2,000,000 aggregate
Business Automobile Policy	Not Less Than: \$1,000,000 combined single limit
Workers' Compensation	Not Less Than: Statutory
All Risk Builder's Risk Insurance (For building-facilities contracts only)	100% of Contract Price for building/facility

By signing the Contract, the Contractor certifies compliance with all applicable laws, rules, and regulations pertaining to workers' compensation insurance. This certification includes all subcontractors. Pay all deductibles stated in the policy. Subcontractors must meet the requirements of Table 2 either through their own coverage or through the Contractor's coverage.

The Workers' Compensation policy must include a waiver of subrogation endorsement in favor of the CRRMA.

For building-facilities contracts or contracts with a building component, provide All Risk Builder's Risk Insurance to protect the CRRMA against loss by storm, fire or extended coverage perils on work and materials intended for use on the building/facility. Name the CRRMA under the Lost Payable Clause. For contracts with railroad requirements, see project-specific details for additional insurance requirements.

Provide a substitute Surety on the Contract bonds in the original full Contract amount within 15 days of notification if the Surety is declared bankrupt or insolvent, the Surety's underwriting limitation drops below the Contract amount or the Surety's right to do business is terminated by the State. The substitute Surety must be authorized by the laws of the State and acceptable to the CRRMA. Work will be suspended until a substitute Surety is provided. Calendar day charges will be suspended for 15 days or until an acceptable Surety is provided, whichever is sooner.

The work performed under this section will not be measured or paid for directly but will be subsidiary to pertinent Items.

1.4. **Railroad Documents.** Provide all required documents for satisfaction of railroad requirements for projects that have work which involves railroad right of way. Comply with the requirements of Article 4.8., "Cooperation With Railroads".

2. FAILURE TO ENTER CONTRACT

If the Contractor fails to comply with all of the requirements in Article 2.1., "Execution of Contract," the proposal guaranty will become the property of the CRRMA, not as a penalty, but as liquidated damages. The Contractor forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in design of the work.

3. APPROVAL AND EXECUTION OF CONTRACT

The Contract will be approved and signed under authority of the CRRMA Board.

4. BEGINNING OF WORK

Do not begin work until authorized in writing by the CRRMA through issuance of a written notice to proceed (NTP).

Verify all quantities of materials shown on the plans before ordering.

For Contracts with callout work and work orders, the purchase of materials before a work order is issued or without prior written approval of the CRRMA is at the Contractor's risk, and the CRRMA is not obligated for the cost of the materials or work to acquire the materials.

Contractor shall record a video of the work area and adjacent property that will be used as a record of conditions prior to construction. Provide the video to the CRRMA on a DVD (s) prior to the beginning of construction.

5. ASSIGNMENT OF CONTRACT

Do not assign, sell, transfer, or otherwise dispose of the Contract or any portion rights, title, or interest (including claims) without the approval of the CRRMA or designated representative. The CRRMA must deem any proposed assignment justified and legally acceptable before the assignment can take place.

6. EXCLUDED PARTIES

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the CRRMA, TxDOT, the City of El Paso or any federal agency.

ARTICLE 3 - SCOPE OF WORK

1. CONTRACT INTENT

The intent of the Contract Documents is to describe the completed work to be performed. Furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with the Contract Documents.

2. PRECONSTRUCTION CONFERENCE

Before starting work, schedule and attend a preconstruction conference with the CRRMA. Failure to schedule and attend a preconstruction conference is not grounds for delaying the beginning of working day charges. Work with the CRRMA to resolve or escalate all issues. Execute the project pledge and establish an issue escalation ladder.

2.1. **Project Pledge.** Contractor representatives at the level of foreman and above will certify in writing they will approach the construction of this Project in a manner consistent with delivering a high quality project in a safe, cost-effective, and timely manner, and they will be committed to not allowing personality conflicts or personal interests to interfere with providing the public with a quality project. Failure to uphold this commitment may result in grounds for removal from the Project.

2.2. **Issue Resolution Process.** An issue is any aspect of the Contract where parties of the Contract do not agree. The individuals identified at the lowest level of the issue escalation ladder will initiate the issue resolution process by escalating any issue that remains unresolved within the time frame outlined in the issue escalation ladder.

Work with the CRRMA to resolve all issues during the course of the Contract. Refer to Article 3.7, "Dispute or Claims Procedure" for all unresolved issues.

3. PARTNERING

The intent of this section is to promote an environment of trust, mutual respect, integrity, and fair-dealing between the CRRMA and the Contractor.

Informal partnering does not make use of a facilitator, while formal partnering uses the services of a facilitator (internal or external).

3.1. **Procedures for Partnering Meetings and Format.** Informal partnering is required, unless formal partnering is mutually agreed to in lieu of the informal partnering.

3.2. **Facilitators.** The facilitator is to act as a neutral party seeking to initiate cooperative working relationships. This individual must have the technical knowledge and ability to lead and guide discussions. Choose either an internal or external facilitator. The facilitator must be acceptable to the CRRMA.

3.2.1. **Internal Facilitators.** A CRRMA or Contractor internal (staff) facilitator may be selected as the facilitator at no additional cost to either party.

3.2.2. **External Facilitators.** A private firm or individual that is independent of the Contractor and the CRRMA may be selected as the facilitator. Submit the facilitator's name and estimated fees for approval before contracting with the facilitator.

3.3. **Meetings and Arrangements.** Coordinate with the CRRMA for meeting dates and times, locations including third party facilities, and other needs and appurtenances including but not limited to audio or visual equipment. Make all meeting arrangements for formal partnering. Use CRRMA facilities or facilities in the vicinity of the project if available. Submit the estimated meeting costs for approval before finalizing arrangements.

Coordinate facilitator discussions before the partnering meeting to allow the facilitator time to prepare an appropriate agenda. Prepare a list of attendees with job titles and include critical Contractor, subcontractor, and supplier staff in the list. Provide the facilitator the list of attendees and invite the attendees listed.

The CRRMA will invite and provide a list of attendees that may include but is not limited to CRRMA, City, Sun Metro, and utility representatives.

Participate in additional partnering meetings as mutually agreed.

3.4. **Payment. Expenses for labor, Contractor equipment, or overhead will not be allowed.** Markups as prescribed in Article 8.7, "Payment for Extra Work and Force Account Method," will not be allowed.

Informal partnering will be conducted with each party responsible for their own costs.

For formal partnering using internal facilitators, the Contractor will be responsible for arrangements and for expenses incurred by its internal facilitator, including but not limited to meals, travel, and lodging.

For formal partnering using external facilitators, the Contractor will be responsible for all costs of the external facilitator.

4. CHANGES IN THE WORK

The CRRMA reserves the right to make changes in the work including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. Perform the work as altered. These changes will not invalidate the Contract nor release the Surety. The Contractor is responsible for notifying the sureties of any changes to the Contract.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. Provide cost justification as requested, in an acceptable format. Payment will not be made for anticipated profits on work that is eliminated.

Agree on the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the CRRMA may order the work to proceed under Article 8.7, "Payment for Extra Work and Force Account Method," or by making an interim adjustment to the Contract. In the case of an adjustment, the CRRMA will consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any item as altered differs materially in kind or nature from that in the Contract, or
- a major item of work varies by more than 25% from the original Contract quantity.

When the quantity of work to be done under any major item of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on the portion of the work that is above 125%.

When the quantity of work to be done under any major item of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price. Adjust the unit price by multiplying the Contract unit price by the factor in Table 1.

Table 1
Quantity-Based Price Adjustment Factors

% of Original Quantity	Factor
≥ 50 and < 75	1.05
≥ 25 and < 50	1.15
< 25	1.25

If the changes require additional calendar days to complete the Contract, Contract calendar days may be adjusted in accordance with Article 7, "Prosecution and Progress."

Change Orders shall be documented using the Change Order Form attached as an Exhibit to the Contract.

5. DIFFERING SITE CONDITIONS

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site. The two types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract, and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

Notify the CRRMA in writing when differing site conditions are encountered. The CRRMA will notify the Contractor when the CRRMA discovers differing site conditions. Unless directed otherwise, suspend work on the affected items and leave the site undisturbed. The CRRMA will investigate the conditions and determine whether differing site conditions exist. If the differing site conditions cause an increase or decrease in the cost or number of calendar days specified for the performance of the Contract that are on or affect the Critical Path, the CRRMA will make adjustments, excluding the loss of anticipated profits, in accordance with the Contract. Additional compensation will be made only if the required written notice has been provided.

6. REQUESTS FOR ADDITIONAL COMPENSATION AND DAMAGES

Notify the CRRMA in writing of any intent to request additional compensation within 5 calendar days following the event that is the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the CRRMA an opportunity to evaluate the request and to keep an accurate account of the actual costs that may arise. The Contractor shall minimize impacts and costs.

If written notice is not given, the Contractor waives the right to additional compensation unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact before performing the work. Notice of the request and the documentation of the costs will not be construed as

proof or substantiation of the validity of the request. Submit the request in enough detail to enable the CRRMA to determine the basis for entitlement, adjustment in the number of calendar days specified in the Contract, and compensation.

Damages occur when impacts that are the responsibility of the CRRMA result in additional costs to the Contractor that could not have been reasonably anticipated at the time of letting ("compensable event"). Costs of performing additional work are not considered damages. For Contractor damages, the intent is to reimburse the Contractor for actual expenses arising out of a compensable event. No profit or markups, other than labor burden, will be allowed. For damages, labor burden will be reimbursed at 35% unless the Contractor can justify higher actual cost. Justification for a higher percentage must be submitted separately for project overhead labor and direct labor, and determined and submitted by a Certified Public Accountant (CPA). Submit CPA-prepared labor burden rates directly to the CRRMA for approval.

The CRRMA will not consider fees and interest on requests for additional compensation and damages. Fees include, but are not limited to: preparation, attorney, printing, shipping, and various other fees.

If the Contractor requests compensation for delay damages and the delay is determined to be a compensable event, then standby equipment costs and project overhead compensation will be based on the duration of the compensable event delay and will be limited as follows:

6.1. **Standby Equipment Costs.** Payment will be made in accordance with Section 8.7.1.4.3., "Standby Equipment Costs."

6.2. **Project Overhead.** Project overhead is defined as the administrative and supervisory expenses incurred at the work locations. When a CRRMA caused delay to project completion occurs, reimbursement for project overhead for the Contractor will be made using the following options:

- reimbursed at 6% (computed as daily cost by dividing 6% of the original Contract amount by the number of original Contract calendar days), or
- actual documented costs for the impacted period.

Project overhead for delays impacting subcontractors will be determined from actual documented costs submitted by the Contractor.

Time extensions and suspensions alone will not be justification for reimbursement for project overhead.

6.3. **Home Office Overhead.** The CRRMA will not compensate the Contractor for home office overhead.

6.4. **Change Order.** When the parties agree that additional compensation is payable the parties shall document the change using the Change Order Form attached as an Exhibit to the Contract.

7. DISPUTE OR CLAIMS PROCEDURE

The dispute resolution process promotes a cooperative attitude between the CRRMA and Contractor. Emphasis is placed on resolving issues while they are still current and in an informal manner. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts. If information is not shared, decisions may be limited to relying on the documentation that is available for review.

It is the CRRMA's goal to have a dispute settled before elevating it to the dispute resolution process.

7.1. **Informal Resolution As Condition Precedent.** As a condition precedent to the right to have any dispute resolved pursuant to the dispute resolution procedures or by a district court, the Contractor must first attempt to resolve the dispute directly with the CRRMA through the informal resolution procedures described in Article 3.7.2 (collectively, the "Informal Resolution Procedures"). Time limitations set forth for the Informal Resolution Procedures may be changed by mutual written agreement of the parties. Changes to the time limitations for the Informal Resolution Procedures agreed upon by the parties shall pertain to the particular dispute only and shall not affect the time limitations for the Informal Resolution Procedures applicable to any subsequently arising disputes.

7.2. **Informal Resolution Procedures.**

7.2.1. **Notice of Dispute.**

(a) If Contractor pursues a dispute, Contractor shall initiate the Informal Resolution Procedures by serving a written notice on the CRRMA's designated agent. The notice shall contain a concise statement describing:

(i) The date of the act, inaction or omission giving rise to the dispute;

(ii) An explanation of the dispute, including a description of its nature, circumstances and cause;

(iii) A reference to any pertinent provision(s) from the Contract Documents.

(iv) If applicable and then known, the estimated dollar amount of the dispute, and how that estimate was determined (including any cost and revenue element that has been or may be affected);

(v) If applicable, an analysis of the Project Schedule and completion deadlines showing any changes or disruptions (including an impacted delay analysis reflecting the disruption in the manner and sequence of performance that has been or will be caused, delivery schedules, staging, and adjusted completion deadlines);

(vi) If applicable, the Contractor's plan for mitigating the amount claimed and the delay claimed;

(vii) The Contractor's desired resolution of the dispute; and

(viii) Any other information the Contractor considers relevant.

(b) If the CRRMA agrees with the Contractor's position and desired resolution of the dispute, it shall so state in a written response. The notice of the dispute and such response shall suffice to evidence the parties' resolution of the subject dispute unless either party requests further documentation. Upon either party's request, within 7 calendar days after the Contractor's receipt of the CRRMA's response in agreement, the parties' designated representatives shall state the resolution of the dispute in writing as appropriate, including execution of Change Orders or other documentation as needed,

and thereafter each party shall then promptly perform its respective obligations in accordance with the agreed resolution of the dispute.

7.2.2. Failure to Resolve dispute with Informal Resolution Procedures. If a dispute is not timely resolved under the Informal Resolution Procedures, then within 15 calendar days after the conclusion of the time periods for Informal Resolution Procedures, if such dispute was not resolved to the parties' satisfaction, the parties may mutually agree to initiate mediation or other alternative dispute resolution process in accordance with Article 3.7.3.

7.3. Mediation or Other Alternative Dispute Resolution. Contractor and CRRMA, by mutual agreement, may refer a dispute to mediation or other alternative dispute resolution process for resolution. The parties shall use diligent efforts to convene and conclude mediation proceedings within 30 calendar days after they agree to refer the dispute to mediation or other alternative dispute resolution process. Contractor and CRRMA shall share equally the expenses of the mediation or other alternative dispute resolution process. If any dispute has been referred to mediation or other alternative dispute resolution process for resolution by mutual agreement of the parties, but the dispute is not resolved within the foregoing 30 day period, then either party can, on or after the 31st day, cease participating in such mediation or other alternative dispute resolution process. A party shall give written notice to the other party that it will no longer participate. The deadlines in this Article 3.7.3 for processing a dispute are tolled, day for day, during mediation or other alternative dispute resolution.

7.4. Continuation of Disputed Work. At all times during the dispute resolution procedures set forth in this Article 3.7, Contractor and all subcontractors shall continue with the performance of the work and their obligations, including any disputed work or obligations, diligently and without delay, in accordance with the Contract Documents, except to the extent enjoined by order of a court or otherwise approved by CRRMA in its sole discretion. Contractor acknowledges that it shall be solely responsible for the results of any delaying actions or inactions taken during the pendency of resolution of a dispute ultimately prevails. In addition, during the pendency of resolution of a dispute relating to the work, the parties shall continue to comply with all provisions of the Contract Documents, and applicable law.

7.5. Records Related to Claims and Disputes. Throughout the course of any work that is the subject of any dispute that is the subject of dispute resolution procedures of this Article 3.7, Contractor shall keep separate and complete records of any extra costs, expenses, and/or other monetary effects relating to the disputed work, and shall permit CRRMA access to these and any other records needed for evaluating the dispute. These records shall be retained for a period of not less than one year after the date of resolution of the dispute pertaining to such disputed work (or for any longer period required under any other applicable provision of the Contract Documents).

7.6. Governing Law. The Contract Documents shall be governed by the laws of the state of Texas.

7.7. Venue. Legal venue for any dispute that cannot be resolved through the informal dispute resolution process or alternative dispute resolution process shall be in the state district court in El Paso, Texas.

7.8. Rights and Remedies. The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.9. Illegality. If any provision of the Contract Documents or the application thereof to any person or circumstance is rendered or declared illegal for any reason or shall be invalid or unenforceable, the remainder of the Contract Documents and the application of such provision to other persons or

circumstance shall not be affected thereby but shall be enforced to the extent permitted by law. The parties agree to negotiate in good faith for a proper amendment to the Contract Documents in the event any provision is declared illegal, invalid or unenforceable to reflect the original intent of the parties.

ARTICLE 4 - CONTROL OF THE WORK

1. AUTHORITY OF CRRMA

The CRRMA has the authority to observe, test, inspect, approve, and accept the work. The CRRMA decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, and acceptable Contract fulfillment. The CRRMA has the authority to enforce and make effective these decisions.

The CRRMA acts as a referee in all questions arising under the terms of the Contract Documents. The CRRMA's decisions will be final and binding.

The CRRMA may pursue actions against the Contractor, including but not limited to the withholding of estimates and suspending the work, for noncompliance of the Contract.

The CRRMA may suspend the work without suspending calendar day charges for noncompliance of the Contract.

2. PLANS AND WORKING DRAWINGS

When required, provide working drawings to supplement the plans with all necessary details not included on the Contract plans. Prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. For all working drawing submittal requirements, the CRRMA may allow electronic and other alternative submission procedures. Have a licensed professional engineer sign, seal, and date the working drawings as indicated in Table 1.

Prepare working drawings using United States standard measures in the English language. The routing of submittals for review and approval and the timeframes for review and approval by CRRMA are established in Specification 01330 – Submittal Procedures. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. CRRMA approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed under this Article will not be measured or paid for directly but will be subsidiary to pertinent Items.

**Table 1
Signature and Approval Requirements for Working Drawings**

Working Drawings for		Requires Licensed Professional Engineer's Signature, Seal, and Date	Requires CRRMA Approval
1. Alternate or optional designs submitted by Contractor		Yes	Yes
2. Supplementary shop and fabrication drawings for structural Items		No unless required on the plans	See applicable Item
3. Contractor-proposed temporary facilities that affect the public safety, not included on the plans		Yes	Yes
4. Form and falsework details	Bridges, retaining walls, and other major structures	Yes unless otherwise shown on the plans	No ¹
	Minor structures	No unless otherwise shown on the plans	No
5. Erection drawings		Yes	No ^{1,2}
6. Contractor-proposed major modifications to traffic control plan		Yes	Yes

1. The CRRMA requires that the Contractor have a licensed professional engineer certify that the temporary works are constructed according to the sealed drawings.

2. Approval is required for items spanning over live traffic or where safety of the traveling public is affected, in the opinion of the CRRMA.

Submit shop drawings electronically for the fabrication of structural items as documented in the *Guide to Electronic Shop Drawing Submittal* available on the internet at ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e_submit_guide.pdf and as directed for other items required by the Contract. References to 11 x 17-in. sheets in individual specifications for structural items imply electronic computer aided design sheets.

3. CONFORMITY WITH GENERAL CONDITIONS, PLANS AND TECHNICAL SPECIFICATIONS

Furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract. Reasonably close conformity limits will be as defined in the respective Items of the Contract or, if not defined, as determined by the CRRMA. Obtain approval before deviating from the plans and approved working drawings. Do not perform work beyond the lines and grades shown on the plans or any extra work without the CRRMA's approval. Work performed beyond the lines and grades shown on the plans or any extra work performed without authority is considered unauthorized and excluded from pay consideration. The CRRMA will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control.

3.1. **Acceptance of Defective or Unauthorized Work.** When work fails to meet Contract requirements, but is adequate to serve the design purpose, the CRRMA will decide the extent to which the work will be accepted and remain in place. The CRRMA will document the basis of acceptance by a letter and may adjust the Contract price.

3.2. **Correction of Defective or Unauthorized Work.** When work fails to meet Contract requirements and is inadequate to serve the design purpose it will be considered defective. Correct, or remove and replace, the work at the Contractor's expense, as directed.

The CRRMA has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

4. COORDINATION OF GENERAL CONDITIONS, PLANS AND TECHNICAL SPECIFICATIONS

These General Conditions, the Technical Specifications, Plans, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. General Conditions govern over Plans (including general notes), which govern over Technical Specifications. Job-specific plan sheets govern over standard plan sheets.

However, in the case of conflict between Plans (including general notes) and Technical Specifications regarding responsibilities for hazardous materials and traffic control in Articles 1 through 8, General Conditions govern over Technical Specifications which govern over the Plans.

Notify the CRRMA promptly of any omissions, errors, or discrepancies discovered so that necessary corrections and interpretations can be made. Failure to promptly notify the CRRMA will constitute a waiver of all claims for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies discovered.

5. RECORD DRAWINGS

The Contractor shall include the following in its bid. Refer also to Specifications 01700 and 01781 of the Division 1 General Requirements for additional requirements for as-builts as part of closeout documentation.

The Contractor shall keep up-to-date a complete “as-built” record set of bluelines or xerox prints, showing any changes from the original plans; including plan deviations, mechanical, electrical, sprinkler and plumbing as-builts, and dimensional locations and vertical heights or depths below grade of all buried lines and equipment, including locations and sizes of any uncovered waste and domestic water lines. Several sets of prints for this purpose may be obtained from the CRRMA at the beginning of the Project and shall be kept on the job.

Upon completion of the Project, the Contractor shall, at its expense, transfer all “as-built” changes and uncovered utility information to a fresh set of prints in red pencil, including each of the utility trades (MEP and Voice/Data/ITS). The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the CRRMA.

The Contractor shall also, at its expense, then have the entire set of record “as-built” prints reproduced on a full set of xerox tracings for the CRRMA’s future use. The entire set of plans shall be so reproduced, whether or not changes have been indicated on individual particular sheets.

All of the above will eventually be transmitted to the CRRMA as part of the close-out documentation required by Specification 01770.

6. COOPERATION OF CONTRACTOR

Cooperate with the CRRMA. Respond promptly to instructions from the CRRMA. Provide all information necessary for the successful completion of the Contract.

Designate in writing a competent, English-speaking Superintendent employed by the Contractor. The Superintendent must be experienced with the work being performed and capable of reading and understanding the Contract. Ensure the Superintendent is available at all times and able to receive instructions from the CRRMA and to act for the Contractor. The CRRMA may suspend work without suspending calendar day charges if a Superintendent is not available or does not meet the above criteria. The Superintendent may not perform labor on the Project and shall dedicate his full energies to coordination and supervision of the work.

The Superintendent shall be present at the Project site at all times that any Contract work is underway. If the Superintendent is to be absent from the Project site, the Contractor shall provide written notification to the CRRMA of a qualified replacement Superintendent at least 48 hours in advance. The replacement Superintendent shall be subject to the approval of the CRRMA.

Equipment: The Contractor shall provide and maintain a telephone, facsimile machine, digital camera and computer hooked to an internet service provider, during the duration of the Project. The computer should be used to relay digital images and e-mail messages for faster response to routine questions and RFI’s.

Special Superintendent Requirements:

1. Contractor shall provide a full time Superintendent for all after-hours and weekend work performed for this Project.
2. Contractor shall provide a Superintendent during daytime hours at all times that any work under this Contract is underway, and shall also make the Superintendent available during daytime hours for CRRMA, and testing observations, inspections, testing, progress meetings, job conferences and other typical construction activities.
3. Superintendent shall be required to be in attendance for receipt of all on-site deliveries required by the Contract Documents.

At the written request of the CRRMA, immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the CRRMA, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Do not reinstate these individuals without the written consent of the CRRMA. Furnish suitable machinery, equipment, and construction forces for the proper prosecution of the work. Provide adequate lighting to address quality requirements and inspection of nighttime work.

7. COOPERATING WITH UTILITIES

The Contractor maintains overall responsibility of the total Project, including the performance and coordination of all sub-contractors for all utility infrastructure relocations and/or adjustments required to complete the Project as intended by the Contract Documents. In addition to the Contractor's responsibility, this provision does not relieve any sub-contractors of their responsibility to contact the utility in order to locate services prior to excavation to provide surface ground markings of buried utilities. In addition, the Contractor or subcontractors shall expose existing underground utilities through the excavation of test holes as required by the Contract Documents to verify the locations of existing utilities.

The Contractor shall be aware that utility relocations and/or adjustments may impede the Contractor's construction progress in certain locations. The Contractor shall be prepared to adjust its work activities to allow for the utility work to be completed. Any work stoppage at a utility conflict location shall not impede the overall construction progress. If construction delays are unavoidable, the Contractor shall coordinate with the CRRMA and provide an adjusted schedule for approval.

Use work procedures that protect utilities or appurtenances that remain in place during construction. Cooperate with utilities to remove and rearrange utilities to avoid service interruption or duplicate work by the utilities. Allow utilities access to the right of way.

Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities. Cooperate with utilities until service is restored. Maintain access to fire hydrants when necessary.

8. COOPERATION BETWEEN CONTRACTORS

Cooperate and coordinate with other contractors working within the limits or adjacent to the limits. See the general notes to the Plans for more detail.

Each Contractor and Subcontractor requiring cutting and patching in the execution of its work shall leave all chases, holes, or openings straight, true and of proper size as may be necessary for the proper installation of its own or other Contractor's or Subcontractor's work, consulting with the Superintendent and Contractor's or Subcontractors' concerned parties regarding locations and size.

9. COOPERATION WITH RAILROADS

Plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

9.1. **Railroad Coordination Meeting.** For contracts with railroad requirements, schedule and attend a railroad coordination meeting with the CRRMA before beginning work or as agreed (may be a part of the preconstruction conference described in Article 3.2, "Preconstruction Conference"). Prepare

a list of attendees and invite personnel including but not limited to the CRRMA, Contractor, subcontractors, and railroad representatives.

Provide the invite to the railroad representatives at least 21 calendar days before the railroad coordination meeting.

9.2. **Project-Specific Information.** Refer to project-specific plan sheets in the Contract Documents for specific information concerning the work to be completed by both the Contractor and the railroad within railroad right of way; railroad right of way locations impacted by construction; percentage of contract work at each location; train movements at each location; and requirements for railroad insurance, flagging, and Right of Entry (ROE) Agreements. Reference and abide by the COEP and UPRR agreement for construction over an active railroad.

9.3. **Right of Entry Agreement by the Contractor.** When shown on the plans, contact the railroad company to obtain the ROE Agreement before beginning work on the Contract.

Provide the required railroad insurance to the CRRMA before beginning work on the Contract.

Execute the ROE Agreement and pay any associated fees to the railroad company. Provide a copy of the fully-executed ROE Agreement to the CRRMA.

10. CONSTRUCTION SURVEYING

Use Method C unless otherwise specified in the Contract. Upon request, the CRRMA will allow the Contractor to copy available earthwork cross-sections, computer printouts or data files, and other information necessary to establish and control work. Maintain the integrity of control points. Preserve all control points, stakes, marks, and right of way markers. Assume cost and responsibility of replacing disturbed control points, stakes, marks, and right of way markers damaged by the Contractor's or its subcontractor operations.

If the CRRMA repairs disturbed control points, stakes, marks, or right of way markers, the cost of repair may be deducted from money due or to become due to the Contractor. Replace right of way markers under the direction of a RPLS. This work performed under this Article will not be measured or paid for directly but will be considered subsidiary to pertinent Items.

The CRRMA reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The CRRMA's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. Allow the CRRMA adequate time to verify the surveying.

10.1. **Method A.** The CRRMA will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control.

At a minimum, provide a controlling pair of monument points at both the beginning and end of construction project for projects less than 2 miles in length. For projects greater than 2 miles in length, monuments will be set in pairs of 2 at a minimum of 2 miles based on the overall length of the project. Use these control points as reference to perform the work.

Furnish materials, equipment, and qualified workforce necessary for the construction survey work. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

10.2. **Method B.** The CRRMA will set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines. Furnish additional work, stakes, materials, and templates necessary for marking and maintaining points and lines.

10.3. **Method C.** Set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines.

11. INSPECTION

Inspectors are authorized representatives of the CRRMA. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the CRRMA. Inspectors cannot alter, add, or waive Contract Document provisions, issue instructions contrary to the Contract Documents, act as foremen for the Contractor, or interfere with the management of the work. Inspection or lack of inspection will not relieve the Contractor from obligation to provide materials or perform the work in accordance with the Contract Documents.

Provide safe access to all parts of the work and provide information and assistance to the CRRMA to allow a complete and detailed inspection. Give the CRRMA sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the CRRMA, may be ordered removed and replaced at Contractor's expense. Remove or uncover portions of finished work as directed. Once inspected, restore work to Contract Document requirements. If the uncovered work is acceptable, the costs to uncover, remove, and replace or make good the parts removed will be paid for in accordance with Article 3.4, "Changes in the Work." If the work is unacceptable, assume all costs associated with repair or replacement, including the costs to uncover, remove, and replace or make good the parts removed.

When a government entity, utility, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

12. REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

Should the CRRMA determine the materials or finished product do not conform to the requirements of the Contract Documents, the CRRMA will make a determination if the work will be accepted and remain in place. If the materials or finished product are judged adequate for the use intended, the CRRMA will document the basis for acceptance by Contract Document modification that will provide for an adjusted payment. If not judged adequate for the use intended, the nonconforming materials or finished product shall be either reworked or removed and replaced by the Contractor at no cost to the CRRMA.

13. PROTECTION OF WORK

Protect all the work and all materials and equipment to be incorporated therein, whether in storage or off the site, under the care, custody or control of the Contractor or any Subcontractor or lower tier Subcontractor.

Each Contractor shall properly and effectively protect all materials and equipment during and after their installation. Building materials, Contractor's equipment, etc., shall be stored within a secure area. Each Subcontractor shall protect and be responsible for any damage to its work or material,

from the date of the subcontract until the final payment is made, and shall make good without cost to the CRRMA, any damage to its work or materials, from the date of the subcontract until the final payment is made, and shall make good without cost to the CRRMA, any damage or loss that may occur during this period. All cement, lime and other material affected by weather shall be covered and protected to keep free from damage while being transported to the site and when stored on the site.

During the execution of the work, open ends of all piping and conduit and all openings in equipment shall be closed before leaving the work at any time, so as to prevent the entrance of all foreign matter. No trash is to be allowed to accumulate.

All heating, ventilating, plumbing and electrical equipment shall be protected during the execution of the work.

All plumbing fixtures shall be protected and shall be boarded over so that they cannot be used by workmen or others. All drains shall be covered until placed in service to prevent the entrance of foreign matter.

14. FINAL CLEANUP

Upon completion of the work, remove litter, debris, objectionable material, temporary structures, excess materials, and equipment from the work locations. Clean and restore property damaged by the Contractor's operations during the prosecution of the work. Leave the work locations in a neat and presentable condition.

Remove from the right of way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction. Dispose of all excess material in accordance with federal, state, and local regulations.

15. SUBSTANTIAL COMPLETION.

15.1. **Early Notice.** Contractor shall provide written notice to the CRRMA no later than ninety (90) Days prior to the date when all of the following will occur:

15.1.1. Contractor has completed the Work, except for Punch List items, final cleanup and other items included in the requirements for Final Acceptance of the Project;

15.1.2. Contractor has ensured that all Work relating to the Project has been performed in accordance with the requirements of the Contract Documents, any governmental approvals and applicable law;

15.1.3. The Project may be operated without damage to the Project, or any other property adjacent or nearby the Project, and without injury to any Person;

15.1.4. The Project (i) can be safely opened to public use, and (ii) has all safety appurtenances installed; and

15.1.5. All remaining Punch List work for the Project can be completed with no impact to traffic. If any lane closures are required to complete the Punch List items, Contractor shall be only entitled to close lanes upon approval by the CRRMA.

15.2. **Substantial Completion of the Project shall be deemed to have occurred when:**

15.2.1. The items set forth in Article 15.1 have occurred;

15.2.2. Contractor has corrected any defects and deficiencies in the Work relating to the Project to the satisfaction of the CRRMA, and the CRRMA has notified Contractor in writing of its acceptance, or waiver pending Final Acceptance, of such corrections and the concurrence that Substantial Completion of the Project has occurred;

15.2.3. Contractor has received all applicable governmental approvals required for the Project and to be obtained by Contractor pursuant to this Contract;

15.2.4. All adjustments have been accepted by the applicable utility owners;

15.2.5. A Punch List to be performed prior to Final Acceptance of the Project has been mutually agreed to by the CRRMA and Contractor;

15.2.6. All equipment and other Work to be provided by Contractor with respect to Project systems has been provided, completed, tested, and is fully operational; and

15.2.7. The CRRMA has issued a certificate of Substantial Completion to Contractor acknowledging the satisfaction of the conditions set forth in 15.2.1 through 15.2.6 above. The CRRMA agrees to issue such certificate when such conditions have been satisfied.

15.3. Notification of Substantial Completion.

15.3.1. Contractor shall provide the CRRMA with not less than 20 days' prior written notification of the date Contractor determines it will achieve Substantial Completion. During such 20-day period, Contractor and the CRRMA shall meet and confer and exchange information on a regular cooperative basis with the goal being the CRRMA's orderly, timely inspection and review of the Project and the CRRMA's issuance of a certificate of Substantial Completion.

15.3.2. During such 20-day period, the CRRMA shall conduct an inspection of the Project and its components, a review of the final construction documents and such other investigation as may be necessary to evaluate whether Substantial Completion is achieved.

15.3.3. Contractor shall provide the CRRMA a second written notification when Contractor determines it has achieved Substantial Completion. Within five days after expiration of the 20-day period and the CRRMA's receipt of the second notification, the CRRMA shall either: (a) issue the Certificate of Substantial Completion (dated as of the date of Contractor's second notification) or (b) notify Contractor in writing setting forth, as applicable, why the Project has not reached Substantial Completion. If the CRRMA and Contractor cannot agree as to the date of Substantial Completion, such dispute shall be resolved according to the dispute resolution procedures set forth in the Contract.

16. INTERIM COMPLETION.

16.1. **Early Notice.** Contractor shall provide written notice to the CRRMA no later than 90 days prior to the date when all of the following will occur:

16.1.1. Contractor has completed the Interim Milestone Work, except for Punch List items;

16.1.2. Contractor has ensured that all Interim Milestone Work relating to the Project has been performed in accordance with the requirements of the Contract Documents, any governmental approvals and applicable law.

16.1.3. The Interim Milestone Work portion of the Project may be occupied and operated without damage to the Project or any other property adjacent or nearby the Project, and without injury to any person;

16.1.4. The Interim Milestone Work portion of the Project has all safety appurtenances and security systems installed; and

16.1.5. All remaining Punch List work for the Interim Milestone Work portion of the Project can be completed with no impact to traffic. If any lane closures are required to complete the Punch List items, Contractor shall be only entitled to close lanes upon approval by the CRRMA.

16.2. Substantial Completion of the Interim Milestone Work shall be deemed to have occurred when:

16.2.1. The items set forth in Article 16.1 have occurred;

16.2.2. Contractor has corrected any defects and deficiencies in the Interim Milestone Work relating to the Project to the satisfaction of the CRRMA, and the CRRMA has notified Contractor in writing of its acceptance, or waiver pending Final Acceptance, of such corrections and the concurrence that Substantial Completion of the Interim Milestone Work has occurred;

16.2.3. Contractor has received all applicable governmental approvals required for the Interim Milestone Work and to be obtained by Contractor pursuant to the Contract Documents;

16.2.4. All adjustments relative to the Interim Milestone Work have been accepted by the applicable utility owners;

16.2.5. A Punch List for remaining Interim Milestone Work to be performed prior to Final Acceptance of the Project has been mutually agreed to by the CRRMA and Contractor; and

16.2.6. Contractor has asked for and received from the CRRMA a certificate of Substantial Completion acknowledging the satisfaction of all conditions stated above for Substantial Completion of the Interim Milestone Work. The CRRMA agrees to issue such certificate when such conditions have been satisfied.

16.3. Notification of Substantial Completion of the Interim Milestone Work.

16.3.1. Contractor shall provide the CRRMA with not less than 20 days' prior written notification of the date Contractor determines it will achieve Substantial Completion of the Interim Milestone Work. During such 20-day period, Contractor and the CRRMA shall meet and confer and exchange information on a regular cooperative basis with the goal being the CRRMA's orderly, timely inspection and review of the Interim Milestone Work, and the CRRMA's issuance of a certificate of Substantial Completion for the Interim Milestone Work.

16.3.2. During such 20-day period, the CRRMA shall conduct an inspection of the Interim Milestone Work and its components, and such other investigation as may be necessary to evaluate whether Substantial Completion of the Interim Milestone Work is achieved.

16.3.3. Contractor shall provide the CRRMA a second written notification when Contractor determines it has achieved Substantial Completion of the Interim Milestone Work. Within five days after expiration of the 20-day period and the CRRMA's receipt of the second notification, the CRRMA shall either: (a) issue the Certificate of Substantial Completion (dated as of the date of Contractor's second notification) or (b) notify Contractor in writing setting forth, as applicable, why the Interim Milestone Work has not reached Substantial Completion. If the CRRMA and Contractor cannot agree as to the date of Substantial Completion of the Interim Milestone Work, such dispute shall be resolved according to the dispute resolution procedures set forth in the Contract.

17. FINAL ACCEPTANCE.

17.1. Requirements for Final Acceptance. Within 60 calendar days after Substantial Completion of the Project, Contractor shall perform all Work, if any, which was deferred in connection with the Substantial Completion, and shall satisfy all of its other obligations under the Contract Documents, any governmental approvals and applicable law, including ensuring that all equipment, materials, facilities, improvements, structures and components have been properly adjusted and tested. Final Acceptance of the Project shall be deemed to have occurred when all of the following have occurred:

17.1.1. All requirements for Substantial Completion of the Project shall have been fully satisfied, as determined by the CRRMA;

17.1.2. The CRRMA shall have received all final Construction Plans, surveys, maintenance manuals, electronic files, test data and other deliverables relating to the Project required under the Contract Documents;

17.1.3. All special tools, equipment, furnishings and supplies purchased and/or used by Contractor solely for the Project as provided in the Contract Documents shall have been delivered to the CRRMA and all replacement spare parts shall have been purchased and delivered to the CRRMA, free and clear of liens;

17.1.4. All personnel, supplies, equipment, waste materials, rubbish and temporary facilities of the Contractor shall have been removed from the Project, Contractor shall have restored and repaired all damage or injury arising from such removal to the satisfaction of the CRRMA, and the Project shall be in good working order and condition;

17.1.5. Contractor shall have delivered to the CRRMA a certification representing that there are no outstanding claims of Contractor or claims, liens or stop notices of any first tier subcontractor, laborer, utility owner or railroads with respect to the Work for the Project, other than any previously submitted unresolved claims of Contractor on behalf of itself or on behalf of a first tier subcontractor, laborer, utility owner or railroad. For purposes of such certificate, the term "claim" shall include all matters or facts which may give rise to a claim;

17.1.6. The Punch List items for the Project shall have been completed to the satisfaction of the CRRMA, and all of Contractor's other obligations under the Contract Documents, any governmental approvals and applicable law, other than obligations which by their nature are required to be performed after Final Acceptance of the Project, shall have been satisfied in full or waived;

17.1.7. Contractor shall have finalized and closed out all governmental approvals; and

17.1.8. Contractor shall have requested and the CRRMA shall have issued a certificate of Final Acceptance to Contractor acknowledging the satisfaction of the conditions set forth in clauses 17.1.1 through 17.1.7 above. The CRRMA agrees to issue such certificate when such conditions have been satisfied.

17.2. Notification of Final Acceptance. Contractor shall provide the CRRMA with written notification when Contractor determines it has achieved Final Acceptance. During the 15-day period following receipt of such notification, Contractor and the CRRMA shall meet and confer and exchange information on a regular cooperative basis with the goal being the orderly, timely inspection and review of the Project and the final as-built plans, and the CRRMA's issuance of a certificate of Final Acceptance for the Project.

17.2.1. During such 15-day period, the CRRMA shall conduct an inspection of the Punch List items, a review of the final as-built plans and such other investigation as may be necessary to evaluate whether the conditions to Final Acceptance are satisfied.

17.3. **Issuance of Notice of Final Acceptance.** Within five days after expiration of such 15-day period, the CRRMA shall either: (a) issue a Certificate of Final Acceptance for the Project or (b) notify Contractor in writing setting forth, as applicable, why Final Acceptance has not been achieved. If the CRRMA and Contractor cannot agree as to the date of Final Acceptance, such dispute shall be resolved according to the dispute resolution procedures set forth in the Contract Documents.

17.4. **Effect of Final Acceptance.** The occurrence of Final Acceptance of the Project shall not relieve Contractor of any of its continuing obligations under the Contract Documents, including Warranty obligations, or constitute any assumption of liability by the CRRMA.

ARTICLE 5 - CONTROL OF MATERIALS

1. SOURCE CONTROL

The materials used on the work shall meet all quality requirements of the Contract Documents. Unless otherwise specified or approved, use new materials for the work. To expedite the inspection and testing of materials, the Contractor shall submit to the CRRMA a list of the proposed sources of materials at the preconstruction conference. Secure the CRRMA's approval of the proposed source of materials to be used before their delivery.

Materials can be approved at a supply source or staging area but may be reinspected in accordance with Article 5.4, "Sampling, Testing, and Inspection."

1.1. **Buy Texas.** Buy materials produced in Texas when the materials are available at a comparable price and in a comparable period of time. Provide documentation of purchases or a description of good-faith efforts on request.

1.2. **No Change Order for Unavailable Materials.** The Contractor shall not be entitled to a Change Order for additional time or money due to the unavailability of materials that meet all requirements of the Contract Documents.

2. MATERIAL QUALITY

The Contractor shall provide and maintain a quality control system that conforms to all requirements of the Technical Specifications. The Contractor is responsible for establishing, implementing and maintaining a quality control plan to manage, control, document, and ensure that work complies with the requirements of the Contract Documents. The Contractor shall maintain equipment and qualified personnel to perform all sampling and testing to determine the magnitude of the various properties of the materials during manufacturing and placement as governed by the Technical Specifications and shall maintain these properties within the limits of the Technical Specifications.

2.1. **Quality Control Plan.** The Contractor shall design a quality control plan detailing the methods by which the quality program will be conducted in conformance with the applicable Technical Specifications and DMS procedures for each specified item.

The Contractor's quality control plan should address the following elements for each contract item:

- Management control to ensure that both onsite and offsite work complies with the requirements of the Contract Documents, including the work of subcontractors, suppliers, and testing laboratories.
- Submittal management. A listing of submittals includes but is not limited to supplemental quality control plans, qualification and certification documents for laboratories and testing personnel, certificates of compliance, shop drawings and proposed methods for fabrication and construction activities, mix designs, inspection reports and test results.
- Providing the necessary inspection to ensure effective quality control and assurance of quality for acceptance of materials and workmanship. This includes but is not limited to fabrication, sampling and testing, production, storage, delivery, construction and placement.

- Properly identifying, controlling, and documenting materials and workmanship that do not meet the specified level of quality. Documentation should include the nature of the non-conformance, location, extent, and disposition (such as removed and replaced, reworked, accepted based on engineering judgment). The final disposition of non-conforming materials or workmanship must be authorized by the CRRMA.
- Training to ensure that proficiency is achieved and maintained by personnel performing activities that affect quality.
- Ensuring that the equipment used in the production and testing of the materials provides accurate and precise measurements in accordance with the applicable specifications.
- Maintaining a record of all inspections, including but not limited to, date of inspection, results of inspection, and any subsequent corrective actions taken.

The Quality Control Plan shall be submitted to the CRRMA at the Preconstruction Conference. The work shall not begin on the applicable item(s) until the Plan has been reviewed and found to be in conformance with the Contract Documents and accepted by the CRRMA.

Correct or remove materials that fail to meet Contract Documents requirements or that do not produce satisfactory results. Reimburse the CRRMA for costs incurred if additional sampling and testing is required by a change of source.

Materials not meeting Contract Documents requirements will be rejected, unless the CRRMA approves corrective actions. Upon rejection, immediately remove and replace rejected materials.

If the Contractor does not comply with this Article, the CRRMA may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from the payments due to the Contractor.

3. MANUFACTURER WARRANTIES

For manufactured articles, units, components or materials incorporated in any mechanical or electrical facility required under the Contract Documents, the manufacturer's warranties, guaranties, instruction sheets and parts lists shall be delivered to the CRRMA before final acceptance of the work.

Transfer to the CRRMA warranties and guarantees required by the Contract or received as part of normal trade practice.

4. SAMPLING, TESTING, AND INSPECTION

All materials will be inspected, tested, and accepted prior to incorporation into the work. Any work which incorporates materials prior to the above evaluation shall be performed at the Contractor's risk, and may subsequently be considered as unacceptable. Remove, at the Contractor's expense, materials from the work that are considered unacceptable by the CRRMA.

The material requirements and standard test methods in effect at the time the proposed Contract is advertised govern, except that, with the approval of the CRRMA, subsequent revisions or adoptions may govern. The Contractor shall be responsible for the quality of construction and materials incorporated. The Contractor shall provide Quality Control inspection, sampling and testing as shown in the accepted Quality Control Plan and the Contract Documents. The CRRMA will perform Quality Assurance testing at its expense, as it deems necessary. All materials will be approved for acceptance through the

CRRMA's acceptance procedures. The CRRMA has the exclusive right and responsibility for determining the acceptability of the construction and materials incorporated. The CRRMA may use the results of the Contractor's inspection, sampling and testing for acceptance purposes.

All materials being used are subject to inspection, testing or rejection at any time prior to final acceptance of the completed work. The CRRMA reserves the right to retest all materials, which have been tested and approved at a supply source or staging area, after the materials have been delivered to the Project and prior to incorporation into the work, and to reject all materials which, when retested, do not meet the Contract requirements. Test reports will be furnished by both parties to the Contract upon request. Do not use material that, after approval, becomes unfit for use.

Unless otherwise noted in the Contract, all testing must be performed within the United States and witnessed by the CRRMA. If materials or processes require testing outside the contiguous 48 United States, reimburse the CRRMA for inspection expenses.

5. PLANT INSPECTION AND TESTING

The CRRMA may but is not obligated to inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements. Materials produced under CRRMA inspection are for CRRMA use only unless released in writing by the CRRMA.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- cooperate fully and assist the CRRMA during the inspection,
- ensure the CRRMA has full access to all parts of the plant used to manufacture or produce materials,
- provide a facility at the plant for use by the CRRMA as an office or laboratory,
- provide and maintain adequate safety measures and restroom facilities, and
- furnish and calibrate scales, measuring devices, and other necessary equipment

The CRRMA may provide inspection for periods other than daylight hours if:

- continuous production of materials for CRRMA use is necessary due to the production volume being handled at the plant, and
- the lighting is adequate to allow satisfactory inspection.

6. STORAGE OF MATERIALS

Store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed.

Obtain approval to store materials on the right of way. Storage space off the right of way is at the Contractor's expense.

7. UNACCEPTABLE MATERIALS

All materials not conforming to the requirements of the specifications at the time they are incorporated in the work shall be rejected and removed immediately unless otherwise instructed by the CRRMA.

7.1. Acceptance or Rejection of Materials. Following the application of the appropriate CRRMA acceptance criteria, the decision of the CRRMA will be final as to the acceptance, rejection, or acceptance at an adjusted price of all materials incorporated into the work.

7.2. **Disposition of Materials:** All materials evaluated by the CRRMA as unsatisfactory for the use intended shall be reworked or removed and replaced and resubmitted for acceptance. Rejected materials that have been resubmitted for acceptance shall not be used until the CRRMA has given written approval. When the CRRMA evaluation indicates the material may satisfactorily remain in place, acceptance will be at an adjusted price as stated in the specifications or as directed by the CRRMA.

8. CRRMA-FURNISHED MATERIAL

The CRRMA will supply materials as shown on the Plans. The cost of handling and placing materials supplied by the CRRMA shall be the responsibility of the Contractor. Assume responsibility for materials upon receipt.

9. SUBSTITUTE MATERIALS

The Contractor may request the CRRMA to approve the use of substitute materials for specific uses. If the Contractor proposes to use substitute materials, it will be responsible for determining if the material has gained CRRMA approval. When an approved substitute material is to be used, the Contractor will furnish a certification from the manufacturer that the product is the same material as approved by the CRRMA and that no alterations have been made. Material will be sampled and tested by the CRRMA as necessary for acceptance.

10. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas and meeting the CRRMA's specifications may be used in the work.

Do not excavate or remove any material from within the right of way that is not within the limits of the excavation without written permission. If excavation is allowed within a right of way project-specific location (PSL), replace the removed material with suitable material at no cost to the CRRMA as directed.

11. RECYCLED MATERIALS

The CRRMA will not allow hazardous wastes, as defined in 30 TAC 335, proposed for recycling. Use nonhazardous recyclable materials (NRMs) only if the specification for the Item does not disallow or restrict use. Determine if NRMs are regulated under 30 TAC 312, 330, 332, 334, or 335, and comply with all general prohibitions and requirements. Use NRMs in accordance with TxDOT's DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines," and furnish all documentation in the manner prescribed by the CRRMA and as required by this Article.

12. HAZARDOUS MATERIALS

Comply with the requirements of Article 6.12, "Responsibility for Hazardous Materials" and Article 6.13, "Asbestos Containing Material."

The CRRMA is responsible for testing, removing, and disposing of hazardous materials not introduced by the Contractor unless otherwise shown on the plans. The plans will indicate locations where paint on steel is suspected to contain hazardous materials. The CRRMA may suspend work wholly or in part during the testing, removing, or disposing of hazardous materials, except in the case where hazardous materials are introduced by the Contractor.

Use materials that are free of hazardous materials. Notify the CRRMA immediately if materials are suspected to contain hazardous materials. If materials delivered to the project by the Contractor are suspected to contain hazardous materials, have an approved commercial laboratory test the materials for contamination. Remove, remediate, and dispose of any of these materials found to be contaminated. The work required to comply with this section will be at the Contractor's expense. Calendar day charges will not be suspended and extensions of calendar days will not be granted for activities related to handling hazardous material introduced by the Contractor.

12.1. Painted Steel Requirements. Paint containing hazardous materials will be removed as shown on the plans.

12.1.1. Paint Removed by the Contractor. This work may only be performed by a firm or company with one of the following certifications unless otherwise shown on the plans:

- SSPC-QP2 Category A certification for lead painting operations, or
- Certified Lead Firm by the Texas Department of State Health Services.

Maintain certifications for the duration of the Contract. Provide copies of audits and certification to the CRRMA.

Comply with worker and public safety regulations including but not limited to OSHA 29 CFR Parts 1910.1025, 1926.62, and 1926.63. Monitor permissible exposure limits in accordance with OSHA requirements.

Remove paint containing hazardous materials from designated areas shown on the plans or as directed by the CRRMA. Comply with access limitations shown on the Plans.

Provide power hand tools, equipped with high-efficiency particulate air filter vacuums to mechanically remove paint.

Contain, collect, store, transport, and dispose of all waste generated by cleaning operation in accordance with local, state and federal requirements including 40 CFR 302. Properly characterize and dispose of all wastes. Manage wastes in accordance with regulatory requirements and dispose in a facility authorized to accept such wastes. Provide copies of disposal manifests to the CRRMA.

12.2. Removal and Disposal of Painted Steel. Painted steel will be disposed of at a steel recycling or smelting facility unless otherwise shown on the plans. If the paint contains hazardous materials, maintain and make available to the CRRMA invoices and other records obtained from the facility showing the received weight of the steel and the facility name.

For steel that is dismantled by unbolting, no paint stripping will be required. Use care to not damage existing paint. When dismantling is performed using other methods to remove elements containing hazardous materials, the plans will show stripping locations.

12.3. Asbestos Requirements. The plans will indicate locations or elements where asbestos containing materials (ACM) have been found. At locations where previously unknown ACM has been found, the CRRMA will arrange for abatement by a third party. Notify the CRRMA of proposed dates of demolition or removal of structural elements with ACM at least 60 days before beginning work.

Maintain certification as Asbestos Abatement Contractor by the Texas Department of State Health Services for the duration of the Contract. Provide copies of audits and certification to the CRRMA.

12.4. Work Performed by a Third Party. When the work for removal of paint or asbestos abatement is to be provided by a third party, coordinate and cooperate with the third party and the

CRRMA. Continue other work detailed in the plans not directly involved in the paint removal or asbestos abatement work. Provide notice to the CRRMA regarding the progress of the work to allow the CRRMA sufficient time to schedule the third party work.

13. SURPLUS MATERIALS

Take ownership of surplus materials unless otherwise shown on the Plans or directed. Remove and dispose of materials in accordance with federal, state, and local regulations. If requested, provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, provide written authorization from the property owner for the use of the property for this purpose upon request.

ARTICLE 6 - LEGAL RELATIONS AND RESPONSIBILITIES

1. ETHICS

Honor the CRRMA's Ethics and Compliance policy, which can be found on the CRRMA's website.

By entering into the Contract, the Contractor certifies that the Contractor has read and understands the CRRMA's Ethics and Compliance policy.

Failure to honor this policy may result in action by the CRRMA, which includes but is not limited to verbal warning, removal of project personnel, and termination of the Contract.

2. SAFETY

2.1. Related Specifications

2.1.1. Project Technical Specifications.

2.2. Work Included

2.2.1. The Contractor shall perform all work in a manner that complies with federal, state, and local laws, regulations, codes, ordinances or other required practices.

2.2.2. The Contractor shall be responsible for all aspects of site health and safety for all Contractor's employees, Contractor's subcontractors and vendors, and visitors.

2.2.3. The Contractor shall prepare, implement, and maintain (as required) a Health and Safety Plan (HASP) based on Contractor's hazard analysis for all activities required to complete the Project.

2.2.4. All Contractor's employees, Contractor's subcontractors and vendors and visitors shall be required to attend an on-site, 1-hr safety briefing administered by the CRRMA prior to accessing the site for the first time.

2.2.5. **Safety Preconstruction Meeting.** In cooperation with the CRRMA, schedule and attend a safety preconstruction meeting (may be a part of the preconstruction conference in Article 3.2, "Preconstruction Conference"). Attendees for this safety preconstruction meeting will be:

- the Contractor
- Subcontractors
- CRRMA
- other personnel that play an active role on the Project
- Fire Rescue
- EMS

2.2.6. The Contractor shall provide all labor, equipment, materials, management/supervision and training required to complete the Project.

2.2.7. The Contractor shall perform the work under the general oversight of the CRRMA, who may require the Contractor to implement more conservative safety measures based on the results of the CRRMA's general work observations in comparison to applicable regulations. The CRRMA's oversight authority shall not alleviate the Contractor's primary responsibility for the health and safety of Contractor employees, subcontractors, vendors, and other visitors during the work.

2.3. Required Submittals

2.3.1. The Contractor shall submit the HASP before mobilization and construction activities begin.

2.3.2. The Contractor shall submit the Site Health and Safety Officer's qualifications to the CRRMA for review and confirmation.

2.3.2.1. **Site Health and Safety Officer.** The Contractor's (one or more) Site Health and Safety Officer(s) (SHSO) who will be present at the site at all times during all portions of the work. This Contractor employee must have completed a supervisor's course that meets the requirement outlined by OSHA in 29 CFR 1910.120. The Contractor SHSO(s) shall also have current, certified training in First Aid, CPR, and Blood-Borne Pathogens control, and will ensure that the Contractor's and Subcontractor's employees' use the appropriate personal protection equipment (hard hats, safety vests, protective toe footwear, etc.). The SHSO will ensure that crew leaders and foremen (including subcontractors) have attended the required training.

2.3.3. The Health and Safety Plan must provide documentation for training required.

2.3.4. The Health and Safety Plan shall include provisions for the Contractor to update all health and safety-related submittals during the Project, and provide one copy of all updates to the CRRMA as they are generated.

2.3.5. The Health and Safety Plan shall state how the Contractor shall maintain emergency information for all Contractor, Subcontractor, and vendor employees who enter the site. This list will include each employee's name, address, name and phone number for emergency contacts, name and phone number for their nearest living relative, a description of any employee's major health problems or allergies, insurance information and other relevant emergency information. The Contractor shall update this information in the site health and safety file each time new employees start work at the site and provide one copy of the updated information to the CRRMA on the first working day of each month.

2.4. General Equipment Required On-Site.

2.4.1. A. The Contractor shall provide, maintain and manage the following as required by applicable federal, state, and local laws, regulations, codes, ordinances or other required practices:

2.4.1.1. Equipment, materials, and supplies including, but not limited to, hand tools, power tools, vehicles, and other devices used during the Project.

2.4.1.2. Personnel protection equipment (PPE) and other safety products, materials and supplies necessary to execute the Project.

2.4.1.3. Medical services and first aid equipment.

2.4.1.4. Sanitation facilities.

2.4.1.5. Potable drinking water, cups, and cup dispensers in appropriate locations.

2.4.1.6. Trash receptacles and require all Contractor employees to use them.

2.5. General Health and Safety Requirements

2.5.1. The Contractor shall prepare, submit, implement, and maintain (as required) a HASP that meets all applicable federal, state, and local laws, regulations, codes, ordinances or other required practices.

2.5.2. The Contractor's HASP shall address all aspects of Project health and safety related to the Project as described in this Article 6.2 and on the Plans that includes, but is not limited to, the following:

2.5.2.1. Site description.

2.5.2.2. Health and safety objectives.

2.5.2.3. Description of Project activities.

2.5.2.4. Description of PPE levels and thresholds at which PPE shall be upgraded.

2.5.2.5. Contractor's company organization, including both operational and health and safety responsibilities, chain of command, and lines of communication.

2.5.2.6. List of key personnel and their responsibilities.

2.5.2.7. A list of all proposed Contractor personnel for the Project, including date of their training and the proposed date for re-certification exam.

2.5.2.8. Hazard analysis for all activities required to execute the Project.

2.5.2.9. Work zone delineation.

2.5.2.10. Employee training program, including current training certifications for all proposed Contractor personnel on the Project.

2.5.2.11. Material Safety Data Sheets (MSDS) information for any chemicals brought on site by the Contractor for use on the Project.

2.5.2.12. Trench Safety: Contractor shall comply with Trench Safety requirements as prescribed by State and Federal regulations. The Contractor shall ensure that all vertical embankments are graded to the minimum recommended angle of response for the soils encountered to eliminate the possibility of soil collapse.

2.5.2.13. Equipment Cleaning – Equipment shall be cleaned in a manner that does not create any discharge of cleaning agents, paints, oil or other pollutants to storm sewer or waterway. Soaps and detergents shall not be discharged to the ground or off-site. When rinsing painting equipment outside, contain rinse water in a bucket or other container. Oil-based paint wastes, including solvents and thinners, should not be disposed of in the sanitary sewer. They must be collected and disposed of through the Contractor's disposal company. Cement handling equipment should not be rinsed on site.

2.5.2.14. Waste Disposal – Any trash or debris must be contained on-site and disposed of in a recycling bin or waste receptacle to prevent wind or rain from carrying it off-site into a storm drain or waterway. Petroleum wastes, such as waste oil and used oil filters, should be containerized for recycling or disposal by the Contractor. Non-hazardous solid waste, such as general construction debris can be recycled or disposed of in the trash container. Never dispose of liquid wastes of any kind in dumpsters.

2.5.2.15. Sediment – Proper erosion and sedimentation controls must be in place to prevent sediment or silt run-off. Sediment (including cement) should never be rinsed off at the site; instead it should be cleaned up in a manner that does not allow it to reach a storm drain or waterway. Equipment tires may be rinsed before leaving the site to avoid tracking sediment into the roadway or off the site.

2.5.2.16. Site De-watering, Tank and Pipe Testing – Discharge from de-watering, hydrostatic tank testing or pipe pressure testing must be free from sediment, chemicals, and any other pollutants. Some discharges may require governmental permit, to be paid for by the Contactor.

2.5.2.17. Petroleum – Spills of hydraulic fluids oil and other petroleum products shall always be immediately cleaned up to prevent discharge of these fluids with storm water run-off.

2.5.3. The HASP shall include an approval page signed by the Contractor's corporate (i.e., most senior) Health and Safety designee, the Project Manager, Site Manger/Supervisor, and Health and Safety Officer. By their signature, each of these individuals is indicating that they reviewed, approved, and will enforce the HASP.

2.5.4. The Contractor is notified that the CRRMA views safety as a paramount issue on this Project, and will not allow the disregard of applicable federal, state, and local laws, regulations, codes, ordinances or other required practices.

2.5.5. The CRRMA may stop work at any time, at the Contractor's expense, if the Contractor continues to do any of the following:

2.5.5.1. Repeatedly violates applicable federal, state, and local laws, regulations, codes, ordinances or other required practices;

2.5.5.2. Fails to operate according to the requirements of the Contractor's HASP; and/or

2.5.5.3. Does not maintain qualified Site Health and Safety Officer(s) at the site on a full time basis when work is in progress.

2.5.5.4. The CRRMA reserves the right to terminate the Contract if the Contractor continues to do any of the actions listed above, or fails to respond to a CRRMA's stop work order issued for safety reasons. The CRRMA may consider such work stoppage as a delay of the work by the Contractor.

2.5.6. The CRRMA employees and representatives will operate under the their own HASP. Therefore, CRRMA staff health and safety requirements may be slightly different than Contractor's health and safety requirements.

2.5.7. Hazardous substances are not expected to be encountered at the site on a regular basis. If they are encountered, for each of the workers involved with the handling of the hazardous substances, the Contractor must maintain in an on-site file folder one copy of the following:

2.5.7.1. Documentation of 40-hour Hazardous Waste Site Operations (HAZWOPER) training in accordance with 29 CFR 1910.120;

2.5.7.2. Documentation of 8-hour HAZWOPER refresher training as required;

2.5.7.3. A written fit-for-duty statement from a physician;

2.5.7.4. A physician's certification of respiratory fitness for all workers who will wear respiratory protection;

2.5.7.5. Photo identification for each employee who will enter working areas as required by 29 CFR 1910.120; and

2.5.7.6. Documentation of any other training required to perform work at the site required by applicable federal, state, and local laws, regulations, codes, ordinances or other required practices.

2.5.8. The Contractor shall maintain current training certifications for its employees for the duration of the project by providing training to its employees before current certifications expire. Workers with expired certifications will be restricted from work at the site. The Contractor will update this list as personnel changes are made during the Project and provide one copy of this list to the CRRMA as necessary to maintain current records/lists.

2.5.9. The Contractor shall provide clean and appropriate PPE. The Contractor's Site Health and Safety Officer(s) shall select PPE according to the site conditions and HASP requirements. The Contractor personnel will, at a minimum, perform work in Level D, which will include hard hats, safety boots, disposable boot covers or rubber boots, long-sleeved shirts, and safety glasses. The Contractor shall upgrade levels of PPE as required based on, but not limited to, noise level monitoring results, and the upgrade requirements specified in the Contractor's HASP.

2.5.10. The Contractor is responsible for the collection and containment of any spent PPE at the end of each day.

2.5.11. The Contractor shall allow the CRRMA to inspect the Contractor's work practices and products at any time to verify that work is being performed in accordance with the specifications, and the Contractor's HASP. The Contractor shall upgrade the PPE worn by site personnel and/or revise safety procedures in accordance with the Contractor's HASP if recommended by the CRRMA and warranted by site conditions.

2.5.12. The Contractor shall not allow its employees to eat, smoke, or drink within any work area at the site. The Contractor shall designate areas for such activities in the support zone around the office trailers.

2.5.13. All office trailers shall be designated as non-smoking areas.

2.5.14. The Contractor shall provide all labor, equipment, and materials to clean up spills of oil, chemical products, wastewater, debris or other materials immediately as they occur. The Contractor shall provide the labor and materials to clean up such spills and contain the materials according to their waste classification..

2.5.15. The Contractor shall be responsible for rewashing or remediating clean areas that become contaminated as a result of a spill caused by the Contractor.

2.5.16. During the Project, the Contractor shall take immediate action to mitigate any imminent hazards that are identified. The Contractor shall provide all labor, materials, and equipment to address such hazards.

2.5.17. The Contractor shall clearly label all containers and drums including, but not limited to:

2.5.17.1. Wastewater;

2.5.17.2. Spent PPE; The labeling shall meet all applicable federal, state, and local laws, regulations, codes, ordinances or other required practices; indicating the type of material being contained, the date of containment, and the Contractor's name.

2.5.18. The Contractor shall assign a Site Manager and Site Health and Safety Officer(s) who can effectively communicate with all Contractor and CRRMA on-site personnel. If any Contractor employees at the job site do not speak fluent English, the Contractor shall provide a means to ensure that adequate communications regarding work instructions and safety information can be provided to all employees.

2.6. **Public Safety and Convenience.** Ensure the safety and convenience of the public and property as provided in the Contract Documents and as directed. Keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel. Manage construction to minimize disruption to traffic. Maintain the roadway in a good and passable condition, including proper drainage and provide for ingress and egress to adjacent property. Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic. If the CRRMA determines that any of the requirements of this Article 6.2 have not been met, the CRRMA may take corrective action. This will not change the legal responsibilities set forth in the Contract Documents. The cost to the CRRMA for this work will be deducted from any money due or to become due to the Contractor. The Contractor shall provide all equipment and labor necessary to protect all workers, building personnel and the general public from hazards associated with the Contract. The CRRMA shall not be held responsible for failure of the Contractor to perform the job in a safe manner. The Contractor shall be responsible for initiating, maintaining, and supervising safety precautions and programs associated with the work. It shall be the duty and responsibility of the Contractor to comply with all pertinent sections of the Occupational Safety and Health Act of 1975, and all amendments thereto.

2.6.1. **Barricades, Signs, and Traffic Handling.** Provide traffic control devices that conform to the details shown on the Plans. When authorized or directed, provide additional signs or traffic control devices not required by the Plans. If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, make all reasonable efforts to promptly contact the CRRMA. Take prudent actions until the CRRMA can be contacted. Periodically, the CRRMA will make an inspection of the traffic control devices.

2.6.2. **Contractor Responsible Person and Alternate.** Designate in writing, a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the TCP. The CRP or alternate must be accessible by phone 24 hr. per day and able to respond when notified. The CRP and alternate must comply with the requirements of Article 6.2.6.6, "Training."

2.6.3. **Flaggers.** Designate in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Before beginning work, provide a list of TxDOT certified flaggers to perform flagging duties.

2.6.3.1. Provide flaggers as indicated in the Traffic Control Plan. Flaggers must be courteous and able to effectively communicate with the public. When directing traffic, flaggers must dress appropriately, wear high-visibility safety apparel, use flags, signs, stop-slow paddles, and other hand-signaling devices and follow the flagging procedures in the TMUTCD. Comply with the requirements of Article 6.2.6.6, "Training."

2.6.4. **Law Enforcement Personnel.** Provide uniformed law enforcement personnel with patrol vehicles as directed. Document the work zone traffic services provided. Law enforcement

personnel providing work zone traffic services must be trained for the service they perform. Comply with Article 6.2.6.6, "Training."

2.6.5. **Other Work Zone Personnel.** Workers involved with TCP must be trained using CRRMA-approved training.

2.6.6. **Training.** Workers involved with TCP must be trained using TxDOT-approved training. Provide a copy of the certification of completion to the CRRMA.

2.7. **Measurement and Payment**

2.7.1. The Contractor shall not be compensated for the preparation of the Health and Safety Plan and other safety submittals under this section, including effort to respond to the CRRMA's comments, updating and daily implementation or finalization of the Health and Safety Plan.

2.7.2. The Contractor shall receive no separate payment for updating the HASP and site health and safety file, safety practices and dust control conducted, and safety equipment and materials provided by the Contractor during the Project. These costs shall be included in the bid for related contract items.

3. **LAWS TO BE OBSERVED**

Comply with all federal, state, and local laws, ordinances, and regulations that affect the performance of the work. Indemnify and save harmless the CRRMA and its representatives against any claim arising from violation by the Contractor of any law, ordinance, or regulation.

This Contract is between the CRRMA and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

The Contractor shall not be entitled to a Change Order related to a change in applicable law after the date proposals are due unless the change results in an increase in Contractor's costs of at least \$150,000 as a result of (1) a new major state or federal environmental approval not previously required for the Project, or (2) a law that specifically targets the Project or the Contractor.

4. **PERMITS, LICENSES, AND TAXES**

Procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the CRRMA and as specified in Article 6.7, "Preservation of Cultural and Natural Resources and the Environment."

5. PATENTED DEVICES, MATERIAL, AND PROCESSES

Indemnify and save harmless the CRRMA from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. Indemnify and save harmless the CRRMA against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work.

6. PERSONAL LIABILITY OF PUBLIC OFFICIALS

CRRMA employees and consultants are agents and representatives of the CRRMA and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.

7. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

7.1. **Cultural Resources.** Cease all work immediately if a site, building, or location of historical, archeological, educational, or scientific interest is discovered within the right of way. The site, building, or location will be investigated and evaluated by the CRRMA.

7.2. **Texas Pollutant Discharge Elimination System (TPDES) Permits and Storm Water Pollution Prevention Plans (SWP3).** The CRRMA will file the Notice of Intent (NOI) and the Notice of Termination (NOT) for work shown on the plans in the right of way. Adhere to all requirements of the SWP3.

7.3. **Project-Specific Locations.** For all project-specific locations (PSLs) on or off the right of way (material sources, waste sites, parking areas, storage areas, field offices, staging areas, haul roads, etc.), signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies:

- Occupational Safety and Health Administration,
- Texas Commission on Environmental Quality,
- Texas Department of Transportation,
- Texas Historical Commission,
- Texas Parks and Wildlife Department,
- Texas Railroad Commission,
- U.S. Army Corps of Engineers,
- U.S. Department of Energy,
- U.S. Department of Transportation,
- U.S. Environmental Protection Agency,
- U.S. Federal Emergency Management Agency, and
- U.S. Fish and Wildlife Service.

All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract. Maintain documentation of certification activities including environmental consultant reports, Contractor documentation on certification decisions and contacts, and correspondence with the resource agencies. Provide documentation upon request.

Obtain written approval from the CRRMA for all PSLs in the right of way not specifically addressed on the plans. Prepare an SWP3 for all Contractor facilities, such as asphalt or concrete plants located within right of way. Comply with all Texas Commission for Environmental Quality (TCEQ) permit requirements for portable facilities, such as concrete batch plants, rock crushers, asphalt plants, etc. Address all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

7.4. **Contractor Responsibility.** If the Contractor initiates changes to the Contract and the CRRMA approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

8. AGRICULTURAL IRRIGATION

Regulate the sequence of work and make provisions as necessary to provide for agricultural irrigation or drainage during the work. Meet with the service provider or land owner to determine the proper time and sequence when irrigation demands will permit shutting-off water flows to perform work.

Unless otherwise provided on the plans, the work performed under this Article will not be measured or paid for directly but will be subsidiary to pertinent Items.

9. SANITARY PROVISIONS

Provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including State employees, in compliance with the requirements and regulations of the Texas Department of Health or other authorities having jurisdiction.

10. ABATEMENT AND MITIGATION OF EXCESSIVE OR UNNECESSARY NOISE

Minimize noise throughout all phases of the Contract. Exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise sensitive receptors in the placement of non-mobile equipment such as air compressors, generators, pumps, etc. Place mobile and stationary equipment to cause the least disruption of normal adjacent activities.

All equipment associated with the work must be equipped with components to suppress excessive noise and these components must be maintained in their original operating condition considering normal depreciation. Noise-attenuation devices installed by the manufacturer such as mufflers, engine covers, insulation, etc. must not be removed nor rendered ineffectual nor be permitted to remain off the equipment while the equipment is in use.

11. USING EXPLOSIVES

Do not endanger life or property. When required by the plans or requested, provide a written blasting plan. The CRRMA retains the right to reject the blasting plan. Store all explosives securely and clearly mark all storage places with "DANGER – EXPLOSIVES." Store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. Assume liability for property damage, injury, or death resulting from the use of explosives.

Give at least a 48-hr. advance notice to the appropriate railroad representative before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

12. RESPONSIBILITY FOR HAZARDOUS MATERIALS

Comply with the requirements of Article 5.10, “Hazardous Materials”. Indemnify and save harmless the CRRMA and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on CRRMA or City-owned or controlled sites. Indemnify and save harmless the CRRMA and its representatives from any liability or responsibility arising out of the Contractor’s generation or disposition of any hazardous materials obtained, processed, stored, shipped, etc., on sites not owned or controlled by the CRRMA. Reimburse the CRRMA for all payments, fees, or restitution the CRRMA is required to make as a result of the Contractor’s actions.

13. ASBESTOS CONTAINING MATERIAL

Comply with the requirements of Section 5.10.3., “Asbestos Requirements”. The Department of State Health Services (DSHS), Asbestos Programs Branch, is responsible for administering the requirements of the National Emissions Standards for Hazardous Air Pollutants, 40 CFR, Subpart M (NESHAP) and the Texas Asbestos Health Protection Rules (TAHPR). Based on EPA guidance and regulatory background information, bridges are considered to be a regulated “facility” under NESHAP. Therefore, federal standards for demolition and renovation apply.

The CRRMA is required to notify the DSHS at least 10 calendar days (by postmarked date) before initiating demolition or renovation of each structure or load bearing member shown on the plans. If the actual demolition or renovation date is changed or delayed, notify the CRRMA in writing of the revised dates in sufficient time to allow for the CRRMA’s notification to DSHS to be postmarked at least 10 days in advance of the actual work.

Failure to provide the above information may require the temporary suspension of work under Article 7.4, “Temporary Suspension of Work or Calendar Day Charges,” due to reasons under the control of the Contractor. The CRRMA retains the right to determine the actual advance notice needed for the change in date to address post office business days and staff availability.

14. RESTORING SURFACES OPENED BY PERMISSION

Do not authorize anyone to make an opening in the roadway for utilities, drainage, or any other reason without written permission from the CRRMA. Repair all openings as directed. Payment for repair of surfaces opened by permission will be made in accordance with pertinent Items or Article 3.4, “Changes in the Work.” Costs associated with openings made with Contractor authorization but without CRRMA approval will not be paid.

15. PROTECTING ADJACENT PROPERTY

Protect adjacent property from damage. If any damage results from an act or omission on the part of or on behalf of the Contractor, take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

16. RESPONSIBILITY FOR DAMAGE CLAIMS

Indemnify and save harmless the CRRMA and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. Indemnify and save harmless the CRRMA and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right of way. Indemnify and save harmless the CRRMA from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. At the pre-construction conference, make available the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

If the Contractor asserts any claim or brings any type of legal action (including an original action, third-party action, or cross-claim) against any member of the Board or individual employee of the CRRMA for any cause of action or claim for alleged negligence arising from the Contract, the Contractor will be ineligible to bid on any proposed Contract with the CRRMA during the pendency of the claim or legal action.

17. HAULING AND LOADS ON ROADWAYS AND STRUCTURES

Comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. Provide copies of the yearly overweight tolerance permits to the CRRMA upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public.

Protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract is subject to legal size and weight limitations.

Additional temporary fill may be required by the CRRMA for hauling purposes for the protection of certain structures. This additional fill will not be paid for directly but will be subsidiary to pertinent Items.

Replace or restore to original condition any structure damaged by the Contractor's operations.

The CRRMA may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. The following sections further address overweight allowances. The CRRMA will make available to the Contractor any available plans and material reports for existing structures.

17.1. **Overweight Construction Traffic Crossing Structures.** The CRRMA may allow crossing of a structure not open to the public within the work locations, when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. Obtain written permission to make these crossings. Submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. Provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts such as counterweights, the configuration of the axles, or other information necessary for the analysis. Submit the structural analysis and supporting documentation sufficiently in advance of the move to allow for review by the CRRMA. Permission may be granted if the CRRMA finds that no damage or overstresses in excess of those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

Schedule loads so that only one vehicle is on any span or continuous unit at any time. Use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

17.2. **Construction Equipment Operating on Structures.** Cranes and other construction equipment used to perform construction operations that exceed legal weight limits may be allowed on structures. Before any operation that may require placement of equipment on a structure, submit for approval a detailed structural analysis prepared by a licensed professional engineer.

Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review by the CRRMA. Include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses will occur in excess of those normally allowed for occasional overweight loads.

17.3. **Loads on Structures.** Do not store or stockpile material on bridge structures without written permission. If required, submit a structural analysis and supporting documentation by a licensed professional engineer for review by the CRRMA. Permission may be granted if the CRRMA finds that no damage or overstresses in excess of those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

17.4. **Hauling Divisible Overweight Loads on Pavement Within the Work Locations.** The CRRMA may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. Obtain written approval before hauling the overweight loads. Include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

18. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Contract, take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the non-execution of the work. Protect all materials to be used in the work at all times, including periods of suspension.

When any roadway or portion of the roadway or rail line is in suitable condition for travel, it may be opened to traffic as directed. Opening of the roadway to traffic does not constitute final acceptance. See Article 4.14 for requirements of Final Acceptance.

Repair damage to all work until final acceptance. Repair damage to existing facilities in accordance with the Contract Documents or as directed by the CRRMA. Repair damage to existing

facilities or work caused by Contractor operations at the Contractor's expense. Repair work for damage that was not due to the Contractor's operations will not be paid for except as provided below.

18.1. **Reimbursable Repair.** Except for damage to appurtenances listed in Article 6.18.2.1, "Unreimbursed Repair," the Contractor will be reimbursed for repair of damage caused by:

- motor vehicle, watercraft, aircraft, or railroad-train incident, or
- Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

18.2. **Appurtenances.**

18.2.1. **Unreimbursed Repair.** Except for destruction (not reusable) due to Acts of God, reimbursement will not be made for repair of damage to the following temporary appurtenances, regardless of cause:

- signs,
- barricades,
- changeable message signs, and
- other work zone traffic control devices.

Crash cushion attenuators and guardrail end treatments are reimbursed in accordance with Section 6.18.2.2., "Reimbursed Repair."

Where the Contractor retains replaced appurtenances after completion of the project, the CRRMA will limit the reimbursement to the cost that is above the salvage value at the end of the project.

18.2.2. **Reimbursed Repair.** Reimbursement will be made for repair of damage due to the causes listed in Article 6.18.1, "Reimbursable Repair."

18.3. **Roadways and Structures.** Until final acceptance, the Contractor is responsible for maintaining all work constructed under the Contract. The CRRMA will not reimburse the Contractor for repair work to new construction, unless the failure or damage is due to one of the causes listed in Section 6.18.1, "Reimbursable Repair." See Article 6.21 for Contractor's responsibilities following final acceptance.

18.4. **Detours.** The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract, unless the failure or damage is due to one of the causes listed in Article 6.18.1, "Reimbursable Repair." The CRRMA may consider failures beyond the Contractor's control when determining reimbursement for repairs to detours constructed. The CRRMA will be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.

18.5. **Relief from Maintenance.** The CRRMA may relieve the Contractor from responsibility of maintenance as outlined in this Article. This relief does not release the Contractor from responsibility for defective materials or work or constitute final acceptance.

18.5.1. **Isolated Work Locations.** For isolated work locations, when all work is completed, including work for Article 4.11, "Final Cleanup," the CRRMA may relieve the Contractor from responsibility for maintenance.

18.5.2. **Work Except for Vegetative Establishment and Test Periods.** When all work for all or isolated work locations has been completed, including work for Article 4.12, "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods,

the CRRMA may relieve the Contractor from responsibility for maintenance of completed portions of work.

18.5.3. **Work Suspension.** When all work is suspended for an extended period of time, the CRRMA may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.

18.5.4. **When Directed by the CRRMA.** The CRRMA may relieve the Contractor from the responsibility for maintenance when directed.

18.6. **Basis of Payment.** When reimbursement for repair work is allowed and performed, payment will be made in accordance with pertinent Items or Article 3.4, "Changes in the Work."

18.7. **Safety and Security Certification.** The Contractor shall participate in the Certification process to the extent that it applies to the construction and systems provided by the Contractor in order to successfully complete the Safety and Security Certification.

19. ELECTRICAL REQUIREMENTS

19.1.1. **Definitions.** References in this Article 6.19 to Item numbers are to Items contained in TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges.

19.1.2. **Electrical Work.** Electrical work is work performed for:

- Item 610, "Roadway Illumination Assemblies,"
- Item 614, "High Mast Illumination Assemblies,"
- Item 616, "Performance Testing of Lighting Systems,"
- Item 617, "Temporary Roadway Illumination,"
- Item 618, "Conduit,"
- Item 620, "Electrical Conductors,"
- Item 621, "Tray Cable,"
- Item 622, "Duct Cable,"
- Item 628, "Electrical Services,"
- Item 680, "Highway Traffic Signals,"
- Item 681, "Temporary Traffic Signals,"
- Item 684, "Traffic Signal Cables,"
- Item 685, "Roadside Flashing Beacon Assemblies,"
- other Items that involve either the distribution of electrical power greater than 50 volts or the installation of conduit and duct banks,
- the installation of conduit and wiring associated with Item 624, "Ground Boxes" and Item 656, "Foundations for Traffic Control Devices," and
- the installation of the conduit system for communication and fiber optic cable.

Electrical work does not include the installation of communications or fiber optic cable, or the connections for low voltage and inherently power limited circuits such as electronic or communications equipment. Assembly and placement of poles, structures, cabinets, enclosures, manholes, or other hardware will not be considered electrical work as long as no wiring, wiring connections, or conduit work is done at the time of assembly and placement.

19.1.3. **Specialized Electrical Work.** Specialized electrical work is work that includes the electrical service and feeders, sub-feeders, branch circuits, controls, raceways, and enclosures for the following:

- pump stations,
- moveable bridges,
- ferry slips,
- motor control centers,
- facilities required under Item 504, “Field Office and Laboratory,”
- rest area or other public buildings,
- weigh-in-motion stations,
- electrical services larger than 200 amps,
- electrical services with main or branch circuit breaker sizes not shown in the Contract,
- any 3-phase electrical power, and
- see Technical Specification Item E-P System: Systems for electrical specialty requirements.

19.1.4. **Certified Person.** A certified person is a person who has passed the test from the TxDOT’s course TRF450, “TxDOT Roadway Illumination and Electrical Installations,” or other courses as approved by the CRRMA. Submit a current and valid TRF certification upon request. Texas A&M Engineering Extension Service (TEEX) certifications for “TxDOT Electrical Systems” course will not be accepted.

19.1.5. **Licensed Electrician.** A licensed electrician is a person with a current and valid unrestricted master electrical license, or unrestricted journeyman electrical license that is supervised or directed by an unrestricted master electrician. An unrestricted master electrician need not be on the work locations at all times electrical work is being done, but the unrestricted master electrician must approve work performed by the unrestricted journeyman. Licensed electrician requirements by city ordinances do not apply to on state system work.

The unrestricted journeyman and unrestricted master electrical licenses must be issued by the Texas Department of Licensing and Regulation or by a city in Texas with a population of 50,000 or greater that issues licenses based on passing a written test and demonstrating experience.

The CRRMA may accept other states’ electrical licenses. Submit documentation of the requirements for obtaining that license. Acceptance of the license will be based on sufficient evidence that the license was issued based on:

- passing a test based on the NEC similar to that used by Texas licensing officials, and
- sufficient electrical experience commensurate with general standards for an unrestricted master and unrestricted journeyman electrician in the State of Texas.

19.2. **Work Requirements.** The qualifications required to perform electrical work and specialized electrical work are listed in Table 2.

**Table 2
Work Requirements**

Type of Work	Qualifications to Perform Work
Electrical work with plans	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Electrical work without plans	Licensed electrician or workers directly supervised by a licensed electrician
Specialized electrical work	Licensed electrician or workers directly supervised by a licensed electrician
Replace lamps, starting aids, and changing fixtures	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Conduit in precast section with approved working drawings	Inspection by licensed electrician or certified person
Conduit in cast-in-place section	Inspection by licensed electrician or certified person
All other electrical work (troubleshooting, repairs, component replacement)	Licensed electrician or workers directly supervised by a licensed electrician

“Directly supervised by a licensed electrician” means that a licensed electrician is physically present during all electrical work. “Directly supervised by a licensed electrician or certified person” means that a licensed electrician or certified person is physically present during all electrical work.

A non-certified person may install conduit in cast-in-place concrete sections if the work is verified by a certified person before concrete placement.

When the plans specify IMSA certification, the requirements of Table 2 will still apply to the installation of the conduit, ground boxes, electrical services, pole grounding, and electrical conductors installed under Item 620, “Electrical Conductors.”

20. PAYROLLS

Ensure that employees, contract labor, and any subcontractor’s employees are paid at least the predetermined wage rates shown in the Contract.

Payroll records must contain the information required by law. As an option, form WH-347, “Payroll” is provided by the U.S. Department of Labor.

Maintain payroll and related records during the course of the Contract and preserve these records for a period of 3 years following the completion of the Contract or as required by law.

20.1. **Minimum Wage Requirements for State Funded Contracts.** Comply with the requirements of 29 USC 206 unless otherwise shown in the Contract Documents.

Upon request, submit payroll records to the CRRMA in the manner prescribed by the CRRMA.

21. WARRANTY

21.1. **Description of Warranty.** In addition to any manufacturer's warranties transferred to CRRMA pursuant to Article 5.3 hereof and any warranties of certain items of the Contract work required by various sections of the Technical Specifications, the Contractor warrants that: (a) all work furnished pursuant to the Contract Documents shall conform to Good Industry Practice, (b) the Project shall be free of defects, (c) the Project shall be fit for use for the intended function, (d) materials and equipment furnished under the Contract Documents shall be of good quality and new, and (e) the work shall meet all of the requirements of the Contract Documents (collectively, the "Warranty" or "Warranties").

21.2. **Warranty Term.** The Warranty Term for the Project shall commence upon Substantial Completion and remain in effect until one year after Final Acceptance. If CRRMA determines that any of the work has not met the standards set forth in this Article 6.21 at any time within the applicable Warranty Term, then Contractor shall correct such work as specified in this Article 6.21, even if the performance of such corrective work extends beyond the applicable Warranty Term. CRRMA and Contractor shall conduct a walkthrough of the Project prior to expiration of the Warranty Term and shall produce a punch list of those items requiring corrective work.

21.3. **Remedy.** Within 7 days of receipt by Contractor of notice from CRRMA specifying a failure of any of the work to satisfy the Warranties, Contractor and CRRMA shall mutually agree when and how Contractor shall remedy such failure; provided, however, that in case of an emergency requiring immediate curative action or a situation which poses a significant safety risk, Contractor shall implement such action as it deems necessary and shall notify CRRMA in writing of the remedy. If Contractor does not use its best efforts to proceed to effectuate such remedy within the agreed time, or should Contractor and CRRMA fail to reach such an agreement within such 7 day period (or immediately in the case of emergency conditions), CRRMA shall have the right, but not the obligation, to perform or have performed by third parties the necessary remedy, and the costs thereof shall be borne by Contractor. Reimbursement therefor shall be payable to CRRMA within 10 days after Contractor's receipt of an invoice therefor. Alternatively, CRRMA may deduct the amount of such costs and expenses from any sums owed by CRRMA to Contractor pursuant to the Contract Documents.

21.4. **Applicability of Warranties to Re-Done Work.** The Warranties shall apply to all work re-done, repaired, corrected or replaced pursuant to the terms of the Contract Documents. Following acceptance by CRRMA of re-done, repaired, corrected or replaced work, the Warranties as to each re-done, repaired, corrected or replaced element of the work shall extend beyond the original Warranty Term in order that each element of the Project shall have at least a one-year warranty period (but not to exceed two years from Project Final Acceptance).

21.5. **Effect of TxDOT or Maintenance Contractor Activities on Warranties.** Contractor acknowledges and agrees that CRRMA and any maintenance contractor of CRRMA and their respective agents may perform certain maintenance work during the period in which the Warranties are in effect and agrees that the Warranties shall apply notwithstanding such activities; provided however that Contractor does not hereby waive any rights, claims or remedies to which it may be entitled as a result of such activities.

21.6 **No Limitation of Liability.** The Warranties are in addition to all rights and remedies available under the Contract Documents or applicable law or in equity, and shall not limit Contractor's liability or responsibility imposed by the Contract Documents or applicable law or in equity with respect to the work, including liability for latent construction defects, strict liability, breach, negligence, intentional misconduct or fraud.

21.7 **Damages for Breach of Warranty.** In addition to CRRMA's other rights and remedies hereunder, at law or in equity, Contractor shall be liable for actual damages resulting from any breach of an express or implied warranty or any defect in the work, including the cost of performance of such obligations by others.

21.8. **Transfer of Warranties.** All warranties provided by Contractor to CRRMA under the Contract Documents may be transferred by CRRMA to the City of El Paso, Sun Metro or any other entity that assumes ownership and/or operations of the Project.

ARTICLE 7 - PROSECUTION AND PROGRESS

1. PROSECUTION OF WORK

Unless otherwise shown in the Contract, begin work within 30 calendar days after the authorization date to begin work. Prosecute the work continuously to completion within the calendar days specified. Unless otherwise shown on the plans, work may be prosecuted in concurrent phases if no changes are required to the traffic control plan or if a revised traffic control plan is approved. Notify the CRRMA at least 24 hr. before beginning work or before beginning any new operation. Do not start new operations to the detriment of work already begun. Minimize interference to traffic.

For Contracts with callout work and work orders, begin work in the right of way within the specified time and continuously prosecute the work until completion.

Remove all fences, temporary structures, barricades, etc. Replace all vegetation damaged by construction operations, including grass, shrubs, and trees, to the satisfaction of the CRRMA.

2. SUBCONTRACTING

Do not sublet any material portion of the Contract without the CRRMA's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. Ensure that all subcontracted work complies with all governing labor provisions.

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the CRRMA, TxDOT, or any federal agency.

For all SBE subcontracts including all tiered SBE subcontracts, submit a copy of the executed subcontract agreement.

Upon request, submit a copy of the executed non-SBE subcontracts including all tiered non-SBE subcontracts.

2.1. Contractor Percentage Work Requirements. Perform work with own organization on at least 30% of the total original Contract cost, excluding any specialty items as determined by the CRRMA. Specialty items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty items will be shown on the plans or as determined by the CRRMA. Bid cost of specialty items performed by subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and

- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for nonsupervisory personnel if the Contractor or wholly owned subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

When staff leasing firms provide materials or equipment, they are considered subcontractors. In these instances, submit staff leasing firms for approval as a subcontractor.

Copies of cancelled checks and certified statements may be required to verify compliance with the requirements of this Section.

2.2. **Payments to Subcontractors.** Report payments for SBE subcontracts including tiered SBE subcontracts in the manner as prescribed by the CRRMA by the 20th day of each month.

2.2.1. **Payment Records.** Make payment and related records, including but not limited to copies of cancelled checks, available for inspection by the CRRMA. Retain payment records for a period of 3 years following the completion of the Contract.

2.3. **Payrolls.** Comply with Article 6.20, "Payrolls".

3. COMPUTATION OF CONTRACT TIME FOR COMPLETION

The time established for the completion of the work is an essential element of the Contract. The number of calendar days is established by the Contract Documents. Calendar day charges will begin when work begins as prescribed in Article 7.1, "Prosecution of Work" unless otherwise shown in the Contract Documents. Calendar day charges will continue in accordance with the Contract Documents. Calendar days will be charged Sunday through Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

3.1. **Nighttime Work.** Nighttime work is allowed only when shown on the plans or directed or allowed by the CRRMA. Nighttime work is defined as work performed from 30 min. after sunset to 30 min. before sunrise.

3.2. **Restricted Work Hours.** Restrictions on Contractor work hours and the related calendar day charges are as prescribed in this Article unless otherwise shown on the plans.

3.3. **Time Statements.** The CRRMA will furnish the Contractor a monthly time statement. Review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges and future consideration of that statement will not be permitted.

4. TEMPORARY SUSPENSION OF WORK OR CALENDAR DAY CHARGES

The CRRMA may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing. When part of the work is suspended, the CRRMA may suspend calendar day charges only when conditions not under the control of the Contractor prohibit the performance of critical activities. When all of the work is suspended for reasons not under the control of the Contractor, the CRRMA will suspend calendar day charges.

5. CRITICAL PATH METHOD (CPM) PROGRESS SCHEDULES

5.1. **Definitions.** The following definitions pertaining to construction schedules shall apply with respect to all scheduling provisions set forth in the Contract Documents:

5.1.1. **Activity.** Any task, or portion of the Project, that takes time to complete.

5.1.2. **Baseline Schedule.** The initial CPM schedule representing the Contractor's original work plan, as accepted by the CRRMA.

5.1.3. **Controlling Operation.** The activity within that series of activities defined as the Critical Path, which, if delayed or prolonged, will delay the time of completion of the Project.

5.1.4. **Critical Path.** The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and thus the earliest completion of the Project in accordance with the terms and conditions of the Contract Documents.

5.1.5. **Critical Path Method.** A mathematical calculation that determines the earliest completion of the Project in accordance with the terms and conditions of the Contract Documents and that includes a graphic representation of the sequence of activities showing the interrelationships and interdependencies of the elements composing the Project.

5.1.6. **Substantial Completion Date.** The date when all conditions for Substantial Completion have occurred in accordance with Article 4.15 hereof.

5.1.7. **Final Acceptance.** The occurrence of all conditions for Final Acceptance in accordance with Article 4.17 hereof.

5.1.8. **Float.** The amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activity or group of activities in the network. See Free Float and Total Float for further information.

5.1.9. **Fragnet.** A section or fragment of the network diagram comprised of a group of activities.

5.1.10. **Free Float.** The amount of time an activity can be delayed without delaying the Early Start of a successor activity.

5.1.11. **Hammock Activity.** A non-critical activity added to the network to span an existing group of activities for summarizing purposes.

5.1.12. **Milestone.** An activity that represents a significant point in time, and may be used to indicate the start or end of a series of related activities and/or Contract accomplishment. A milestone has zero original and remaining duration, and does not increase the Contract time.

5.1.13. **Revision.** A change in the schedule that modifies logic, revises the current Contract completion dates, adds or deletes activities, or alters activities, sequences, descriptions, calendars, actual dates, or durations.

5.1.14. **Tabular Listing.** A report showing schedule activities, their relationships, durations, scheduled and actual dates, float, budgeted cost, and all log notes where comments are inserted for an activity.

5.1.15. **Total Float.** The amount of time that an activity may be delayed without affecting the total duration of the Project.

5.1.16. **Update.** The modification of the most current Contractor's CPM progress schedule through a regular and periodic (at least monthly) review to incorporate actual progress to date by activity. Update shall indicate changes to the activity's percent complete, actual start and actual finish dates.

5.1.17. **Recovery Schedule.** A revised Baseline Schedule requested by the CRRMA demonstrating how the Contractor will expedite progress to recover delays that are the responsibility of the Contractor.

5.1.18. **Interim Completion Date.** The date when all conditions for Interim Completion in accordance with Article 4.16 have occurred.

5.2. **Project Scheduler.** Designate an individual who will develop and maintain the progress schedule. The Project Scheduler will be prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the Progress Schedule at the preconstruction meeting. This individual will also attend the project meetings and make site visits to prepare, develop, and maintain the progress schedules.

5.3. **Scheduling Conference.** The Contractor shall schedule and conduct a Scheduling Conference. Mandatory attendees shall include the Contractor's Project Manager, Project Scheduler, Quality Control Scheduler and the CRRMA. This conference shall be scheduled within 15 calendar days after award of the Contract and shall be held at least 7 calendar days before the preconstruction meeting.

At the Scheduling Conference, the Contractor shall furnish a Preliminary Baseline Schedule as discussed in Article 5.3, "Preliminary Baseline Schedule," and be prepared to discuss both its proposed methodologies for fulfilling the scheduling requirements and its sequence of operations. In this meeting, the Contractor shall also provide to the CRRMA a copy of the Contractor's proposed activity code dictionary that will be utilized in the sorting of the activities into areas of work, phases of work, types of work, etc. The CRRMA has the authority to require the Contractor to utilize additional filters, layouts or activity codes to be able to further categorize, group or summarize the activities.

The Contractor shall be prepared to discuss requirements of the General Conditions regarding scheduling and requirements for all off-site material testing and submittals applicable to the Contract, discuss their respective preparation, and review durations.

5.4. **Preliminary Baseline Schedule.** This Preliminary schedule shall provide a detailed breakdown of the activities to be performed in the initial 60 calendar days of work plus a generalized breakdown of activities for the balance of the work that includes meeting the Contract completion dates. The Contractor shall maintain and submit monthly an updated 60 calendar-day Preliminary Baseline Schedule until submission and CRRMA's acceptance of the Baseline Schedule. The CRRMA will be allowed 15 calendar days to review the Preliminary Baseline Schedule and to provide comments. The Preliminary Baseline Schedule does not require the CRRMA's acceptance, but all comments from the CRRMA with respect to the Preliminary Baseline Schedule are to be incorporated within the Baseline Schedule. Re-submittal of the Preliminary Baseline Schedule is not required. Late review of the Preliminary Baseline Schedule by the CRRMA shall not restrain the Contractor's submittal of the Baseline Schedule.

5.5. **Baseline Schedule.** Within 45 calendar days of the work start date, the Contractor shall submit to the CRRMA a Baseline Schedule, which shall incorporate any and all comments provided by the CRRMA regarding the Preliminary Baseline Schedule. The Baseline Schedule shall have a date of the effective date of the Notice to Proceed and shall not include any work prior to that date. A Baseline

Schedule Narrative as described in Article 5.8.1," Preliminary Baseline and Baseline Narrative Report," shall accompany the Baseline Schedule. The Baseline Schedule shall depict how the Contractor plans to complete the work of the Contract and shall show all those activities that define the Critical Path. The Baseline Schedule shall provide for the adequate planning of the Project, as well as the CRRMA's monitoring and evaluation of progress and analysis of time impacts. The Contractor shall not attribute any negative float to any activity depicted on the Baseline Schedule. The CRRMA will be allowed 15 calendar days to review and accept the Contractor's submittal of the Baseline Schedule. The CRRMA's review and acceptance of the project schedule is for conformance to the requirements of the Contract Documents only and does not relieve the Contractor of any responsibility for meeting the interim milestone dates (if specified) or the Contract completion date. Review and acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic or durations of the project schedule. Should the CRRMA reject the Contractor's submittal of the Baseline Schedule, the Contractor shall resubmit a revised schedule within 10 calendar days of receipt of the CRRMA's review comments, at which time a new 15 calendar day review period by the CRRMA will begin.

Submit an acceptable Baseline Schedule before the 90th calendar day from the work start date unless the time for submission is extended by the CRRMA.

5.6. General Requirements Regarding Schedules. All schedules submitted by the Contractor shall comply with the following requirements.

5.6.1. All schedules shall be created, updated and provided in the most current version of Primavera P6 for Windows software and shall comply with (1) any and all interim target dates and/or milestones specified by the Contract Documents; (2) all constraints, restraints or sequences specified by the Contract Documents; and (3) the number of days set forth in the Contract Documents for completion of the work.

5.6.2. All schedules shall follow these scheduling requirements: 1) No constraints shall be included except on milestone, finish and start activities, 2) Negative lags shall not be used at any time, 3) Each activity shall have at least one predecessor and one successor, 4) All submittal, procurement and fabrication activities shall be included, 5) Highlight the critical path (longest path) on all applicable reports, and 6) Include milestone activities for the scheduled start and finish of construction phasing, major areas of construction and significant stages of work within those major areas, traffic shifts and lane closures, and full use of the various infrastructure components and the streetcar vehicles by the public.

5.6.3. All schedules shall indicate the interdependence of activities (how the start of a given activity depends on the completion of preceding activities) and the sequence of work (how failure to complete a given activity may restrain the start of following activities). Ensure all work sequences are logical and show a coordinated plan of the work. Activities with duration times in excess of 20 calendar days, except for non-construction activities, shall be kept to a minimum and are subject to review by the CRRMA.

5.6.4. All schedules shall include any coordination and cooperation requirements, construction restrictions, constraints or other requirements of the Contract Documents. All schedules shall include sufficient work calendars to address non-work periods, seasonal weather conditions for work that may be influenced by temperature or precipitation, and to identify specific activities requiring multiple shifts/day, multiple crews/shift, extended workweeks, or work at times other than what may be considered regular days or hours.

5.6.5. All schedules shall include activities for all work required by the Contract Documents, including detailed activities for design work plus associated review requirements, permit

processes, utilities coordination, demolition, construction, curing, quality control, subcontractors, vendors, and suppliers. In addition, all schedules shall include, as a minimum, activities for the procurement, fabrication, delivery, installation, and any required startup and testing or commissioning time frames for critical or special materials and equipment, as well as all submittal preparation and processing activities required by the Contract Documents. Submittal review and processing timeframes indicated in the schedule should be consistent with Contract Document requirements and dates reflected for those same submittals as listed on the Contractor's Schedule of Submittals. The activities are to be described by area, location, phase, sequence, etc. so that the work is readily identifiable and the progress of each activity can be measured. Activity durations shall be logical and consistent with the Contract Documents and shall be based on realistic and available resources of the Contractor.

5.6.6. All schedules submitted to the CRRMA shall be depicted graphically by network diagrams. The Contractor's network diagrams shall be time-scaled to show a continuous flow of information from left to right. The critical path shall be clearly and graphically identified on the network diagrams. All network diagrams prepared by the Contractor shall be organized in a logical fashion. The activities shown on the diagrams shall be sorted and grouped per work breakdown structure, with the work covered by each bid item separately designated by distinct schedule activities. Furthermore, the network diagrams shall indicate all submittals and off-site material testing required by the Contract Documents, and the submittals shall be sub-grouped by category.

5.6.7. The Contractor's coding for each activity shall be in accordance with the activity code dictionary supplied to the CRRMA at the Scheduling Conference.

5.6.8. All schedules shall also identify, at a minimum, the following activities:

5.6.8.1. Mobilization and Demobilization activities

5.6.8.2. All subcontractor work and interfaces as separate activities, including responsibility coding that identifies the type of work and the name of the subcontractor involved.

5.6.8.3. Startup and testing and commissioning activities (include a minimum duration of 30 calendar days for any required startup and testing activity).

5.6.8.4. System integration testing between the various infrastructure components and the streetcar vehicle along with a two month period for Integration Support.

5.6.8.5. Punchlist and final clean-up activities (total duration not to exceed 30 calendar days) required by the Contractor to complete the work.

5.6.9. For each activity in the network, the Contractor shall determine the Contract value of the work activity. Contract values assigned by the Contractor to work activities in the schedule should be consistent with contract requirements and the dollar values for those same activities as listed in the Contractor's Schedule of Values. Administrative activities, submittal activities, CRRMA activities and milestones shall have an assigned cost of zero. The summation of the costs of all activities shall be equal to the Contract price for the Project. These costs are to be incorporated into the Primavera schedule.

5.6.10. Float shall not be considered as time for the exclusive use of or benefit of either CRRMA or the Contractor but shall be considered as a jointly owned, expiring resource available to the Project and shall not be used to the financial detriment of either party.

The CRRMA's acceptance of a Contractor schedule shall not constitute a change of any portion of the Contract Documents. Failure of the Contractor to include any element of work required by the Contract Documents in its schedules shall not relieve the Contractor from completing the work within the

time limit specified for completion of the Project. If the Contractor fails to define any element of work, activity or logic, and the omission or error is discovered by either the Contractor or the CRRMA, it shall be corrected by the Contractor in regard to the next monthly update or revision of the schedule. No additional time or cost under the Contract will be allowed for this correction.

The Contractor shall not incorporate any changes or delays to the work in the Baseline Schedule and in all schedules submitted thereafter without the CRRMA's written approval. Should the Baseline Schedule or any update thereto show variances from the scheduling requirements of the Contract Documents, the Contractor shall make specific mention of the variations in the letter of transmittal, in order that, if accepted, proper adjustments to the Project schedule can be made. Notwithstanding the foregoing, the Contractor will not be relieved of the responsibility for completing all work required by the Contract Documents.

Neither the Substantial Completion Date or the Interim Completion Date shall be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order. In the event that the Baseline Schedule, or any updates or revisions, show completion occurring prior to the Substantial Completion Date and/or Interim Completion Date, the Contractor must demonstrate to the CRRMA that the schedule is reasonable, practical and achievable. Moreover, it is expressly understood and agreed that (1) the Contractor shall have no claim for delay, disruption, hindrance, or other impact based on any early completion indicated in the Contractor's schedule(s); (2) a delay is critical if and only if to the extent that the delay extends the completion of the entire work to a date that is beyond the contractually specified date for full completion of the work, regardless of the Contractor's planned early completion; and (3) the Contract price includes full compensation for all time-related costs associated with the Contractor working at the Project site for the full duration of the time set forth in the Contract, even if the Contractor represents that the Contractor plans to fully finish the work in less than the time established by the Contract for full completion of the work.

The work performed under this Article will not be measured or paid for directly but will be subsidiary to pertinent Items.

5.7. Project Schedule Meetings.

5.7.1. Monthly Update Review Meetings. On a monthly basis, and on a date to be determined by the CRRMA, the Contractor shall meet with the CRRMA to review the Monthly Update Schedule and the Schedule Narrative Report. The CRRMA will be allowed 7 calendar days after the meeting to review and accept or reject the Monthly Update Schedule and the Schedule Narrative Report. Rejected schedules and/or reports shall be revised and resubmitted to the CRRMA within 10 calendar days, at which time a new 7 calendar day review period by the CRRMA will begin. All efforts shall be made between the CRRMA and the Contractor to complete the review and the approval process prior to the cut-off date for the next update schedule. To expedite the process, a second meeting between the CRRMA and the Contractor shall be held, as determined to be necessary by the CRRMA.

5.7.2. Quarterly Progress Meetings. The CRRMA and the Contractor shall hold quarterly progress meetings. In the event that the Contractor falls behind schedule, the CRRMA may request that the meetings are held more frequently. The quarterly meetings will be held to discuss, among other things, (1) the near-term schedule activities; (2) the current status of As-Built documentation, RFI's, Contractor Daily Reports, Quality Control, submittals, correspondence, and Contract Change Orders; and (3) Jobsite safety, cleanup, traffic control, and coordination issues. Furthermore, the meeting shall address any long-term schedule issues and discussion of any relevant technical issues. The Contractor shall develop a look-ahead schedule identifying the previous month; current month and a month look ahead. The Contractor's look-ahead schedules shall provide sufficient detail to address all activities to be

performed and to identify issues requiring action or input by CRRMA. At least 7 calendar days prior to the quarterly progress meetings, the Contractor shall furnish the look-ahead schedule in hard copy and electronic format to the CRRMA for review.

No later than 7 calendar days prior to the quarterly progress meeting, the Contractor shall furnish a list of critical items relating to the look-ahead schedule. During the meeting the parties will jointly determine whether additional items need to be listed, the priority of items, the parties responsible for resolving the critical item and the scheduled resolution date. Nothing herein shall be construed to excuse the Contractor's obligation to timely provide either a notice of delay or a notice of potential claim. The Contractor shall keep minutes of the meeting and distribute a draft of the minutes to all participants for review and comments within 2 working days of the meeting. The final minutes of the previous quarterly meeting must be distributed at least 7 calendar days prior to the next meeting. The list of critical items shall be updated and distributed with the quarterly meeting minutes.

5.8. Monthly Schedule Updates. The Contractor shall regularly update the accepted Baseline Schedule to reflect the current status of the Project. On the 2nd working day following the application for payment cut-off date, the Contractor shall submit a Monthly Update Schedule to the CRRMA. The update shall include all information available and status of the Project as of the payment application cut-off date, or such other date as established by the CRRMA. All Monthly Update Schedules described below shall comply with the requirements indicated above. All Monthly Update Schedules shall incorporate all changes previously approved by the CRRMA.

Each Monthly Update Schedule shall reflect all as-built activities performed as of the data date of the update schedule. The Monthly Update Schedule shall include the period from the last update to the data date and for the remainder of the Project. The current period's activities shall be reported as they actually took place. In the updated schedule, the Contractor shall indicate the actual dates that activities were started and/or completed. Ongoing activities shall have an indication of the percent complete and the remaining duration to complete such activities. Portions of the schedule on which activities are complete need not be reprinted and submitted in subsequent updates. However, the electronic file of the submitted Monthly Update Schedule and the related reports shall constitute a clear record of the actual progress of the work from the data date of the Notice to Proceed to the effective date of the update, as well as the projected future work up to final completion of the Project. The Monthly Update Schedule, and any other relevant information available, will be used to determine the effect of any contemplated or actual changes or delays to the work.

5.9. Schedule Update Reports. The Contractor shall also prepare schedule update reports which are to be submitted to the CRRMA concurrently with each CPM submittal.

Unless otherwise specifically noted elsewhere herein, network diagrams and the tabular reports shall be submitted to the CRRMA in the following quantities:

- (a) 4 sets of the network diagrams on reduced-size (11" x 17") sheets
- (b) 4 copies of all tabular reports (8½" x 11" size)
- (c) 2 copies of electronic files of the Primavera data and the schedule narrative report on CD-ROM or other media as directed by the CRRMA.

5.9.1. Preliminary Baseline and Baseline Narrative Report. These Narrative Reports shall describe, in a narrative fashion, the logic of the schedule. Each shall identify the critical path and other areas of schedule delay risk. The narratives shall include a listing of all decision/approval points in the schedule.

5.9.2. **Progress Narrative Reports.** The Progress Narrative Report shall describe the physical progress of work performed by the Contractor during the report period. In addition, the report shall indicate the Contractor's plans for continuing the work during the forthcoming report period, actions planned to correct any negative float, and any delays or problems and their estimated impact on the Substantial Completion Date and/or Interim Completion Date for the Project. In addition, the Contractor shall include for consideration by the CRRMA alternatives for possible schedule recovery to mitigate any potential delay. The report shall follow the outline set forth below:

1. Contractor's Transmittal Letter
2. Work completed during the report period
3. Description of the current critical path of the schedule
4. Listing of all delayed activities, reasons for the delay and steps taken to mitigate the delay
5. Status of the Contract Substantial Completion Date and Interim Completion Date
 - (a) On schedule
 - (b) Ahead of schedule and number of calendar days
 - (c) Behind schedule and number of calendar days
6. Listing of any revisions to the schedule activities or logic

Narrative reports containing non-factual, subjective statements, judgments or opinions, which appear to assign responsibility or to make conclusions as to excusableness, responsibility, or compensability for delays shall be cause for rejection of the narrative report.

5.9.3. **Progress Update Reports.** Concurrent with each CPM schedule update submittal, the Contractor shall submit the following computer-generated mathematical analysis tabular reports (8½" x 11" size).

5.9.3.1. Progress Activity Report – List of all activities grouped by area and sorted by activity number and then early start date, or actual start date if known.

5.9.3.2. Progress Logic Report – List of detailed predecessors and successors for all activities, grouped by area and sorted in ascending order by activity number and then early start date, or actual start date if known

5.9.3.3. Progress Earnings Report – Compilation of Contractor's total earnings grouped by area from the Notice to Proceed until most recent Application for Payment

For each listed activity in the tabular reports, list the activity number, activity description, calendar ID, cost, original duration, remaining duration, activity percent complete, early start date, early finish date, late start date, late finish date, and total float in calendar days.

5.9.4. **Notice of Potential Time Impact.** Concurrent with the CPM schedule update, submit a notice of potential time impact when any Contract time extension or adjustment of milestone dates may be justified or when directed. The submittal must include the begin and end dates and the causes of the potential time impact; the specific critical path activities affected; reasons for any time

adjustment; contract documentation supporting a time adjustment; and a time impact analysis that demonstrates entitlement to a time adjustment.

Failure to timely provide this notice will compromise the CRRMA's ability to mitigate the impacts and the Contractor forfeits the right to request a time extension or adjustment of milestone dates unless the circumstances are such that the Contractor could not reasonably have had knowledge of the impact at the time.

5.9.5. Time Impact Analysis. When directed, provide a time impact analysis. A time impact analysis is an evaluation of the effects of impacts on the project. A time impact analysis consists of the following steps:

- Step 1 Establish the status of the project immediately before the impact.
- Step 2 Predict the effect of the impact on the schedule update used in Step 1.
- Step 3 Track the effects of the impact on the schedule during its occurrence.
- Step 4 Establish the status of the project after the impact's effect has ended and provide details identifying any mitigating actions or circumstances used to keep the project ongoing during the impact period.

Determine the time impact by comparing the status of the work before the impact (Step 1) to the prediction of the effect of the impact (Step 2), if requested, and to actual effects of the impact period once the impact's effect has ended (Step 4). Submit Step 4 no later than 15 calendar days after the impact's effects have ended or when all the information on the effect has been realized. Unless otherwise approved by the CRRMA, steps 1, 3, and 4, must be completed prior to CRRMA consideration being given to any Contract time extension or adjustment of a milestone date. The CRRMA will review the time impact analysis upon completion of step 4. If this review detects revisions or changes to the schedule that had not been performed and identified in a narrative, the CRRMA may reject the time impact analysis.

Submit one electronic backup copy of the complete time impact analysis and a copy of the full project schedule incorporating the time impact analysis. If the project schedule is revised after the submittal of a time impact analysis, but before its approval, indicate in writing the need for any modification to the time impact analysis.

If the CRRMA determines that critical path activity work was delayed because of conditions beyond the control of and without the fault or negligence of the Contractor, the CRRMA may extend the time for project completion as the conditions justify by issuing a change order to grant additional calendar days, or to adjust interim milestones. Once a change order has been executed, incorporate the time impact analysis into the project schedule.

The time impact analysis may also be used to support the settlement of disputes and claims. Compensation related to the time impact analysis may be provided at the completion of the analysis or the completion of the project to determine the true role the impact played on the final completion.

5.10. Schedule Revisions.

5.10.1. Contractor Proposed Revisions. Once the Baseline Schedule is accepted by the CRRMA, the Contractor shall not make any revisions to the schedule except as set forth in Article 5.9.2, "CRRMA Required Revisions."

The above provision shall not be construed as a limitation on the Contractor's obligation to accurately reflect the as-built progress of the work with respect to each Monthly Update Schedule. It is

expressly understood and agreed that the term "revisions", as used herein shall refer to changes to the schedule with respect to work that conceivably will be performed up to completion of the Project.

5.10.2. **CRRMA Required Revisions.** Within 15 calendar days of the CRRMA's request, the Contractor shall submit a revised schedule whenever the CRRMA determines that there is a major change in the Project scope that affects the Critical Path.

If the Contractor falls 15 calendar days behind on any critical path activity shown on the Baseline Schedule or if it becomes apparent to the CRRMA that the work may not be completed as scheduled or that milestone dates may not be achieved as scheduled, the Contractor shall prepare and submit a proposed revised Recovery Schedule demonstrating the Contractor's proposed plan to regain lost schedule progress and to achieve Interim Completion and Substantial Completion and all work related thereto and Final Acceptance. Contractor will prepare and submit the recovery schedule within 10 calendar days after the submittal of the monthly Baseline Schedule update. After the CRRMA accepts the recovery schedule, it will become a part of the Baseline Schedule. The proposed revised Recovery Schedule shall include a narrative demonstrating the resources to be employed and work activities necessary to meet the proposed revision. All costs (including any additional labor costs) to analyze, revise and to incorporate any schedule modification shall be the responsibility of the Contractor.

The CRRMA and its representatives shall review the recovery schedule and submit written comments to Contractor within ten (10) calendar days of receipt of the recovery schedule submittal.

5.11. **Measurement and Payment.** CPM Scheduling will NOT be paid for by separate payment. All costs incurred in complying with the above requirements for furnishing the CPM schedule shall be the responsibility of the Contractor. An amount not to exceed 25 percent of the total estimated value of the work performed during each period may be withheld if the Contractor fails to submit any of the acceptable schedules, and/or failure of said schedules to conform to the requirements of this section, as determined by the CRRMA. This includes Monthly Updates and Schedule Update Reports.

Thereafter, on subsequent successive payment application periods, the percentage withheld may be increased at a rate not to exceed 25 percent per payment application period in which the nonconformance with this specification continues.

Monies withheld for this non-conformance will be released for payment on the next monthly payment application for partial payment following the date the schedule information is brought back into compliance with this specification.

6. FAILURE TO COMPLETE WORK ON TIME

6.1. **General.** The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of calendar days specified, calendar days will continue to be charged. Failure to complete the Contract callout work, or a work order within the number of calendar days specified, including any approved additional calendar days, will result in liquidated damages for each calendar day charged over the number of calendar days specified in the Contract. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each calendar day the Project remains incomplete. This amount will be assessed not as a penalty but as liquidated damages.

6.2. **Failure to Timely Complete Interim Milestone Work.** If the Contractor fails to complete the Interim Milestone Work within 545 calendar days of the issuance of notice to proceed, then

the Contractor shall pay to the CRRMA, as liquidated damages, the amount of \$5,000 per calendar day until Substantial Completion of the Interim Milestone Work is achieved.

6.3. **Failure to Timely Complete the Project.** If the Contractor fails to meet the requirements for Substantial Completion of the Project within 910 calendar days of the issuance of notice to proceed, then the Contractor shall pay to the CRRMA, as liquidated damages, the amount of \$5,000 per calendar day until Substantial Completion of the Project is achieved.

6.4. **Payment of Liquidated Damages.** The Contractor shall pay to CRRMA any liquidated damages owed on a monthly basis, or at the option of CRRMA, CRRMA may deduct any accrued and unpaid liquidated damages from Contractor's monthly draw request.

7. DEFAULT OF THE CONTRACT

7.1. **Declaration of Default.** The CRRMA may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified,
- fails to prosecute the work to assure completion within the number of days specified,
- is uncooperative, disruptive or threatening,
- fails to perform the work in accordance with the Contract Documents requirements,
- neglects or refuses to remove and replace rejected materials or unacceptable work,
- discontinues the prosecution of the work without the CRRMA's approval,
- makes an unauthorized assignment,
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so,
- fails to conduct the work in an acceptable manner, or
- commits fraud or other unfixable conduct as determined by the CRRMA,

If any of these conditions occur, the CRRMA will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, the CRRMA will provide written notice to the Contractor and the Surety to declare the Contractor to be in default of the Contract. If the Contractor provides the CRRMA written notice of voluntary default of the Contract, the CRRMA may waive the 10 day notice of intent to declare the Contractor in default and immediately provide written notice of default to the Contractor and the Surety. Calendar day charges will continue until completion of the Contract. The CRRMA may suspend work in accordance with Section 7.4., "Temporary Suspension of Work or Calendar Day Charges," to investigate apparent fraud or other unfixable conduct before defaulting the Contractor.

The CRRMA will determine the method used for the completion of the remaining work as follows:

- **Contracts with Performance Bonds.** The CRRMA will, without violating the Contract, demand that the Contractor's Surety complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be considered a subcontractor of the Surety. The CRRMA reserves the right to approve or reject proposed subcontractors. Work may resume after the CRRMA receives and approves Certificates of Insurance as required in Section 1.1.3., "Insurance." Certificates of Insurance may be issued in the name of the completing Contractor. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. The CRRMA may complete the work using any or all materials at the work locations that it deems suitable and acceptable. Any

costs incurred by the CRRMA for the completion of the work under the Contract will be the responsibility of the Surety.

From the time of notification of the default until work resumes (either by the Surety or the CRRMA), the CRRMA will maintain traffic control devices and will do any other work it deems necessary, unless otherwise agreed upon by the CRRMA and the Surety. All costs associated with this work will be deducted from money due to the Surety.

The CRRMA will hold all money earned but not disbursed by the date of default. Upon resumption of the work after the default, all payments will be made to the Surety. All costs and charges incurred by the CRRMA as a result of the default, including the cost of completing the work under the Contract, costs of maintaining traffic control devices, costs for other work deemed necessary, and any applicable liquidated damages or disincentives will be deducted from money due the Contractor for completed work. If these costs exceed the sum that would have been payable under the Contract, the Surety will be liable and pay the CRRMA the balance of these costs in excess of the Contract price. In case the costs incurred by the CRRMA are less than the amount that would have been payable under the Contract if the work had been completed by the Contractor, the CRRMA will be entitled to retain the difference.

Comply with Article 7.2, "Subcontracting," and abide by the SBE commitments previously approved by the CRRMA.

No markups as defined in Article 8.7, "Payment for Extra Work and Force Account Method," will be allowed for the Surety.

7.2. **Wrongful Default.** For consideration of wrong default, submit a written request to the CRRMA within 30 calendar days of receipt of notice of default.

The CRRMA will determine if the Contractor has been wrongfully defaulted and will proceed with one of the following actions:

In the event that the CRRMA determines the default is proper, the default will remain in accordance with Article 7.7.1, "Declaration of Default." If the Contractor is in disagreement, the Contractor may file a claim in accordance with Article 3.7, "Dispute or Claims Procedure."

In the event that the CRRMA determines it was a wrongful default, the CRRMA will terminate the Contract in the best interest of the CRRMA or the public in accordance with Article 7.8, "Termination of the Contract."

8. TERMINATION OF THE CONTRACT

The CRRMA may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work as a direct result of an executive order of the President of the United States or the Governor of the State,
- the Contractor is prevented from proceeding with the work due to a national emergency, or when the work to be performed under the Contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor as the result of an order or a proclamation of the President of the United States,
- the Contractor is prevented from proceeding with the work due to an order of any federal authority,

- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor, or
- the CRRMA determines that termination of the Contract is in the best interest of the CRRMA or the public. This includes but is not limited to the discovery of significant hazardous material problems, right of way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract, as determined by the CRRMA.

8.1. **Procedures and Submittals.** The CRRMA will provide written notice to the Contractor of termination specifying the extent of the termination and the effective date. Upon notice, immediately proceed in accordance with the following:

- stop work as specified in the notice,
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved by the CRRMA,
- terminate all subcontracts to the extent they relate to the work terminated,
- complete performance of the work not terminated,
- settle all outstanding liabilities and termination settlement proposals resulting from the termination of the Contract,
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products), and
- take any action necessary, or that the CRRMA may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which the CRRMA has or may acquire an interest.

8.2. **Settlement Provisions.** Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The CRRMA will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. The CRRMA will pay reasonable and verifiable termination costs including:

- all work completed at the unit bid price and partial payment for incomplete work,
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts,
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory, and
- other expenses acceptable to the CRRMA.

ARTICLE 8 - MEASUREMENT AND PAYMENT

1. MEASUREMENT OF QUANTITIES

The CRRMA will measure all completed work using United States standard measures, unless otherwise specified.

1.1. **Linear Measurement.** Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway having an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on the plans, unless otherwise directed.

1.2. **Volume Measurement.** Transport materials measured for payment by volume in approved hauling vehicles. Display a unique identification mark on each vehicle. Furnish information necessary to calculate the volume capacity of each vehicle. The CRRMA may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.

1.3. **Weight Measurement.** Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested.

The cost of supplying these volume and weight capacities is subsidiary to and part of the cost of providing the subject materials, and is included in the Contract Price.

The CRRMA may reject loads and suspend hauling operations for overloading.

1.3.1. **Hauling on Routes Accessible to the Traveling Public.** For payment purposes on haul routes accessible to the traveling public, the net weight of the load will be calculated as follows:

- If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

1.3.2. **Hauling on Routes Not Accessible to the Traveling Public.** For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the CRRMA.

- If the gross vehicle weight is less than the maximum allowed by the CRRMA, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.

- If the gross vehicle weight is more than the maximum allowed by the CRRMA, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

2. PLANS QUANTITY MEASUREMENT

Plans quantities may or may not represent the exact quantity of work performed or material moved, handled, or placed during the execution of the Contract. The estimated bid quantities are designated as final payment quantities, unless revised by the governing specifications or this Article.

If the quantity measured as outlined under “Measurement” varies by more than 5% (or as stipulated under “Measurement” for specific Items) from the total estimated quantity for an individual Item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes.

When quantities are revised by a change in design approved by the CRRMA, by change order, or to correct an error on the plans, the plans quantity will be increased or decreased by the amount involved in the change, and the 5% variance will apply to the new plans quantity.

If the total Contract quantity multiplied by the unit bid price for an individual Item is less than \$250 and the Item is not originally a plans quantity Item, then the Item may be paid as a plans quantity Item if the CRRMA and Contractor agree in writing to fix the final quantity as a plans quantity.

For Contracts with callout work and work orders, plans quantity measurement requirements are not applicable.

3. ADJUSTMENT OF QUANTITIES

The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Article 3.4, “Changes in the Work.”

4. SCOPE OF PAYMENT

Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the Item of work under the Contract. Until final acceptance in accordance with Article 4.15, “Final Acceptance,” assume liability for completing the work according to the Plans and Technical Specifications and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract Documents.

The CRRMA will only pay for material incorporated into the work in accordance with the Contract Documents. Payment of progress estimates will in no way affect the Contractor’s obligation under the Contract Documents to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

5. PROGRESS PAYMENTS

5.1 **Schedule of Values.** The Contractor shall submit a Schedule of Values for the contracted work with the Preliminary Baseline Schedule submittal and a minimum of 30 days prior to the initial application for payment. The Schedule of Values is a statement furnished by Contractor allocating unit bid items and portions of lump sum bid items to various elements of the Work (cost itemize) and used as the basis for reviewing Contractor's Applications for Payment. This Schedule of Values will provide a breakdown of values for the contracted work aggregating the Contract price, and will be the basis for partial payments. The breakdown will demonstrate reasonable, identifiable, and measurable components of the work. The sum of all values listed for each element shall be equal to the Contract price proposed for that element as set forth in the Contractor's Schedule of Values. The work shall be subdivided into component parts in sufficient detail to serve as the basis for progress payments and price adjustments, positive and negative. Prices will include a pro rata amount of overhead and profit applicable to each item. The CRRMA may reject or approve a Schedule of Values if it fails to provide reasonable detail, any prices are excessively unbalanced, or fails to account for the entire Contract price.

5.1.1. The Schedule of Values shall be submitted in a format approved by the CRRMA. The Contractor shall obtain requirements for this format prior to completing his Schedule of Values. In general, each major division of work (each Specification Section) and each separate physical area of construction will require a breakdown. Coordinate preparation of the Schedule of Values with preparation of the Preliminary Baseline Schedule. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

- Application for Payment forms with Continuation Sheets.
- Submittals Schedule.
- Preliminary Baseline and Baseline Schedules

5.1.2. Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section. Include the following Project identification on the Schedule of Values:

- Project name and location.
- Name of Engineer.
- Engineer's project number.
- Contractor's name and address.
- Date of submittal.

5.1.3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

- Related Specification Section or Division.
- Description of the Work.
- Name of subcontractor.
- Name of manufacturer or fabricator.
- Name of supplier.
- Change Orders (numbers) that affect value.
- Dollar value.

- Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

5.1.4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents.

5.1.5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

5.1.6. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

5.1.7. Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

5.2. The CRRMA will make partial payments on the Contract monthly as work progresses. The Contractor shall submit to the CRRMA an application for payment each month. The Contractor shall include, in each application for payment, a schedule of the percentages of the various parts of the work completed that shall aggregate to the payment application total.

5.2.1. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by the CRRMA. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

5.2.2. Use Payment Application Forms provided by the CRRMA for Applications for Payment. Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Incomplete applications will be returned without action.

- Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
- Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

5.2.3. Transmit 3 signed and notarized original copies of each Application for Payment to the CRRMA by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

5.2.4. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Baseline Schedule (preliminary if not final).
4. Products list.
5. Schedule of unit prices.
6. Submittals Schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.
13. Performance and payment bonds.
14. Data needed to acquire Owner's insurance.
15. Initial settlement survey and damage report if required.

5.2.5. **Application for Payment at Substantial Completion:** After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

5.2.6. **Final Payment Application:** Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

The CRRMA shall approve all payments based upon the Contractor's compliance with the Schedule of Values, the Contract Documents, and the documented progress of work. In the event a submitted application for payment is completed incorrectly, contains defects or improprieties, or there is a good faith dispute, the CRRMA will so notify the Contractor within 15 days stating the reason or reasons

the application for payment is defective or improper or the reasons for the dispute. The Contractor, in the following month's application for payment, shall incorporate corrections to the application for payment.

The Contractor's pay request will use the same quantities derived from daily/weekly meetings with the Contractor to reconcile quantities used that day/week. Incomplete items of work may be paid at an agreed upon percentage approved by the CRRMA. Payment of the monthly estimate is determined at the Contract item prices less any withholdings or deductions in accordance with the Contract Documents. Progress payments may be withheld for failure to comply with the Contract Documents. The progress shall be consistent with the percent complete of the each work activity as reflected on the approved project schedule.

6. PAYMENT FOR MATERIAL ON HAND (MOH)

If payment for MOH is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work before the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials which are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for MOH may include the following types of items: rail, special trackwork, OCS poles and equipment, MSF materials, traffic signal equipment, and illumination poles. Any repairs required after fabricated materials have been approved for storage will require approval of the CRRMA before being made and will be made at the Contractor's expense. Include only those materials that have an invoice cost of at least \$1,000 in the request for MOH payment.

For Contracts with callout work and work orders, payment for MOH will only be made for materials authorized for purchase by the work order or by written approval of the CRRMA.

If the request is acceptable, the CRRMA will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

By submitting a request for MOH payment, the Contractor expressly authorizes the CRRMA to audit MOH records, and to perform process reviews of the record-keeping system. If the CRRMA determines noncompliance with any of the requirements of this provision, the CRRMA may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the CRRMA upon request.

7. PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT METHOD

Payment for extra work directed, performed, and accepted will be made in accordance with Article 3.4, "Changes in the Work." Payment for extra work may be established by agreed unit prices or by Force Account Method.

Agreed unit prices are unit prices that include markups and are comparable to recent bid prices for the same character of work. These unit prices may be established without additional breakdown justification.

When using Force Account Method, determine an estimated cost for the proposed work and establish labor and equipment rates and material costs. Maintain daily records of extra work and provide copies of these records daily, signed by the Contractor's representative, for verification by the CRRMA. Request payment for the extra work no later than the 10th day of the month following the month in which the work was performed. Include copies of all applicable invoices. If the extra work to be performed has an estimated cost of less than \$10,000, submit for approval and payment an invoice of actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work.

7.1. **Markups.** Payment for extra work may include markups as compensation for the use of small tools, overhead expense, and profit.

7.1.1. **Labor.** Compensation will be made for payroll rates for each hour that the labor and foremen or others approved by the CRRMA are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of this sum will be paid as compensation for overhead, superintendence, profit, and small tools.

7.1.2. **Insurance and Taxes.** An additional 55% of the labor cost, excluding the 25% compensation provided in Article 8.7.1.1, "Labor," will be paid as compensation for labor insurance and labor taxes including the cost of premiums on non-project specific liability (excluding vehicular) insurance, workers compensation insurance, Social Security, unemployment insurance taxes, and fringe benefits.

7.1.3. **Materials.** Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.

7.1.4. **Equipment.** Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% of this sum will be paid as compensation for overhead and profit not included in the rates.

Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an off-site location.

7.1.4.1. **Contractor-Owned Equipment.** For Contractor-owned machinery, trucks, power tools, or other equipment, use the FHWA rental rates found in the Rental Rate Blue Book multiplied by the regional adjustment factor and the rate adjustment factor to establish hourly rates. Use the rates in effect for each section of the Rental Rate Blue Book at the time of use.

If a rate has not been established for a particular piece of equipment in the Rental Rate Blue Book, the CRRMA will allow a reasonable hourly rate. This price will include operating costs.

Payment for equipment will be made for the actual hours used in the work. The CRRMA reserves the right to withhold payment for low production or lack of progress. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

If equipment is used intermittently while dedicated solely to the work, payment will be made for the duration the equipment is assigned to the work but no more than 8 hours will be paid during a 24-hour day, nor more than 40 hours per week, nor more than 176 hours per month, except when time is computed using a six-day or seven-day workweek. When using a six-day workweek, no more than 8 hours will be paid during a 24-hour day, nor more than 48 hours per week, nor more than 211 hours per month. When using a seven-day workweek, no more than 8 hours will be paid during a 24-hour day, nor more than 56 hours per week, nor more than 246 hours per month.

7.1.4.2. Equipment Not Owned by the Contractor. For equipment rented from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. The CRRMA reserves the right to limit the daily rate to comparable FHWA rental rates found in the Rental Rate Blue Book multiplied by the regional adjustment factor and the rate adjustment factor. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the Rental Rate Blue Book hourly operating cost for each hour the equipment is operated will be added.

When the invoice specifies equipment operators as a component of the equipment rental, payment will be made at the invoice rate for each operator for each day the equipment is needed for the work.

7.1.4.3. Standby Equipment Costs. Payment for standby equipment will be made in accordance with Article 8.7.1.4, "Equipment," except that:

7.1.4.3.1. Contractor-Owned Equipment. For Contractor-owned machinery, trucks, power tools, or other equipment:

- Standby will be paid at 50% (to remove operating cost) of the FHWA rental rates found in the Rental Rate Blue Book multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.4.3.2. Equipment Not Owned by the Contractor. For equipment rented from a third party not owned by the Contractor:

- Standby will be paid at the invoice daily rental rate, excluding operating cost, which includes fuel, lubricants, repairs, and servicing. The CRRMA reserves the right to limit the daily standby rate to comparable FHWA rental rates found in the Rental Rate Blue Book multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby will be paid for equipment operators when included on the invoice and equipment operators are actually on standby.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.5. **Subcontracting.** An additional 5% of the actual invoice cost will be paid to the Contractor as compensation for administrative cost, superintendence, and profit.

7.1.6. **Law Enforcement Personnel.** An additional 5% of the actual invoice cost will be paid as compensation for administrative costs, superintendence, and profit.

7.1.7. **Railroad Flaggers.** An additional 5% of the actual invoice cost will be paid as compensation for administrative cost, superintendence, and profit.

7.1.8. **Bond Cost.** An additional 1% of the total compensation provided in Article 8.7, "Payment for Extra Work and Force Account Method," will be paid for the increase in bond.

8. RETAINAGE

The CRRMA will not withhold retainage on the Contractor. The Contractor may withhold retainage on subcontractors in accordance with state and federal regulations.

9. PAYMENT PROVISIONS FOR SUBCONTRACTORS

For the purposes of this Article only, the term subcontractor includes suppliers and the term work includes materials provided by suppliers at a location approved by the CRRMA.

These requirements apply to all tiers of subcontractors. Incorporate the provisions of this Article into all subcontract or material purchase agreements.

Pay subcontractors for work performed within 10 days after receiving payment from the CRRMA.

Pay any retainage on a subcontractor's work within 10 days after satisfactory completion of all of the subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this Section, satisfactory completion is accomplished when:

- the subcontractor has fulfilled the Contract requirements of both the CRRMA and the subcontract for the subcontracted work, including the submittal of all information required by the Contract and the CRRMA, and
- the work done by the subcontractor has been inspected, approved, and paid by the CRRMA.

Provide a certification of prompt payment to certify that all subcontractors and suppliers were paid from the previous months payments and retainage was released for those whose work is complete. Submit the certification in the manner prescribed by the CRRMA each month and the month following the month when final acceptance occurred.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for the work as defined in Article 6.18, "Contractor's Responsibility for Work."

10. FINAL PAYMENT

When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Article 4.15, "Final Acceptance," and Contractor submittals have been received, the CRRMA will prepare a final estimate for payment showing the total quantity of work completed and

the money owed the Contractor. The final payment will reflect the entire sum due, less any sums previously paid. See Article 4.15 for Final Acceptance requirements.

Acceptance by the Contractor of final payment shall operate as and shall be a release to the CRRMA from all claims or liability under the Contract and any act or neglect of the CRRMA relating to or connected with the Contract, except as provided in Article 6.21 – "Warranty".