Request for Proposals (RFP)

To Design and Construct [PROJECT] Through a Design-Build Agreement

Technical Provisions 1-3

DRAFT [DATE HERE]

NEBRASKA

Good Life. Great Journey.

DEPARTMENT OF TRANSPORTATION

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1.0 General Requirements

1.1 Introduction

This section includes general requirements and information regarding Project scope, including Project description and limits, design and construction components, and the integration of the Standard Specifications.

Technical Provisions (TPs) provide certain information relating to, and requirements applicable to the Work.

Unless otherwise expressly stated, all requirements set forth in the Technical Provisions are obligations of the Design-Builder. Statements such as “provide,” “furnish,” or similar directives shall be interpreted to mean that the Design-Builder is responsible for performing the Work in accordance with the Contract Documents.

Nebraska Department of Transportation (Department) Project CN 22855 is part of the Metro Area Travel Improvement Study (MTIS) initiatives, NH-MTIS-80-9(203), aimed at addressing traffic congestion and improving safety in the Omaha metropolitan area by constructing roadway capacity improvements consisting of reconstructing lanes and adding a travel lane along I-80 from 50th Street to I-480 and including redecking bridge structures and new approaches with asphalt membranes/deck surface treatment.. Any Work outside the Planned ROW Limits may require supplemental Governmental Approvals, for which Design-Builder is solely responsible in accordance with the Contract Documents.

The Project shall be constructed within Project ROW and areas that are Environmentally Cleared. Design-Builder may use the full Planned ROW Limits for staging areas, except as otherwise limited by the Contract Documents.

1.1.1 Design-Builder Responsibilities

Design-Builder shall manage, plan, execute, and control all aspects of the Work; coordinate its activities with Governmental Entities and other Persons that are directly or indirectly affected by the Work; and document and report all Work in accordance with the Contract Documents. Specific components of the Work include the following:

- project management
- quality management program
- environmental management program
- scheduling and progress measurement
- public involvement
- right-of-way (ROW) acquisition for Design-Builder Designated ROW
- documentation and reporting
- Governmental Approval requirements, including obtaining and maintaining Governmental Approvals

The Reference Documents include the Base Technical Concept, which conveys the

general intent and layout for the Project. Design-Builder must upgrade existing roadway, roadway facilities, and structure features in accordance with the Contract Documents. These features include the following: metal beam guard rail, end treatments, barriers, sign posts and panels, street lights, drainage culverts, structural retrofit, etc.

1.1.2 Agency Oversight

Design-Builder shall cooperate with the Department in its review and oversight of Project design and construction. Additionally, as required by the Contract Documents, the Design-Builder shall cooperate with appropriate Governmental Entities, Local Agencies, and Utility Owners.

1.2 Key Personnel Requirements

Design-Builder shall provide Key Personnel that meet the minimum qualifications and experience requirements set forth in this Section. These requirements establish minimum acceptable qualifications for all Key Personnel assigned to the Project, including any replacements.

Key Personnel are categorized as Category A and Category B Key Personnel. The minimum qualification requirements for each category are provided in Table 1-1 and Table 1-2.

All Key Personnel, including replacements, shall meet or exceed the applicable requirements in this Section. These requirements shall apply throughout the duration of the Project. In the event of a conflict between this Section and any other provision of the Contract Documents relating to Key Personnel qualifications, this Section shall govern.

1.2.1 Category A Key Personnel Requirements

Individuals Approved as Category A Key Personnel shall perform in their designated roles for the duration of the Project and shall not be reassigned or replaced without prior written approval from the Department.

If a replacement is necessary, any proposed replacement shall meet or exceed the minimum qualification and experience requirements set forth in this Section. Approval of replacement personnel shall be at the sole discretion of the Department.

Table 1.1 Category A Key Personnel Responsibilities and Experience Requirements

Category A Key Personnel	Responsibilities / Relevant Experience
Project Manager	***Responsibilities***: This individual shall: • be responsible for the overall design, construction, quality, and DBA administration for the design and construction of the Project. • be required to be onsite full time during the design and construction phases of the Project until Final Acceptance. ***Relevant Experience:*** This individual shall have a minimum of 10 years' experience managing the design and construction of urban

Category A Key Personnel	Responsibilities / Relevant Experience
	roadway and bridge projects, including any Design-Build experience.
Construction Manager	***Responsibilities***: This individual shall: • be assigned to the Project as needed during design and onsite full-time during construction of the Project until Final Acceptance. ***Relevant Experience***: This individual shall have a minimum of 7 years' experience managing the construction of urban roadway and bridge projects, including any Design-Build experience.
Design Manager	***Responsibilities***: This individual shall: • be responsible for coordinating the individual design disciplines • be responsible for ensuring that the overall Project design is completed in accordance with the DBA requirements. • be dedicated full-time to the Project during the design phase and as required during the construction phase of the Project. • be responsible for design quality management and shall be the Coordinating Professional (Engineer of Record) who will have primary responsibility for design. • be a licensed professional civil engineer in the State of Nebraska. ***Relevant Experience:*** The individual shall have a minimum of 10 years' experience managing the design of urban roadway and bridge projects, including any Design-Build experience.
Lead Structural Engineer	***Responsibilities***: This individual shall: • be responsible for overseeing the design of all structural elements such that they are complete and meet design requirements. • be responsible for interdisciplinary design reviews. • be a licensed professional civil engineer in the State of Nebraska. ***Relevant Experience:*** The individual shall have a minimum of 10 years' structural design experience of highway structures including bridge rehabilitation, repair, widening, and replacement projects.
Traffic Control Implementation Manager	***Responsibilities***: This individual shall: • be responsible for implementing the Transportation Management Plan.

Category A Key Personnel	Responsibilities / Relevant Experience
	• be responsible for overseeing the implementation of MOT plans to confirm compliance with approved designs and applicable standards. • verify that all traffic control measures meet design criteria, safety regulations, and DBA requirements during construction activities. • coordinate closely with field crews, project management, and the Department to address any deviations or site-specific challenges, ensuring that adjustments maintain safety and operational efficiency. • be an employee of the Design-Builder and act as the primary point of contact for MOT related issues throughout construction. ***Relevant Experience:*** The individual shall have a minimum of 5 years' experience overseeing the implementation of MOT plans during construction of urban roadway and bridge projects similar in size and scope as the Project, including any design-build experience.

1.2.2 Category B Key Personnel Requirements

Category B Key Personnel shall meet the minimum qualification and experience requirements set forth in this Section.

Any replacement Category B Key Personnel shall meet or exceed the minimum qualification and experience requirements specified in this Section. The Department reserves the right to determine compliance with these requirements.

Table 1-2 Category B Key Personnel Responsibilities and Experience Requirements

Category B Key Personnel	Responsibilities / Relevant Experience
Quality Manager	***Responsibilities***: This individual shall: • be responsible for establishing and supervising Design-Builder's quality assurance and quality control program for the design and construction of the Project until Final Acceptance. • oversee the work of the design quality control manager. • work for the Design-Builder under the direct supervision of an executive officer, independent of the Project Manager. • be assigned to the Project as needed during design and onsite full-time during construction of the Project. • not be assigned any other duties or responsibilities on this Project. • have the authority to stop any and all construction.

Category B Key Personnel	Responsibilities / Relevant Experience
	***Relevant Experience*:** The individual shall have a minimum of 5 years' experience coordinating and managing quality programs on roadway and bridge projects, including any Design-Build experience.
Safety Manager	***Responsibilities***: This individual shall: • be responsible for establishing and supervising Design-Builder's entire safety program. • be an employee of and work for the Design-Builder. • be required to be onsite full-time during construction of the Project. • be familiar with the Department and FHWA work zone safety regulations, and must have successfully completed the ATSSA program and received the Nebraska Traffic Control Supervisor (TCS). ***Relevant Experience***: The individual shall have a minimum of 5 years' experience coordinating safety programs on urban roadway projects, including any Design-Build experience.
Environmental Compliance Manager	***Responsibilities***: This individual shall: • be responsible for monitoring, documenting, and reporting environmental compliance for the Design-Builder. • have overall responsibility for the Environmental Management Program to ensure that issues are resolved before construction begins and to ensure compliance with environmental commitments and requirements through the term of the DBA. • be available and onsite as required to fulfill all responsibilities during the Project. ***Relevant Experience:*** The individual shall have a minimum of 5 years' experience in environmental compliance experience on transportation projects, including any Design-Build experience.

1.3 Project Office

Design-Builder shall ensure Key Personnel are located on-site as required by the Contract Documents and maintain sufficient staff presence within the Omaha or Lincoln metropolitan areas to support effective Project coordination and day-to-day communication. Design-Builder may utilize an existing local office or other suitable spaces within these areas. Meetings will generally be held at the Department's Omaha District Office unless otherwise agreed to or directed by the Department.

1.4 Electronic Document Management System (EDMS)

Design-Builder shall establish, implement, and maintain an Electronic Document

Management System (EDMS) for the Project. The EDMS shall be used to submit, track, review, distribute, store, and retrieve all Project-related documents and shall serve as the system of record for the Project.

All information maintained in the EDMS shall be searchable, legible, and compatible with the Department's document management systems. Unless otherwise directed by the Department, all Project-related documents shall be submitted and managed through the EDMS.

The EDMS shall meet the following performance requirements:

- Use data systems, standards, and procedures compatible with those employed by the Department and implement any updates required as a result of the Department's modifications to such systems, standards, and procedures.
- Ensure the system is securely accessible only to authorized users and includes any required Department interfaces, while protecting it from theft, damage, and unauthorized or malicious use.
- Provide a mechanism for the electronic transfer of documents and associated metadata in a format compatible with the Department's systems.

The Department may request access to the EDMS, audit the system, or request export of documents at any time. Design-Builder shall provide all EDMS records, in a format acceptable to the Department as a condition of Final Acceptance.

1.5 Project Communication

Design-Builder shall arrange and conduct the mandatory Project meetings with the Department, and other parties as determined by the Department, as reflected in Table 1-3.

Table 1-3. Mandatory Meetings

Description	Frequency	TP Section
Management Meetings	Weekly	1.5.1
Construction Quality Meetings	Weekly	1.5.2
Technical Work Group Meetings	Weekly	1.5.3
Maintenance-of-Traffic (MOT) Coordination Meetings	Bi-Weekly	1.5.4
Preconstruction Meetings	Once per activity, week prior to activity	1.5.5

Design-Builder shall attend all meetings as required by the Contract Documents or as otherwise requested by the Department. For all meetings relating to the Project at which Design-Builder shall be in attendance (not just those called by Design-Builder or the Department), Design-Builder shall submit objective draft meeting notes to all attendees within 48 hours after the meeting. Design-Builder shall provide final meeting notes incorporating any Department comments within 48 hours after receipt of the Department's acceptance of or comments on such draft meeting notes, as applicable. Design-Builder shall distribute final meeting notes to the attending parties.

Design-Builder shall not be required to provide notes of its internal meetings related to the Project (that is, meetings in which the sole participants are Design-Builder, other Design-Builder Related Entities, and their respective Subcontractors and consultants).

1.5.1 Management Meetings

Weekly Management Meetings are held by Design-Builder Project Manager. Members of Design-Builder Management Team shall be in attendance at the weekly Management Meetings; Design-Builder task leaders may also be in attendance. The intent of the weekly Management Meetings is to report on the Project's status, to coordinate Project tasks, and to resolve any Project issues. Management meetings may include Project visits at either the Department's or Design-Builder's request. Design-Builder shall provide the Department with advanced notice of the location and time for Management Meetings.

1.5.2 Construction Quality Meetings

Weekly Construction Quality meetings are led by the Design-Builder Construction Manager. Representatives from the Design-Builder and Subcontractor teams, including but not limited to Project Manager, Safety Manager, and Quality Manager, shall be in attendance at the weekly Project meetings. The intent of the weekly Construction Quality meetings is to report on current construction status, provide safety updates, review the weekly RFI and NCR logs, and address and resolve any construction or quality related issues. Design-Builder shall provide the Department with advanced notice of the location and time for all construction quality meetings. This meeting may be combined with the Management Meeting when appropriate.

1.5.3 Technical Work Group Meetings

Design-Builder shall arrange and conduct technical work groups for the following categories of the Work:

- Design (roadway, structures, aesthetics, traffic, MOT, drainage)
- Utility Adjustments
- Project ROW
- Environmental mitigation
- Local Agencies

Technical work groups shall meet each week continuously throughout the duration of the Work, unless otherwise directed by the Department, to identify and resolve issues and concerns raised by the Department or Design-Builder. Design-Builder shall provide the Department with advanced notice of the location and time for meetings of the technical work groups to afford the Department the opportunity to attend.

The technical work group meetings may include Project visits at either the Department's or Design-Builder's request. At a minimum, Design-Builder's Key Personnel assigned to perform the relevant type of Work involved shall attend the technical work group meetings. The Department and other relevant Local Agencies shall be invited to the technical work group meetings. The purpose of these technical work group meetings is to acquaint Key Personnel with the details and features of the Work and to facilitate completion of the Project. The technical working group meetings are intended for collaboration and discussion but are not critical activity points that restrict the progress of design. The

Department's role in these meetings is advisory, comments provided by the Department during these technical working meetings, or as a result of them, are not official or binding and shall not be the basis of any claim under the Contract Documents. Only comments provided through the design submittal process will be considered official.

1.5.4 Maintenance-of-Traffic (MOT) Coordination Meetings

Maintenance of Traffic (MOT) Coordination Meetings are led by the Design-Builder Traffic Control Implementation Manager and shall be held at least every two weeks or as necessary to address upcoming traffic control activities. Representatives from the Design-Builder, including but not limited to the Construction Manager, Public Information Coordinator [NTD: NDOT or Design-Builder TBD], and other personnel responsible for traffic control implementation, shall attend the MOT Coordination Meetings. Department representatives shall also participate in these meetings.

The intent of the MOT Coordination Meetings is to review upcoming traffic control operations, coordinate stage transitions, lane closures, detours, and other changes to traffic control, and discuss potential impacts to the traveling public, emergency services, and adjacent stakeholders. Design-Builder shall provide the Department with advanced notice of the location and time for all MOT Coordination Meetings.

1.5.5 Preconstruction Meetings

Preconstruction Meetings shall be held no later than one week prior to the start of construction activities as necessary to confirm readiness and coordination among involved parties. These meetings are intended to address key aspects of the upcoming work, including sequencing, traffic control, utilities, and roles and responsibilities, to ensure the activity can proceed safely and efficiently. Staff involved in this meeting may include superintendents, inspectors, TCS and traffic control personnel, Utility Owners, and Department representatives. Design-Builder shall provide the Department with advanced notice of the location and time for all preconstruction meetings.

1.6 Project Management Plan

Design-Builder shall establish and maintain an organization that effectively manages all elements of the Work. The Design-Builder shall prepare and submit for review and approval a Project Management Plan (PMP), which is a collection of management plan components. The PMP is an umbrella document that describes Design-Builder's managerial approach, strategy, and quality procedures to develop, design, furnish, construct, install, and maintain the Project in accordance with the Contract Documents.

The PMP shall include details of external auditing procedures and shall be consistent with commitments relating to project management in this Section. The PMP shall include all components required by the Technical Provisions and describe the systems, procedures, and controls Design-Builder will implement to manage the Work. The structure of the PMP is outlined in Table 1-4.

Requirements for the Design Quality Management Plan (DQMP) and Construction Quality Management Plan (CQMP) are provided in TP2.

Table 1-4. Components of the Project Management Plan

PMP Component Number	Component Title
1	Organization and Management Plan
2	Environmental Management Plan
3	Public Involvement Plan
4	Health and Safety Plan
5	Risk Management Plan
6	Traffic Management Plan
7	Maintenance Management Plan
8	Utility and Affected Third Parties Plan
9	Design Quality Management Plan
10	Construction Quality Management Plan

Design-Builder shall update the PMP and its component plans at least annually or as requested by the Department throughout the duration of the Project. The Department may request updates as necessary to address deficiencies or ensure compliance with the Contract Documents. Updated PMP components shall be submitted for review and approval in accordance with the Technical Provisions. Upon approval, the PMP shall be revised and implemented accordingly.

All commitments and requirements contained in the PMP shall be verifiable.

1.6.1 Organization and Management Plan

Design-Builder shall submit an Organization and Management Plan for Department approval that defines the organizational structure, personnel assignments, management procedures, and systems for administration of the Work. The Organization and Management Plan shall contain the following:

- Procedures for managing and overseeing Subcontractors and Subconsultants
- Procedures for preparation, control, and submission of amendments to the PMP and its component plans
- Audit and management review procedures to evaluate compliance with the PMP, including:
  - Design-Builder's internal activities; and
  - Subcontractor and Subconsultant activities
- Procedures to facilitate Department review and audit of Design-Builder's performance

1.6.1.1 Organization and Management Structure

The Organization and Management Plan shall define Design-Builder's organizational structure, management approach, and personnel assignments for the Project.

Design-Builder shall provide and maintain Key Personnel in accordance with the requirements of Section 1.2 (Key Personnel Requirements). The Organization and Management Plan shall identify all Key Personnel and describe their roles, responsibilities, reporting relationships, and lines of authority consistent with Section 1.2.

In addition to Category A and B Key Personnel, the Organization and Management Plan shall identify other personnel necessary to effectively manage and deliver the Work, including their roles, responsibilities, and reporting relationships. All such personnel shall be qualified for their assigned roles and shall meet the applicable requirements set forth in the Technical Provisions for the Work they perform.

Design-Builder shall include an organizational chart that:

- Clearly depicts reporting relationships, lines of authority, and communication interfaces
- Identifies Category A and B Key Personnel and supporting staff
- Reflects integration of design, construction, quality, environmental, and other functional teams
- Demonstrates how subcontractors and major subconsultants are incorporated into the overall organization

The Organization and Management Plan shall also include:

- Names, titles, and contact information for Key Personnel and other identified personnel
- Defined roles and responsibilities for each position
- Procedures for coordination, communication, and decision-making among team members

1.6.1.2 Document Management

The Organization and Management Plan shall describe Design-Builder's procedures for document management in accordance with the requirements of Section 1.4 (Electronic Document Management System (EDMS)). The Organization and Management Plan shall include, at a minimum:

- The manner in which records will be created, maintained, and managed in compliance with the Contract Documents and Section 1.4
- Procedures for document control, including document creation, review, approval, distribution, storage, retrieval, and version control
- Identification of the systems and tools that will be used to implement the EDMS requirements
- A computer and data recovery plan to ensure continuity of document management and protection of Project records

1.6.2 Environmental Management Plan

Design-Builder shall develop and maintain a comprehensive Environmental Management Plan for the Work that complies with all applicable Governmental Rules (including Environmental Laws) and Governmental Approvals issued thereunder, whether obtained

by the Department, or Design-Builder. The Environmental Management Plan shall include processes and procedures that require the Design-Builder to:

- Protect the environment and document the measures taken during the performance of the Work to avoid and minimize impacts on the environment resulting from the design, construction, maintenance, operation, and rehabilitation activities of the Project
- Effectively demonstrate Design-Builder's knowledge of all applicable Project-specific Governmental Approvals, issues, and commitments and any applicable Environmental Laws as set forth thereunder
- Provide concise, consistent monitoring and reporting activities throughout the term of the Contract, applicable to the activities being performed
- Describe the processes that are followed during the course of the Work to comply with those Governmental Approvals, issues, commitments, and Governmental Rules, as well as the documentation required to verify and validate compliance
- Describe the documentation required to verify and validate compliance with all applicable Environmental Laws, Governmental Approvals, and Contract Documents
- Establish a goal of zero environmental violations during the performance of all Work activities, and provide detailed processes for rectifying such violations in an appropriate and timely manner

Design-Builder shall provide design certifications with every design Submittal confirming that an environmental review of the design package has been completed and that the design does not result in changes to the environmental requirements or commitments provided in the project environmental documents, the Contract Documents, or applicable Governmental Approvals.

Design-Builder shall prepare an Environmental Management Plan that establishes the environmental requirements, approach, and procedures that Design-Builder shall implement during construction to ensure compliance with the Project Standards, applicable federal and State Governmental Rules, and commitments identified in the Contract Documents. Design-Builder shall follow the requirements as listed and referenced in TP Attachment 6-1 (Project Environmental Commitment Requirements), the provisions of these TPs, Governmental Rules, Good Industry Practice, and the Contract Documents.

The Environmental Management Plan must include the following components:

- Environmental Mitigation and Monitoring Plan, including the associated documents referenced in TP Section 1.5.2.1 (Environmental Mitigation and Monitoring Plan)
- Environmental Commitments Record (ECR) matrix
- Environmental Protection Training Program
- Environmental Notification Checklist
- Environmental staffing plan
- Hazardous Materials Management Plan
- Any other environmental items required by the Contract Documents

Design-Builder shall submit the Environmental Management Plan for review and approval by the Department during NTP1 as part of the PMP.

1.6.2.1 Environmental Mitigation and Monitoring Plan

Design-Builder shall prepare the Environmental Mitigation and Monitoring Plan prior to any ground-disturbing activities. Design-Builder shall clearly identify in the Environmental Mitigation and Monitoring Plan all environmental requirements in accordance with the Project Standards, Governmental Approvals in TP Section 6.2.4 (Environmental Approvals) and Department-Provided Approval, Governmental Rules, and the Contract Documents. Design-Builder shall submit the initial Environmental Mitigation and Monitoring Plan for review and acceptance by the Department as set forth in the DBA, Section 4.2.1 (NTP1).

Prior to and during construction, Design-Builder shall implement the Environmental Mitigation and Monitoring Plan and perform all monitoring in compliance with the Project environmental requirements. Document compliance with all environmental requirements through reports, memoranda, photographs, etc. For each environmental requirement, Design-Builder shall identify all compliance actions and the responsible party for monitoring and documenting compliance.

Upon completion of the compliance action, Design-Builder shall provide the documentation for validation. the Department will acknowledge compliance by memorandum or signature when the Department considers the compliance action is closed. Design-Builder shall prepare a final monitoring and reporting plan documenting closure or concurrence of non-closure by the Department for all compliance actions prior to Final Acceptance.

Design-Builder shall provide direction to environmental personnel to minimize and/or mitigate potential environmental effects identified herein. If requested, Design-Builder shall conduct and finalize environmental studies and develop any necessary plans to support preparation of Design Documents and Construction Documents.

Design-Builder shall include the Environmental Mitigation and Monitoring Plan within the Environmental Management Program for use by Project monitoring personnel. Design-Builder shall prepare weekly Environmental Monitoring Reports to document Design-Builder's actions to monitor and maintain compliance with all applicable Environmental Laws, Governmental Approvals, and Project Standards. Compile and provide weekly monitoring reports into monthly Environmental Monitoring Reports. Environmental Monitoring Reports must include the following information:

- Name of environmental monitoring inspector
- Date of monitoring
- Weather conditions
- Location
- Resource(s) addressed
- Location and nature of occurrence
- Locations and nature of violations, if any
- Recommended remedial actions
- Updated status matrix of Design-Builder's responsible environmental commitment requirements (ECR)

Design-Builder has as an optional reporting tool, the Department's Environmental

Commitment Operation Database (ECOD) Tool to document monitoring actions. The ECOD tool will require Design-Builder training to be arranged/provided by the Department in the event the Design-Builder chooses to use the ECOD reporting tool. The Department will provide access and training within 30 days of the request to use ECOD. Design-Builder shall complete all applicable fields in the Department ECOD Tool. Environmental Monitoring Reports shall also include an updated status matrix of Design-Builder's responsible environmental commitments that shall be submitted using the Department ECOD Tool.

Design-Builder shall furnish monthly Environmental Monitoring Reports reflecting the status and implementation of Environmental Mitigation and Monitoring Plan from issuance of NTP1 through Final Acceptance. Design-Builder shall amend and update the Environmental Management Program as necessary to address changing conditions and environmental requirements in accordance with the procedures for amendments to the PMP.

Design-Builder shall submit a final Environmental Monitoring Report, along with a Certificate of Environmental Compliance, for review and approval by the Department as a condition of Final Acceptance.

Design-Builder shall assist the Department with updating the ECR to reflect the close-out of all respective environmental commitments through the Term of the Contract. These activities may include preparing documentation for the ECR issues identified throughout the Project. To supplement the ECR, Design-Builder shall submit monthly monitoring reports from issuance of NTP1 through Final Acceptance.

1.6.2.2 Project Environmental Commitment Requirements

Design-Builder shall implement compliance with environmental commitments and requirements included in the Environmental Approvals, and conditions of Governmental Approvals. The table provided in TP Attachment 6-1 (Project Environmental Commitment Requirements) includes the Project-specific environmental commitment measures with Design-Builder's environmental commitments and responsibilities.

The figures in the Environmental Approvals, and applications for other Governmental Approvals, reflect the Planned ROW Limits for the Project. Any Work outside the Planned ROW Limits is entirely at Design-Builder's risk in accordance with the Contract Documents.

1.6.2.3 Environmental Protection Training Program

Design-Builder shall design and implement an Environmental Protection Training Program. All Design-Builder employees and Subcontractors who work on the Site, including truck drivers, equipment operators, and each new employee who begins Work after issuance of NTP1, must participate in the Project Environmental Protection Training Program within 14 Days.

The Environmental Protection Training Program must include all necessary instruction to facilitate compliance with the ECR and conditions of Environmental Approvals, including:

- Clear lines of authority
- Reporting flow

- Decision trees for response to unanticipated discoveries, accidents, spills, or other circumstances that require rapid response for compliance with all environmental requirements
- Design-Builder shall furnish the Environmental Protection Training Program in a detailed document for hand out to the employees at the training events. Design-Builder shall attach to the handout the Environmental Notification Checklist described in TP Section 1.5.2.3 (Environmental Notification Checklist).
- Design-Builder shall train employees of Design-Builder and Subcontractors with respect to the following environmental matters:
- The overall importance of environmental issues in achieving a successful Project
- The particular environmental sensitivities of the Project
- Erosion and sediment control procedures in accordance with the storm water pollution prevention plan (SWPPP), including the functions and proper installation of best management practices (BMPs)
- Proper procedures for spill containment
- Proper and safe handling of Contaminated Soil and Contaminated Groundwater
- The importance of Environmentally Sensitive Area protection, visual recognition through fencing, and potential Project and personal liabilities resulting from Environmentally Sensitive Area damage or impact
- Construction noise abatement requirements
- Environmental Notification Checklist

Design-Builder shall provide proof, through signature, that each on-site employee has attended the training, understands the environmental constraints, Environmental Notification Checklist, compliance with the ECR and conditions of the applicable Environmental Approvals, and whom to contact with questions regarding the training. No employee may work on-site on the Project without first completing all required environmental training.

The Environmental Compliance Manager is responsible for making sure all employees have participated in the Environmental Protection Training Program and are provided with all updates to the Environmental Notification Checklist.

Department staff shall provide assistance regarding clarification and understanding of Project environmental goals and policies. Design-Builder shall notify the Department and relevant Governmental Entities of the training sessions and invite them to participate.

1.6.2.4 Environmental Notification Checklist

Design-Builder shall prepare an Environmental Notification Checklist for review that includes all contact Persons and reporting and notification requirements for unforeseen potential environmental effects encountered during the course of the Project. Design-Builder shall submit the Environmental Notification Checklist for review and approval by the Department 30 Days prior to initiating any ground-disturbing construction activities. Design-Builder shall update the list as needed and provide new lists to all monitoring personnel and include updates into the Environmental Management Program.

The Environmental Notification Checklist must include the following information:

- All contact Persons representing Design-Builder, the Department, and applicable Governmental Entities regarding environmental matters
- Specific chain of contact
- Each contact's name; entity affiliation; address; email address; home, cellular, office telephone number(s); and fax number
- Design-Builder shall specify on the Environmental Notification Checklist the appropriate contact Person(s) for reporting and notification of the following events, at a minimum, occurring anywhere on the Site:
- Inspection by any Governmental Entity, specifically by such Governmental Entity's name (for example, USACE, USFWS, EPA)
- Hazardous Materials Management
- Release of Hazardous Materials
- Discovery of:
  - An active bird nest (with eggs or young)
  - Cultural resources (sites, structures, artifacts)
  - Human remains and funerary objects
  - Items of geologic interest (fossils)
  - Wildlife injured during construction activities
  - Hazardous Materials
  - Disturbance of any threatened or endangered species or its habitat
  - National Pollutant Discharge Elimination System (NPDES) inspections by the Nebraska Department of Environment and Energy (NDEE) (formerly Nebraska Department of Environmental Quality (NDEQ))
  - Illicit discharges of water and/or sediment leaving the Site
- Occurrence of Work:
  - In non-permitted wetlands or waters of the United States
  - Outside the Planned ROW Limits
  - Violation of Governmental Approvals or Environmental Laws
- Any pollution, discharge, or other environmental issues not covered in items previously listed

1.6.3 Public Involvement Plan

The Design-Builder shall prepare and submit to the Department its own Public Involvement Plan (PIP) that identifies how the Design-Builder will implement the Design-Builder's requirements set forth in this Section.

The Public Involvement Plan shall contain the following information:

- Personnel
  - Names and contact details, titles, job roles and specific experience required

for Key Personnel and for other personnel

- Procedures
    - Establish, operate and maintain project helpline
    - Procedures to communicate with commuters, businesses, media, general public, Project stakeholders (municipalities, counties, and other affected groups)
    - Procedures to respond immediately to public complaints related to damages and to compensate motorists for minor damages due to construction activities
    - Establish business support program, including identification of businesses, activities, format and frequency of meetings, in consultation with the Department
    - Procedures for responding to emergencies and incidents during the Project

1.6.4 Health and Safety Plan

Design-Builder shall develop, implement, and maintain a comprehensive task-specific written Health and Safety Plan. Design-Builder shall fully describe in its Health and Safety Plan the Design-Builder's policies, training programs, controls, incident response plans, and enforcement for the health and safety of personnel involved in the Project and the general public affected by the Project during the term of the DBA. The Health and Safety Plan shall be prepared in accordance with the requirements of OSHA.

The Health and Safety Plan shall address procedures for immediately notifying the Department of all incidents arising out of or in connection with the performance of the Work, whether on or adjacent to the Project.

The Health and Safety Plan procedures and methods shall include the following:

- Names and contact details, titles, job roles and specific experience required for Key Personnel and for other health and safety personnel
- Implement Job Hazard Analysis and Training Program for all employees
- Consistency with the Project insurance requirements.
- Identification of full-time dedicated safety professionals or managers covering all production shifts.
- Alcohol/drug-free workplace policy.
- Incident and emergency response procedures, including response capabilities, evacuation and egress, responsibilities for reporting and investigating incidents, exposures, contingency plans, and the maintenance of safety-related logs.
- Incident reporting procedures.
- Personal Protection Equipment (PPE) requirements and policy.
- The process for Submittals to the Department of OSHA Forms for Recording Work-Related Injuries and Illnesses, as directed.
- Procedures

- Policies, plans, training programs, Work Site controls, and Incident response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project
- Procedures for immediately notifying the Department of all incidents arising out of or in connection with the performance of the Work
- Establish standard operating procedures for the Project to guide employees in safe Work practices

1.6.5 Risk Management Plan

The Risk Management Plan shall describe the approach to identify, manage, and mitigate Project specific risks. The Risk Management Plan shall include:

- Description of Design-Builder's team's personnel
- Description of how Design-Builder will engage the Department in managing risk
- Proposed meetings to discuss risk management
- Strategies for controlling and managing Project risks
- Include risk matrix
- Strategies to allocate risk to manage impact

1.6.6 Traffic Management Plan

Design-Builder shall develop, implement, and maintain a TMP for the Project. Design-Builder shall submit the TMP to the Department for review in accordance with Contract Section 4.2.1 (NTP1). The TMP shall address the topics and include the following information:

- Traffic control and phasing plans, including Design-Builder entrances and exits from the Site and proposed haul routes.
- Transportation Operations: Strategies to mitigate the effects of the work zone on the operation and management of the highway system within the work zone, including demand and highway management, work zone safety management, and TIM and emergency response management and planning.
- Descriptions and duties of the TMP personnel by name, level of authority, and specific roles and responsibilities for the development, implementation, monitoring, and evaluation of the TMP.
- Include emergency contacts, including the list of known contact persons for each emergency service agency, including police, fire, and ambulance.
- Descriptions of personnel qualifications
- Procedures to identify and incorporate the needs of transit, utility owners, EMS, schools, business, owners, and other stakeholders in the Project corridor
- Procedures for developing and obtaining acceptance for Traffic Control Plans (TCPs), including detours, road and lane closures, and other modifications with detailed phasing
- Procedures for signing transitions and traffic control devices (including pavement

markings and traffic barriers) from temporary to permanent

- Procedures for safe ingress and egress from work zones
- Procedures to provide continuous access for Hazardous material routes
- Procedures to communicate information to notify the Department and the public of MOT issues

1.6.7 Maintenance Work Plan

Design-Builder shall prepare a Maintenance Work Plan describing the implementation, coordination, and scheduling of all maintenance activities and inspections required for the Project. Detailed requirements for maintenance responsibilities, procedures, and performance standards are provided in TP Section 18, and the Maintenance Work Plan shall reference TP 18 for all technical criteria.

The Maintenance Work Plan procedures and methods shall include the following requirements:

- A preconstruction maintenance survey documenting existing conditions within the Project ROW
- A listing of existing conditions which are not included in the lump sum Contract price or are not Eligible Maintenance Work.
- Provide for a post-construction maintenance survey to be performed as a part of Final Acceptance
- Approach to implementation and relief of maintenance for this Work
- Monthly reports to be provided to the Department describing status of maintenance activities performed and maintenance inspections accomplished.

Design-Builder shall submit the Maintenance Work Plan, with the preconstruction maintenance survey, to the Department for Approval within 60 Days after issuance of NTP1. Design-Builder shall not commence construction until the Maintenance Work Plan is approved by the Department.

Snow and ice roadway maintenance on roadways open to traffic will be performed by the Department, with the exception of temporary accesses as described in TP Section 16.3.10 (Temporary Access).

1.6.8 Utility and Affected Third Parties Plan

Design-Builder shall prepare and submit to the Department, a Utility and Affected Third Parties Plan in accordance with the requirements of TP Section 7.5. Department Approval of the Utility Management Plan shall be a condition to the commencement of Design Work. The Utility Management Plan shall include the following:

- Design-Builder's organization structure including names, contact details, titles, job roles and qualifications of Utility Key Personnel and other Utility personnel;
- Procedures for coordination with Utility Owners to obtain Utility Assemblies and establishing procedures for Utility Adjustment Concept Plans, Utility Adjustment Field Modifications, Utility strip map, inspection of Utility Owner construction, quality control/quality assurance, emergency procedures with respect to Utility Adjustment Work and close out procedures;

- Integration of the Utility Adjustment Work in the Project Baseline Schedule; and
- Procedures to address a Utility Adjustment Field Modification (UAFM) as described in TP Section 7.4.5.
- Design-Builder shall list all anticipated utilities and third-parties along with details of required coordination efforts including plan submittal review durations necessary to complete the Work.

When Work interfaces with third-party facilities, Design-Builder shall be responsible for coordinating the Work with all third parties potentially affected by the Work. Design-Builder shall prepare a plan, the Utility and Affected Third Parties Plan, which describes how Design-Builder will mitigate the effect of the Work upon potentially affected third parties, for the Department's review prior to initiating discussions with potentially affected third parties.

1.6.9 Design Quality Management Plan

Design-Builder shall prepare a Design Quality Management Plan (DQMP) describing the organization, procedures, and controls to be implemented to ensure the quality and completeness of all design Work. The DQMP shall address design management, quality control and assurance processes, interdisciplinary coordination, constructability reviews, and document control, and shall establish procedures for design reviews, verifications, and approvals. Detailed requirements are provided in TP Section 2.

1.6.10 Construction Quality Management Plan

Design-Builder shall prepare a Construction Quality Management Plan (CQMP) describing the organization, procedures, and controls to be implemented to ensure the quality of all construction Work. The CQMP shall address Construction Quality Control (CQC) procedures, inspection and testing requirements, identification of Hold Points, and documentation and reporting processes, including Nonconformance Reports (NCRs). Detailed requirements are provided in TP Section 2.

1.7 Submittals

Table 1-5 reflects a list of deliverables identified in TP Section 1.0 (General Requirements). It is Design-Builder's responsibility to determine and submit all deliverables as required by the Contract Documents, Project Standards, Governmental Approvals, and Governmental Entities.

Table 1-5. Deliverable List

Submittal	Submittal Schedule	Department Action	TP Section
Project EDMS records	Prior to Final Acceptance	For information	1.4
Meeting Notes	48 hours after meeting	Review and comment	1.5
Organization and Management Plan	Prior to NTP2	Approval	1.6.1
Environmental Management Plan	Prior to NTP2	Approval	1.6.2
Environmental Monitoring Reports	Monthly	For information	1.6.2.1
Public Involvement Plan	Prior to NTP2	Approval	1.6.3
Health and Safety Plan	Prior to NTP2	Approval	1.6.4
Risk Management Plan	Prior to NTP2	Approval	1.6.5
Traffic Management Plan	Prior to NTP2	Approval	1.6.6
Maintenance Work Plan	Prior to NTP2	Approval	1.6.7
Utility and Affected Third Parties Plan	Prior to NTP2	Approval	1.6.8
Design Quality Management Plan	Prior to NTP1	Approval	1.6.9
Construction Quality Management Plan	Prior to NTP2	Approval	1.6.10

2.0 Quality Program

2.1 Quality Management Program

Design-Builder shall be responsible for establishing, implementing, and maintaining a Quality Management Program for the Project in accordance with the Contract Documents. The Quality Management Program shall govern all quality-related activities for both design and construction and shall ensure that the Work complies with the requirements of the Contract Documents.

Design-Builder shall be responsible for design quality control and assurance (QA/QC), and Construction Quality Control (CQC). The Department will perform construction quality assurance and material acceptance testing in accordance to the Contract Documents.

The Quality Management Program shall be implemented through the Quality Management Plans, including the Design Quality Management Plan (DQMP) and Construction Quality Management Plan (CQMP), as specified in this Section.

Design-Builder shall maintain its own internal quality staff to manage the Quality Management Program in accordance with the requirements of the Contract Documents.

2.1.1 Program Goals

Design-Builder shall develop and implement a Quality Management Program that provides a comprehensive and integrated approach to managing quality for all design and construction activities.

The Quality Management Program shall, at a minimum:

- Establish procedures to ensure the Work complies with the requirements of the Contract Documents.
- Integrate quality management activities across design and construction.
- Define the standards, processes, and controls for quality management.
- Assigns the responsibilities and authority for quality related functions

The requirements of this Section establish the minimum standards for the Quality Management Program. Design-Builder shall be responsible for developing and implementing a program that effectively meets these requirements and the needs of the Project.

2.1.2 Quality Management Plan

Design-Builder shall implement the Quality Management Program through the Quality Management Plans (QMPs), including the Design Quality Management Plan (DQMP) and Construction Quality Management Plan (CQMP), as specified in this Section.

The DQMP and CQMP shall define the procedures, organization, responsibilities, and controls Design-Builder will use to manage quality for design and construction, respectively.

The DQMP and CQMP shall be submitted as components of the Project Management

Plan (PMP) in accordance with TP Section 1.6 and shall be subject to Department review and approval prior to implementation.

Design-Builder shall implement and maintain the DQMP and CQMP throughout the duration of the Project. The CQMP shall be reviewed, updated, and resubmitted to the Department for approval on an annual basis.

2.2 Design Quality Management

Design-Builder shall maintain a record of internal design quality activities. A summary of the design review activities and design quality proceedings shall be included with the monthly Progress Schedule documents submittals in accordance with TP 3 (Project Schedule).

2.2.1 Personnel Requirements

2.2.1.1 Design Quality Manager

The Design Quality Manager (DQM) is responsible for management of the design quality program for design, environmental, ROW, utilities, and survey. The DQM shall not be involved with direct scheduling or production activities. The DQM shall oversee design quality assurance and quality control activities and ensure that design reviews are performed in accordance with the approved DQMP and the Contract Documents. The DQM shall verify that all design submittals have undergone the required QA/QC reviews prior to submission and that all review comments are addressed and resolved. The DQM shall ensure that the requirements of the approved DQMP are implemented and followed by Design-Builder personnel in the performance of the Work. This individual shall be assigned to the Project as required during the design phase and construction phase. The DQM shall be a Licensed Professional Civil Engineer in the State of Nebraska. Relevant experience includes:

- Ten years experience on transportation projects.

2.2.1.2 Design Quality Assurance and Quality Control Personnel

The Design QA and QC staff shall include experienced engineers to perform detailed checks of all design calculations and review of construction plans as defined by Design-Builder's QC plan. Design QA and QC staff shall, at a minimum, be a Licensed Professional Civil Engineer and have practiced in the design discipline and type of Work being checked for at least 5 years.

2.2.2 Design Quality Management Plan

Design-Builder shall prepare and submit a Design Quality Management Plan (DQMP) which addresses Design Quality Assurance and Design Quality Control.

2.2.2.1 General

The objective of the DQMP is to place the responsibility for conducting DQA and DQC review duties solely with Design-Builder and the Design Acceptance duties solely with the Department. The Department reserves the right to audit the DQMP during Design-Builder's design stage.

The DQMP shall ensure that all investigations, reports, calculations, plans, and

specifications are prepared in accordance with accepted design and engineering practices as governed by the Contract Documents.

2.2.2.2 Department Review

Design-Builder shall submit the final DQMP for the Department review and approval as part of the PMP in accordance with TP Section 1.5 (Project Management Plan). If Design-Builder begins design Work before the Department's approval of the DQMP, it shall do so entirely at its sole risk and any costs incurred due to subsequent design changes shall be the sole responsibility of the Design-Builder. If the proposed DQMP is not approved by the Department, Design-Builder shall modify and resubmit the plan for approval. Once approved, Design-Builder shall not revise the DQMP without prior written approval of the Department. Any revision to the DQMP that affects compliance with the Contract Documents shall require prior written approval of the Department.

2.2.2.3 DQMP Contents

The DQMP shall describe and include at least the following:

- Systematic approach to the Project design on a task level basis by defining the processes, procedures, design criteria, and documentation to be used
- Comprehensive CADD standards and file naming structure
- List of Design Packages
- Design submittal work flow including planned Release for Construction Packages
- Format and content of Final Design Documents
- Design-Builder's approach to Design Quality Control (DQC) and Design Quality Assurance (DQA), including:
    - Roles, responsibilities, and independence of DQA and DQC functions
    - Interfaces between design production, DQC, and DQA activities
- Description of the level of detail, frequency, and methods of checking the adequacy of the Project design for all Design Documents.
- Procedures for coordinating the various design activities that are performed by different individuals or firms for related tasks. The coordination procedures shall include the review, approval, release, distribution, and revision of documents involving such parties. These procedures shall ensure that conflicts, omissions, or misalignments do not occur between drawings or between the drawings and the specifications. The coordinating procedures shall be in accordance with Neb. Rev. Stat Sections 81-3408 and 81-3437.02, as well as the Neb. Admin. Code, Title 110, Section 6.3.
- Procedures for performing constructability reviews to confirm that the design can be efficiently and safely constructed, including evaluation of construction sequencing, access, traffic control, temporary works, and coordination with adjacent Work and existing conditions. Constructability reviews shall be performed at appropriate stages of design and documented as part of the DQC process.
- Procedures to ensure that Design-Builder's personnel are familiar with all the requirements of the Contract Documents concerning their respective responsibilities.

- Procedures for education, training, and certification (as applicable) of personnel performing activities affecting or assessing design quality.
- Procedures to ensure that the Project design is performed according to the DQMP, Good Industry Practice, generally accepted engineering and architecture practices in the State of Nebraska (Neb. Rev. Stat. Sections 81-3401 through 81-3455), and the Contract Documents.
- Documentation and records management procedures, including maintaining, organizing, and indexing all Design Documents in the EDMS.
- Responsibilities for preparation, control, and maintenance of design documentation, including design criteria, reports, calculations, plans, specifications, and supporting materials used for Final Design and As-Built Documents.
- Procedures for providing engineering services during construction.
- Procedures for development and Department approval of Submittal packages and content, mandatory Submittals, Submittal Schedule, and methodology.
- Procedures and schedules for the DQM to audit the DQA and DQC procedures and to interface with the Department.
- Design Reviews shall be set up by the DQM at the following stages of design:
  - Intermediate Design Submittal
  - Final Design Submittal

The DQMP shall be submitted to the Department for review and approval in accordance with the Contract Documents. The Department may audit the implementation of the DQMP at any time.

2.2.3 Design Quality Control

The DQC as detailed in the DQMP shall include express requirements regarding:

- The preparation of all design Work product under the direct supervision of a Licensed Professional Civil Engineer in the State of Nebraska.
- Complete and independent checking of all calculations, drawings, plans, specifications, reports, and other design deliverables shall be performed by experienced engineers in accordance with TP Section 2.2.1 (Design Quality Assurance and Quality Control Personnel), Good Industry Practice, and the requirements of the Contract Documents.
- Verification that the design meets all requirements of the Contract Documents.
- Clear identification of the designer and checker on the face of all final design documents. Plans, specifications, calculations, reports, and other documents shall be certified, signed, and dated by the QA/QC reviewer for that item or element of the Project and by the Design Manager as the Coordinating Professional.

The Department may reject any Design Submittal that does not demonstrate completion of the required DQC procedures. Design-Builder shall not submit any Design Documents to the Department unless the DQC procedures defined in the approved DQMP have been completed.

2.2.3.1 Design Quality Control Procedures

- Interdisciplinary design checks to ensure compatibility with other design disciplines
- Include constructability reviews to confirm the design can be efficiently and safely constructed.
- Adherence to the systematic approach to the Project design established in the approved DQMP
- Implementation of DQC procedures organized by discipline (e.g., structural, civil, utilities), including measures to ensure design requirements are properly incorporated into Design Documents and deviations are identified, controlled, and documented. Design-Builder shall not deviate from such procedures without prior written approval from the Department.
- Design-Builder's internal DQC procedures to be followed by design production personnel during Project design

2.2.4 Design Quality Assurance

The DQA reviews shall be performed by Design-Builder and shall include requirements regarding:

- Independent oversight of DQC activities and verification of compliance with the approved DQMP.
- Audit of records, documentation, procedures, and processes to verify compliance with the Contract Documents and the approved DQMP.
- Audits of design to verify compliance with the Technical Provisions.
- Verification that all DQC activities have been completed prior to submittal.
- Verification that all review comments (including the Department's comments) are addressed and resolved.
- Certification by the DQM, prior to any design submittal to the Department, that the submittal:
  - Has undergone required DQA and DQC processes; and
  - Meets the requirements of the approved DQMP and Contract Documents.

2.2.4.1 Design Quality Assurance Procedures

- Define processes for auditing DQC activities, design deliverables, and compliance with the approved DQMP.
- Define documentation and tracking of DQA reviews, findings, and corrective actions.
- Establish procedures to verify that DQC activities have been completed prior to submittal.
- Define escalation and resolution processes for unresolved design issues or discrepancies.

2.2.5 Design Certification

The DQM must certify in a Certification of Final Design Submittal, prior to delivery of the

Final Design Submittals that:

- The design meets all applicable requirements of the Contract Documents, applicable Governmental Rules, and Governmental Approvals.
- The design has been checked in accordance with Design-Builder's approved DQMP.
- The item or element is ready for construction.
- Design-Builder has obtained all required final ROW, Governmental Approvals, and Utility Owner approvals.

2.2.6 Submittal Review Process

The intent of the Submittal packaging process is to provide the Department, applicable Governmental Entities, and other Project stakeholders with a formal opportunity to review administrative documents, Design Documents, and Construction Documents prepared by the Design-Builder to confirm the Work is progressing in accordance with the Contract Documents. In general, Submittal packages shall include the following:

- Administrative documents (PMP, other plans, etc.)
- Design Documents
- Construction Documents
- Any other document identified for delivery under the Contract Documents, including any item identified specifically as a "Submittal"

A complete road, roadway facility, structure, or a component thereof, may be submitted as a Submittal package.

Design-Builder shall coordinate Submittals to facilitate an efficient and orderly review process. Design-Builder shall not submit more than ten (10) Design Submittal packages for Department review at any one time, unless otherwise approved by the Department. Submittals shall be submitted in accordance with the approved Submittal Schedule.

Design-Builder shall coordinate with Governmental Entities, Local Agencies, and Utility Owners to determine their Submittal requirements and shall provide concurrent copies of such Submittals and related correspondence to the Department.

2.2.6.1 Design Submittal Packaging Plan

Design-Builder shall collaborate with the Department and its designees, as applicable, to develop:

- A list of proposed Segments (TP Section 2.2.2.6 [Segment Limits Map]) for the Work
- Design packaging and content (such as drainage, individual structures, roadway, traffic sequencing, and others)
- A list of mandatory Submittals (if any additional to the minimums set forth in TP Section 2.2.7.1 [Design Documents Submittal Packages])
- A proposed Submittal Schedule (TP Section 2.2.2.6 [Segment Limits Map])

Design-Builder shall distribute Design Reviews over the duration of the design phase. Submittal packages shall be logically organized into manageable components and shall include sufficient information and detail to clearly convey Design-Builder's intent and to

validate existing and proposed conditions. The size and content of each Submittal package shall be appropriate for the specified review duration and consistent with typical industry practice.

Design-Builder shall obtain the Department's written approval of the Submittal packages and content, mandatory Submittals, Submittal Schedule, and methodology prior to making the first Design Submittal, in accordance with the requirements of the approved PMP and DQMP.

The Department will officially receive Submittals on the Day they are submitted by Design-Builder through the EDMS, if submitted before 5:00 p.m. Central Time. Submittals submitted at or after 5:00 p.m. Central Time will be considered received on the next Day.

2.2.6.2 Submittal Process following NTP1

Following NTP1, Design-Builder shall submit draft and final documents for each deliverable, including each component of the PMP.

Review durations for each draft and final Submittal shall be in accordance with TP Section 3 (Project Schedule) and shall commence upon Department receipt of a complete Submittal. The review process shall be in accordance with TP Section 2.2.6.5 (Review Process).

Design-Builder shall address all review comments and revise the NTP1 deliverables as required for Department approval.

2.2.6.3 Submittal Process following NTP2

Following NTP2, Design-Builder shall develop Design Documents Submittals following the four steps described in TP Section 2.2.7.1 (Design Documents Submittal Packages). The Design Documents Submittal package steps are:

- Intermediate Design
- Final Design
- Release for Construction
- As-builts

Notwithstanding the foregoing, Design-Builder may request the right to propose to eliminate a Design Documents Submittal package step defined herein, as reflected by Design-Builder's proposed Segment Limits Map and Submittal Schedule. The Department reserves the right to withhold approval of such request in its sole discretion.

2.2.6.4 Over-the-Shoulder Reviews

Over-the-shoulder reviews are informal examinations of Design Documents by the Department while Design- Builder is performing design Work for the Project.

Each Design Document Submittal package may have multiple over-the-shoulder reviews at the request of the Department or Design-Builder. The reviews may include review of any Design Document and any other relevant design information requested by the Department. These meetings will be led by the Design Manager.

It is the intent of these reviews to check for concept, level of detail, design criteria, and patent flaws. Comments made by the Department shall be considered nonbinding. It is

Design-Builder's responsibility to conform to the requirements of the Contract Documents. These reviews shall not routinely include detailed calculation or drawing reviews, although the Department retains the right to perform detailed reviews of any item at any time. If mutually agreed upon between the parties, for specific review items, the over-the-shoulder review may consist of an exchange of electronic files between Design-Builder's designer and the Department.

The over-the-shoulder reviews are not critical activity points that restrict the progress of design, and comments made by the Department during or as a result of over-the-shoulder reviews shall not be the basis of any claim under the Contract Documents.

Prior to every over-the-shoulder review, Design-Builder shall provide the Department with electronic (Portable Document Format [PDF]) files and, if requested by the Department, hard copies of the latest design of the element of Work to be reviewed.

2.2.6.5 General Submittal Review Procedures

The Department may require resubmittal of any administrative documents, Design Documents and Construction Documents, as it deems appropriate in its good faith discretion. The Department maintains the right to refuse and reject any Submittal that does not comply with the Contract Documents, including QA and QC requirements. If any Submittal is rejected, Design-Builder shall notify all recipients to remove all copies from circulation. Design-Builder shall provide the replacement Submittal to the Department so that the Department may redistribute the Submittal to the appropriate Governmental Entities in accordance with TP Section 2.2.6 (Submittal Packaging Process). Otherwise, Design-Builder shall redistribute the replacement Submittal to other appropriate parties as authorized by the Department.

The Department will provide review comments to Design-Builder numbered in a manner corresponding to the drawing or report page under Department consideration. Design-Builder shall respond to each comment by the Department in space after each comment on the Department's review documentation delivered to Design-Builder.

Design-Builder is advised that comments on the Submittals received from parties other than the Department may not follow the above-described Department comment format. In addition, Design-Builder may receive separate comment packages from each party that reviews a Submittal. Design-Builder shall compile all Submittal review comments on a comment resolution document in the form provided in TP Attachment 3-2 (Comment Resolution Form) and in accordance with the requirements set forth in TP Section 2.2 (Design Quality Management). Design-Builder shall include previous Submittal comments, if applicable, and a comment resolution form(s) with each subsequent Submittal identified with an alphanumeric tracking number corresponding to the package submission in accordance with TP Section 2.2.7.1 (Design Documents Submittal Packages).

Design-Builder shall provide the Department with written responses to all review comments within 14 Days of receipt of comments.

A joint resolution team (JRT) meeting shall be scheduled by Design-Builder and held within 7 Days of providing written responses to the Department. Design-Builder can request to waive a JRT meeting if approved by the Department. The purpose of the JRT meeting is to discuss Design-Builder's responses to review comments and to discuss and resolve the pending comments. More than one JRT meeting per Submittal may be

necessary to discuss all review comments provided to Design-Builder. Design- Builder shall attend the JRT meeting and prepare and submit objective meeting minutes to the Department within 7 Days of the JRT meeting. The Project Manager, Design Manager, and all Design-Builder staff requested by the Department shall attend the JRT meeting. Review comments not resolved within two JRT meetings shall be escalated for review by the JRT Comment Resolution Board consisting of the Department, the Project Manager, and the Design Manager.

2.2.6.6 Submittals Schedule

A schedule of Submittals shall be required from Design-Builder to enable the Department to adequately plan its review resources. Design-Builder shall develop and provide a Segment Limits Map and Submittal Schedule for the development, scheduling, and characterization of Design-Builder's plan for design Segments. Design-Builder shall identify, in the Submittal Schedule, individual Submittal packages for each Department-numbered Bridge and wall structure. Design-Builder shall submit the Segment Limits Map and Submittal Schedule for review and approval by the Department within 30 Days after issuance of NTP1.

Design-Builder shall incorporate in the Baseline Schedule the review periods for each Submittal package to be submitted as identified in the approved Segment Limits Map. The Department does not guarantee any specific review period for Local Agency reviews. The review period for each review to be performed by a Local Agency shall be established by the Local Agency, at its discretion, after a Submittal package has been provided to the Local Agency.

2.2.6.7 Submittal Format

All administrative documents shall be submitted in electronic format as required in accordance with the Contract Documents.

Electronic submittals shall be submitted through the EDMS in accordance with the Contract Documents. Design-Builder shall also transmit Submittals by email to DOR.ShopDrawings@nebraska.gov for notification and coordination purposes. The EDMS shall serve as the official system of record for all Submittals.

2.2.7 Design Submittal Requirements

The requirements of this Section supplement the Submittal review procedures set forth in Section 2.2.6.5. In the event of a conflict, the requirements of this Section shall govern.

Each Design Submittal package shall be complete and prepared in accordance with the requirements of the Technical Provisions. Prior to submission, each Design Submittal shall be certified by the DQM as meeting the requirements of the approved DQMP and the Contract Documents.

The Department will not perform a detailed review of any incomplete or noncompliant Design Submittal and may return such Submittals without review. In such cases, the Submittal will be considered not received, and the review period will not commence until a complete Submittal is resubmitted.

The Department will review each complete Design Submittal in accordance with the review durations specified in TP Section 3 (Project Schedule), unless otherwise specified in the Contract Documents.

Design-Builder shall coordinate Design Submittals to facilitate an efficient and orderly review process. Design-Builder shall not submit more than ten (10) Design Submittal packages for Department review at any one time, unless otherwise approved by the Department.

If Design-Builder submits more than the allowable number of Design Submittals, The Department may defer review of the excess Submittals. Deferred Submittals will be considered received on a subsequent date as determined by the Department, and the applicable review period will be adjusted accordingly.

Design-Builder shall prepare all Design Documents by or under the supervision of the DQM. Except as otherwise expressly provided in these TPs and Project Standards, the following Design Documents shall require Department acceptance:

- Special Provisions (SPs)
- Lane closures
- Final Design Documents

Any other Design Documents that the Project Standards or TPs state are subject to Department acceptance

2.2.7.1 Design Documents Submittal Packages

Design-Builder shall provide Design Documents Submittal packages via the EDMS in accordance with the Contract Documents and the PMP. Each Submittal package shall be complete and include all supporting information necessary for the Department and applicable Governmental Entities to conduct a review.

Each Design Documents Submittal package shall be assigned a unique alphanumeric identifier that remains consistent for the package and identifies each Submittal stage (i.e., Intermediate, Final, and Release for Construction). The identifier shall remain constant and shall be used to track the Submittal package throughout the term of the Contract.

The minimum mandatory Submittals consist of:

- Bridge TS&L (Type, Size, and Location)
- Intermediate Design Submittal
- Final Design Submittal
- Release for Construction
- any deliverables described in the TPs or the Contract Documents
- exhibits supporting agreements or Governmental Approvals
- As-Builts

2.2.7.2 Bridge TS&L Submittal

Design-Builder shall prepare and submit Preliminary Bridge TS&L plans and data sheets.

2.2.7.3 Intermediate Design Submittal

Design-Builder shall prepare and submit the Intermediate Design Submittal. Include plan sheets, specifications, technical memoranda, reports, studies, calculations, and other

pertinent data, as applicable, with the Intermediate Design Submittal. The Intermediate Design Submittal also includes the following items and other items as reasonably required by the Department:

- Preliminary Erosion Control Plan
- Verification of consistency with components already constructed or to be constructed
- Summary of the status of any consultations with third parties pertaining to package
- Special Provisions (SPs) and Project General Special Provisions (PGSP), if applicable

Design-Builder shall prepare SPs in a form acceptable to the Department and submit to the Department for review and acceptance.

PGSPs are a strategic grouping of SPs to be submitted for acceptance by the Department. The PGSPs shall eliminate the duplication of SPs for each Submittal and are applicable to multiple Segments. Design- Builder shall prepare and submit PGSPs for review and acceptance by the Department. Once the PGSP is accepted, each subsequent Submittal can reference the PGSP and Design-Builder shall only submit the SPs not covered within the PGSP. If the PGSP requires revisions, a revised PGSP shall be submitted for review and acceptance by the Department. The SPs within the accepted PGSP can be superseded by submitting revised SPs for Department acceptance as part of the Submittal.

2.2.7.4 Final Design Submittal

Design-Builder shall prepare and submit the Final Design Submittal when the design for a given element of Work or area is 100 percent complete. Design-Builder shall include plan sheets, specifications, technical memoranda, reports, studies, calculations, and other pertinent data, as applicable with each Final Design Submittal. Design-Builder shall provide a comment resolution form showing how the Final Design Submittal has addressed the review comments generated during the Intermediate Design Submittal review. The Final Design Submittal for each discipline includes the following items, if applicable, and other items as reasonably required by the Department:

- Roads:
  - Intermediate Design Submittal requirements apply, with all review comments addressed and design/reports advanced to Final Design.
- Structures:
  - Intermediate Design Submittal requirements apply, with all review comments addressed and design/reports advanced to Final Design.
  - Design calculations
  - Independent review with check calculations and independent check comment resolution on Bridges.
  - Hydraulic Reports.
- Other Requirements:
  - Final Geotechnical and Foundation Design Reports.
  - Same requirements as specified for Intermediate Design Submittal, together with other final specifications, technical memoranda, studies, calculations, and other

pertinent data, the Department may require.

2.2.8 Design Acceptance

Design-Builder shall request and obtain Design Acceptance on a design package prior to the Release for Construction. Design Acceptance shall not relieve Design-Builder of its sole responsibility and liability for designing the Project in accordance with all applicable Governmental Rules, Governmental Approvals, NDOT Standard Specifications, AASHTO's Guidelines, and the Contract Documents, nor shall it affect the legal and professional obligations applicable to Design-Builder's engineers in charge to provide a sound engineering design for the Project. The Department reserves the right to audit Design- Builder's DQMP operations.

2.2.8.1 Release for Construction Submittal

Following Department acceptance of the Final Design Submittal and resolution of all review comments, Design-Builder shall submit the Release for Construction (RFC) Package to the Department for information.

Design Documents included in the RFC Package shall comply with the requirements of the Contract Documents and shall be detailed, complete, and constructible, and shall allow verification of the design criteria and compliance with the Contract Documents.

The Release for Construction Package for each discipline shall include the following items, if applicable, and other items as reasonably required by the Department:

- Roads and Roadway Facilities
  - Final Design Submittal requirements apply, with all review comments closed before advancing to RFC.
- Structures
  - Final Design Submittal requirements apply, with all review comments closed before advancing to RFC.
- Other Requirements
  - Final Design Submittal requirements apply, with all review comments closed before advancing to RFC plans, along with other specifications, technical memoranda, studies, calculations, and other pertinent data, as applicable.
  - A EOR shall sign and date their seal on documents and verify date and revision number on each document.
  - An updated comment resolution form showing how the Release for Construction Package has addressed the review comments resulting from the Final Design Submittal.
  - All documentation showing that all necessary Governmental Approvals are in place and that the Submittal is in compliance with those Governmental Approvals.
  - All required ROW certifications for the Work.
  - Clear indication, via stamp or some other method accepted by the Department, that the plan set has been accepted and is Release for Construction.
  - Department's acceptance.

Design-Builder shall organize the Release for Construction Packages for individual Work items, components, elements, or phases such that the Final Design Documents Submittal is assembled in a manner similar to the standard construction documents typically provided to the Department for conventional project bidding, as mutually agreed upon by Design-Builder and the Department.

The Final Design Documents Submittal shall include the following components:

- Final Design Documents, including drawings, calculations, reports, and specifications

Department approval of Deviations from Project Standards

- Project ROW documentation
- Approvals from Governmental Entities and Utility Owner
- All comment resolution forms
- All supporting Design Documents

If the Department determines that the Final Design Documents do not meet the requirements of the Contract Documents, applicable Governmental Rules, or Governmental Approvals, the Department will notify Design-Builder in writing of any specific deficiencies in the Final Design Documents. Design-Builder shall correct such deficiencies, modify the Final Design Documents, and, if necessary, modify construction upon receipt of the Department's comments.

2.2.9 Governmental Approvals

Design-Builder shall submit Governmental Approvals required for a specific element of the Work or for a Design Documents Submittal Package for review and comment no later than the Release for Construction Package Submittal. A condition of acceptance for a Release for Construction Package is the submittal by Design-Builder to the Department of all accepted and fully executed Governmental Approvals necessary for that portion of the Work.

2.2.10 Shop and Working Drawings

Design-Builder shall prepare shop and working drawings necessary to define, control, and construct the Work in accordance with the Contract Documents.

Shop and working drawings shall be prepared by the construction team and reviewed and approved by the Design-Builder's design engineers to confirm compliance with the Contract Documents. The DQM shall review and certify such drawings in accordance with TP Section 2.0 prior to RFC. Drawings shall be stamped "Approved for Construction." Where required by the NDOT Standard Specifications, drawings shall be signed and sealed by a Professional Engineer licensed in the State of Nebraska.

Design-Builder shall coordinate all required submittals and approvals, including those from Governmental Entities and Utility Owners. Shop and working drawings for temporary works and construction means and methods shall be submitted to the Department for information only. The Department review or comment shall not constitute acceptance or relieve Design-Builder of responsibility.

Accepted shop and working drawings shall be submitted to the Department for record prior to use in accordance with Section 2.2.6 (Submittals). No changes shall be made without

resubmittal and approval by the Design-Builder's design engineer.

2.2.11 Request for Information

RFIs may be initiated by Design-Builder or the Department. Design issues may arise in ongoing Work reflected in Release for Construction Packages. The RFI initiated by Design-Builder shall reflect the general nature, location, and description of the issue, Design-Builder's proposed mitigation with supporting documentation of the issue, and the Quality Manager's approval on such mitigation.

When an issue or change arises, including those identified by the Department prepared RFIs, Design-Builder shall place the RFI in a log to track all open issues and shall submit RFIs and an updated log weekly for review by the Department. Design-Builder shall provide an independent and unique numbering system for RFIs initiated by Design-Builder from those initiated by the Department or any other Governmental Entity.

2.2.12 Design Changes

All design changes shall undergo the same Quality Management Program checks and certifications and are subject to the same Department review and acceptance beginning at Final Design Submittal as the original design. Design-Builder shall include plan sheets, specifications, technical memoranda, reports, studies, calculations, and other pertinent data, as applicable with the Submittal.

The Design Manager shall provide written approval for any design changes that occur during construction, or design changes that occur to Design Documents. All Release for Construction Packages shall be stamped, signed, and dated by the EOR. In all cases, Design- Builder shall provide in writing that the design change has been:

- Designed in accordance with the requirements of the Contract Documents, applicable Governmental Rules, and Governmental Approvals
- Checked in accordance with Design-Builder's approved DQMP
- Prepared consistently with other elements of the original design
- Prepared in accordance with the design certification requirements

Design-Builder shall request and schedule an interim and final Design Review(s) for all design changes made during construction or to the Final Design Documents. Design-Builder shall document all changes made through the design change process in the As-Built Documents.

2.2.13 Submittal Format

Design-Builder shall prepare all Design Documents in accordance with NDOT Drafting Standards in the Reference Documents and the relevant requirements of the Project Standards except as otherwise provided in these TPs. Structures Submittals shall conform to the requirements set forth in NDOT Bridge Office Policies and Procedures (BOPP) Manual, except as otherwise specifically provided in the Contract Documents.

All Design Documents shall be provided electronically, including native MicroStation design files with matching PDFs. As of the RFP Date, systems and software currently being used by the Department include the following:

- Bentley Open Roads Designer computer-aided drafting and design (CADD) software

- Auto Turn by Transoft Solutions
- Geotechnical software gINT (version 8 or higher)

be restored in accordance with any Governmental Approvals and Environmental Laws.

2.2.14 Submittals

Table 2-1 reflects a list of deliverables identified in this Section 2.2. It is Design-Builder's responsibility to determine and submit all deliverables as required by the Contract Documents, Project Standards, Governmental Approvals, and Governmental Entities.

Table 2-1. Design Quality Deliverable List

Submittal	Submittal Schedule	Department Action	TP Section
Design Quality Management Plan	Prior to NTP1	Approval	2.2
Submittal Schedule	30 Days after NTP1	Approval	2.2.6.6
RFI and RFI Log	Weekly	Review	2.2.7.10

2.3 Construction Quality Management

Design-Builder shall maintain a record of internal construction quality activities. A summary of the construction activities and construction quality proceedings shall be included with the Baseline Schedule documents submittals in accordance with TP Section 3.0 (Project Schedule).

2.3.1 Personnel Requirements

2.3.1.1 Quality Manager

The Quality Manager (QM) is responsible for establishing, implementing, and supervising the Design-Builder's Quality Management Program for the design and construction of the Project, including the DQMP and CQMP. This individual shall work for the Design-Builder under the direct supervision of an executive officer and shall be independent of the Project Manager. The QM shall be assigned to the Project full time and shall be located at the Project Office full time until Final Acceptance. This individual shall not be assigned any other duties or responsibilities on the Project.

The QM shall have the authority to stop any design or construction Work that does not comply with the requirements of the Contract Documents. The QM shall be responsible for ensuring that the requirements of the DQMP and CQMP are effectively implemented and maintained and shall oversee coordination between design and construction quality activities, including coordination with the DQM.

The QM shall be a Licensed Professional Civil Engineer in the State of Nebraska by the Effective Date. The QM shall conduct monthly reviews with the Department to review progress and any areas of concern identified during design QA/QC activities and Department reviews. Relevant experience includes:

- Five years coordinating and managing quality programs on Expressway projects, including any design-build experience.

2.3.1.2 Construction Quality Manager

The Construction Quality Manager (CQM) is responsible for management and implementation of the Construction Quality Management Plan (CQMP) and the Design-Builder's construction quality control activities. The CQM shall not be involved with scheduling or production activities.

The CQM shall ensure that the methods and procedures contained in the approved CQMP are implemented and followed by Design-Builder personnel and subcontractors in the performance of the Work. The CQM shall be responsible for overseeing CQC inspections, sampling, testing, and documentation, and verifying that all Work complies with the requirements of the Contract Documents prior to submission for the Department's approval.

The CQM shall coordinate with the QM to ensure alignment with the Quality Management Program and shall support implementation of corrective actions for Nonconforming Work. This individual shall be assigned to the Project as needed during the design phase and shall be located at the Project Office full-time during the construction phase until Final Acceptance. Relevant experience includes:

- Fifteen years on transportation projects.

- Ten years construction quality management on Expressway projects.

2.3.1.3 Construction Quality Control Personnel

Each person on Design-Builder's construction workforce is considered to be a member of Design-Builder's QC staff, as each and every person is responsible for the quality of the Project.

Construction Quality Control (CQC) inspections shall be performed on a full-time basis by senior CQC representatives independent of production work. Personnel performing QC sampling, testing, and inspection shall be knowledgeable in the testing and inspection methods and procedures. CQC staff responsible for the QC of asphalt shall be certified as required in the applicable specifications found in NDOT Standard Specifications and NDOT Materials Sampling Guide.

Design-Builder shall designate, including for each supplier and subcontractor, a senior QC inspector to perform daily field inspections of Project materials and Work, and preparation of a daily CQC report to document the inspections.

2.3.2 Construction Quality Control

Design-Builder shall be responsible for Construction Quality Control (CQC) and shall perform all inspections, sampling, and testing necessary to ensure the Work complies with the Contract Documents, in accordance with the approved CQMP and the NDOT Materials Sampling Guide. All Work shall be inspected, tested, and verified by Design-Builder prior to release to the Department for acceptance.

2.3.3 Construction Quality Management Plan

Design-Builder shall prepare and submit a Construction Quality Management Plan (CQMP) that defines the Design-Builder's Construction Quality Control (CQC) program and describes how CQC activities will be coordinated with the Department's Construction quality assurance and NDOT Materials and Research Division.

2.3.3.1 General

CQC sampling, testing, and inspection shall be performed by personnel meeting the qualification requirements of the Contract Documents and independent of production Work, in accordance with the Personnel Requirements of this Section.

The Design-Builder shall be responsible for performing all sampling, testing, and inspection necessary to demonstrate that the Work complies with the Contract Documents. The frequencies and methods of sampling and testing shall be in accordance with the NDOT Materials Sampling Guide and other applicable Contract requirements. Where not defined by the Department, applicable AASHTO or ASTM standards shall apply.

The Design-Builder shall ensure that sampling and testing are performed at the required frequencies and locations in accordance with the Contract Documents. Testing results shall be documented and maintained in accordance with the Contract Documents.

The Design-Builder shall identify all Hold Points in accordance with the NDOT Standard Specifications for Highway Construction and the NDOT Construction Manual. Hold Points shall be delineated in the CQMP submitted to the Department for approval. Upon approval,

Hold Points shall be incorporated into the CQC inspection procedures and CQC inspection forms and shall be explicitly identified in the Three-Week Detail Schedule.

The CQMP shall identify the sampling and testing requirements applicable to the Project, including frequencies, procedures, and documentation requirements, and shall define how these activities will be coordinated with the Department's verification sampling, testing, and inspection activities. Sampling and testing shall be incorporated into the Design-Builder's inspection procedures and Work planning to ensure that required quality control activities are completed prior to progression of the Work.

2.3.3.2 Department Review

Design-Builder shall submit a final CQMP to the Department for review and approval as part of the PMP in accordance with TP Section 1.5 (Project Management Plan). Design-Builder shall not begin any construction activities until Design-Builder resolves all comments and the CQMP is approved.

Once approved, Design-Builder shall not revise the CQMP without prior written approval of the Department. Any revision that affects compliance with the Contract Documents shall require prior written approval of the Department.

2.3.3.3 CQMP Contents

The CQMP shall clearly detail the activities for CQC and the benchmarks for CQA. The CQMP shall include, describe and address at least the following:

Clear definition of the authority and responsibility for administering Design-Builder's CQC program and its coordination with the Department's CQA.

- Methods and procedures to obtain active participation of Design-Builder's work force in CQC activities to achieve a quality Project.
- CQC organization and staffing plan, including the period of time that each CQC staff member will be on-site.
- Résumés and applicable certifications of the key staff members and the experience, knowledge, and skill levels of the CQC support staff
- Reporting forms to be used by the responsible CQC personnel.
- Requirements that all activities affecting the quality of the Project be performed under controlled conditions using appropriate equipment.
- Measures to ensure that purchased materials, equipment, and services conform to the Contract Documents.
- Measures that ensure that purchased materials, equipment, and services conform to the Contract Documents, the Governmental Approvals, applicable Governmental Rules, rules, regulations, and the Design Document (including measures for source evaluation and selection, provision of objective evidence of quality furnished by subcontractors and suppliers, inspection at the manufacture or vendor source, and examination of products upon delivery).
- Requirements for coordination for any inspections and testing with Governmental Entities and Utility Owners.
- The form and distribution of certificates of compliance.

2.3.4 Construction Quality Control

Design-Builder shall be responsible for Construction Quality Control (CQC) and shall perform all inspections, sampling, and testing necessary to ensure the Work complies with the Contract Documents, in accordance with the approved CQMP and the NDOT Materials Sampling Guide.

All Work shall be inspected, tested, and verified by Design-Builder prior to release to the Department for acceptance.

Design-Builder shall ensure that all Work is performed under controlled conditions and in accordance with the approved CQMP.

2.3.4.1 Construction Quality Control Procedures

The CQC procedures included in the CQMP shall:

- Define procedures for inspection, checking, and documentation of the Work, including inspections, examinations, and measurements for each construction operation (e.g., demolition, clearing, drainage, grading, surfacing, and paving).
- Define procedures for sampling and testing of materials in accordance with the NDOT Materials Sampling Guide and the Contract Documents.
- Define procedures to ensure that all activities affecting the quality of the Project are prescribed and accomplished in accordance with documented instructions, procedures, and appropriate drawings, including identification of applicable qualitative and quantitative acceptance criteria.
- Where testing requirements are not otherwise specified, define procedures establishing that sampling and testing shall be performed in accordance with the following order of precedence: NDOT Standard Methods of Tests, AASHTO, and ASTM.
- Define procedures to ensure that all sampling and testing is performed in accordance with the latest applicable standards in effect at the time of Contract execution.
- Define procedures to ensure that all Work conforms to the Contract Documents, Governmental Approvals, applicable Governmental Rules, and the Design Documents, and that all materials, equipment, and elements of the Project perform satisfactorily for their intended purpose. Procedures shall include CQC inspection and testing processes.
- Establish Hold Points to ensure critical elements of the Work are not started or continued without required approval.
- Define procedures to ensure that conditions adverse to quality (including failures, malfunctions, deficiencies, defective materials and equipment, deviations, and Nonconformances) are promptly identified, documented, and corrected; that the cause of the condition is evaluated and appropriate corrective actions are implemented; and that root cause analysis and measures to prevent recurrence are performed when directed by the Department. All such conditions and corrective actions shall be reported to the Department and appropriate levels of Design-Builder management.
- Define procedures for processing RFIs to resolve discrepancies and questions in the Release for Construction Packages, including submission to the Department, incorporation of Department input, and documentation of final resolution.

- Define procedures for verification of construction layout, including checking and verifying the accuracy and adequacy of construction stakes, lines, and grades.
- Define procedures and personnel responsibilities to ensure that specified instrumentation is installed, maintained, and monitored in accordance with the Contract Documents and applicable specifications.
- Define procedures for coordination of inspections and testing with the Department, Governmental Entities, and Utility Owners.
- Define procedures to ensure personnel performing CQC activities meet and maintain required education, training, and certification requirements, including documentation and recordkeeping of qualifications.
- Define procedures for complying with environmental commitments and requirements set forth in the Contract Documents and Governmental Approvals, including implementation, monitoring, and documentation of compliance.
- Define procedures for obtaining Department approval of concrete and asphalt mix designs prior to use in the Work, in accordance with the NDOT Standard Specifications.
- Define procedures for the identification, documentation, evaluation, and disposition of Nonconforming materials and products (Nonconformance Report process), including acceptance, repair, removal, or replacement, and acknowledge that the Department may reject noncompliant materials or products at any time, including at the point of inspection or testing.

2.3.5 Construction Quality Assurance

The Department will perform Construction Quality Assurance (CQA) to verify compliance with the Contract Documents. The Department's acceptance activities are independent of Design-Builder's CQC and do not relieve the Design-Builder of responsibility for quality.

CQA shall include the following:

- Review of all Project elements to verify and document that the Project has been constructed in conformance with the Release for Construction Packages and Early Release for Construction Packages and approved working and shop drawings.
- Audit of Design-Builder's records, documentation, procedures, and processes to verify compliance with the approved CQMP. Audit results shall be documented, reviewed, and, if corrective action is described and warranted, timely acted upon by Design-Builder. Follow-up action, including reaudit of deficient areas following corrective action, shall be taken where indicated until all deficiencies are rectified.

The Department reserves the right to reject any Work or materials that do not comply with the Contract Documents.

The Department's Engineer has the authority, but not the duty, to stop any Work, in whole or in part, if unsafe conditions exist or if the CQMP is not being properly implemented.

2.3.6 Material Acceptance Testing

The Department will perform acceptance sampling, testing, and inspection in accordance with the NDOT Materials Sampling Guide and the NDOT Standard Specifications. The Department's testing and inspection results will govern acceptance.

Design-Builder shall furnish material samples upon request and provide all associated documentation for materials incorporated into the Work.

All materials shall be from sources listed on the NDOT Approved Products List, unless otherwise approved by the Department. Inclusion on the Approved Products List does not relieve Design-Builder of the responsibility to meet all Contract requirements.

Design-Builder shall perform the Work in accordance with the sampling and testing requirements defined in the NDOT Materials Sampling Guide, the NDOT Standard Specifications, and the approved CQMP.

Design-Builder shall include in the Three-Week Detail Schedule all Work requiring Department sampling, testing, and inspection, including planned locations and timing, to allow the Department to schedule these activities.

On a weekly basis, Design-Builder shall provide the Department with a rolling three-week inspection notice. At a minimum, the inspection notice shall detail the fabrication schedule and planned construction activities.

Design-Builder shall provide notice by 2:00 p.m. the Day before any Hold Point inspections or operations requiring material acceptance testing.

The Department may perform additional sampling or testing when material quality is in question. Such testing will be used for acceptance, will not count toward minimum testing frequencies, and shall not be the basis for claims for delay or additional compensation.

Continuation of Work is contingent upon meeting the sampling and testing frequencies and requirements established in the Contract Documents and the approved CQMP.

When any Governmental Entity or Utility Owner is responsible for acceptance or funding of a portion of the Work, Design-Builder shall provide access for inspection of that Work.

2.3.7 Independent Assurance Program and Dispute Resolution

Disputes between the Parties solely with respect to specific material test results shall be resolved by NDOT Materials & Research Central Laboratory. If the Department does not have enough original material to sample, the Department reserves the right to test from in-place material or other means of investigation. NDOT Materials & Research Central Laboratory may, but shall not be required to, obtain the services of an independent commercial laboratory accredited in the testing to be performed, by the AASHTO Accreditation Program or a comparable laboratory accreditation program approved by FHWA, to aid in resolving any dispute. The decision to utilize the services of an independent commercial laboratory rests solely with NDOT Materials & Research Central Laboratory. The decision by NDOT Materials & Research Central Laboratory shall be final.

Any fees charged for the independent assurance certifications for Design-Builder material testing program and testing dispute resolution will be the responsibility of Design-Builder.

2.3.8 Reporting, Record-Keeping, and Documentation

Design-Builder shall maintain construction workmanship and materials quality records of all CQC inspections and tests performed in accordance with the Approved CQMP, and report results to the Department's Engineer.

These records shall include factual evidence that the required CQC inspections and tests have been performed, including the type and number of CQC inspections involved; the

results of CQC inspections; the nature of defects, deviations, causes for rejection, etc.; proposed remedial action(s); and corrective actions taken. These records shall cover both conforming and defective or deficient features, and shall include a statement that all supplies and materials incorporated in the Work are in full compliance with the terms of the Contract Documents.

These records shall be made available to the Department in format and content as specified in the CQMP. Design-Builder shall provide information to the Department regarding specific construction schedule activities (including location and planned quantities) on a weekly basis to enhance coordination of the Department's CQA activities.

Requirements for Design-Builder's CQC inspection records shall include:

- Reports and Results. CQC inspection reports, in electronic format, shall be submitted to the Department within 24 hours following the inspection or test.
- Daily Logs. The CQM shall maintain, in an electronic format acceptable to the Department, a daily log of all CQC inspections performed for both Design-Builder and subcontractor operations. These daily CQC inspection logs shall document the Day's events, activities, and discussions by identifying all inspections conducted, results of CQC inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed. The responsible technician and their supervisor shall sign the daily CQC inspection logs. The logs shall be accessible to the Department within 48 hours.

The CQM shall establish an electronic system for recording all CQC inspection and material test results consistent with the Department's requirements. Preliminary CQC inspection and test results from each Day's work period shall be signed by the responsible technician and their supervisor, and electronically transmitted to the Department via entry into the database discussed in the following. The results of the daily CQC inspection shall be provided within 5 Days of the Day of record. In addition, weekly summary status reports shall be provided within 5 Days.

The CQC personnel shall electronically deliver the CQC results to the Department in a database format. Design-Builder and the Department, prior to construction testing, shall agree on the format for this database.

2.3.9 Requirements of Laboratories

Laboratory requirements shall be in accordance with NDOT Materials Sampling Guide and NDOT Laboratory Qualification Manual.

2.3.10 Source and Quality of Materials

The quality of all materials shall conform to the Department's requirements, as contained in the Contract Documents. Manufacturers' test reports may supplement, but not replace, the CQC inspections, CQC sampling and testing, MAT and certification provisions.

When material that cannot be identified by specific test reports is proposed for use, the Department's Engineer will select random samples from the lot for testing by Design-Builder. The Department's Engineer shall determine the number of such samples and test specimens.

If requested by the Department, Design-Builder shall furnish to the Department a complete statement of the origin, composition, and manufacture of any materials to be used in the

construction of the Work, together with samples of materials to be incorporated into the Project. Design-Builder shall use no material that is subject to such a request without written authorization by the Department to proceed. Manufacturers' Warranties, guarantees, instruction sheets, parts lists, and other materials that are furnished with articles or materials incorporated into the Project shall be made available to the Department upon request.

The Department may, at its sole discretion, inspect the production of all material or the manufacture of products at the source of supply, except for materials that are routinely approved by manufacturers' certificates of compliance. Design-Builder shall cause all such materials and products manufacturers to permit such inspection and ensure that the Department shall have free entry at all reasonable times to such parts of the plant relating to the manufacture or production of materials. Design-Builder shall cause all such materials and products manufacturers to agree that the Department shall assume no obligation to inspect materials at the source of supply, and that the Department will perform inspections at times and frequencies that the Department determines are in its own best interest.

2.3.11 Access to Testing Facilities

The Department reserves the right to check testing equipment, procedures, and techniques for compliance with the Department's and AASHTO's test methods, equipment requirements, and calibration standards. the Department also reserves the right to access the testing facilities to witness the testing and to verify compliance of the testing procedures, techniques, and results. See Section 8 of the Contract and the NDOT Materials Sampling Guide for additional provisions pertaining to testing.

2.3.12 Nonconformance Reports

Design-Builder shall identify, document, and report to the Department any instance of Nonconforming Work. Nonconformance may be identified through the Design-Builder's CQC personnel or by the Department's inspection personnel. Regardless of the source of identification, the Design-Builder shall be responsible for documenting the Nonconformance. Documentation shall be compiled by the CQM in the form of a Nonconformance Report (NCR).

The NCR shall be submitted to the Department in writing within 24 hours after Design-Builder becomes aware of the Nonconformance. Design-Builder shall simultaneously provide a copy of the NCR to the EOR, DQM and the Department.

Each NCR shall clearly describe the element of Work that is nonconforming and the reason for the Nonconformance. As part of the NCR, the EOR who certified and sealed the drawings for the affected Work shall evaluate the impact of the Nonconformance on the performance, safety, durability, and long-term maintenance of the Project.

If the EOR or the Department determines that remedial action is required, the Design-Builder shall propose corrective action. The NCR shall include the proposed corrective action and supporting documentation sufficient to demonstrate that the corrective action will restore compliance with the Contract Documents, including documentation of the evaluation of the cause of the Nonconformance and, when directed by the Department, root cause analysis and measures to prevent recurrence. The proposed remedial action shall be documented and stamped by the EOR responsible for the design. The Department shall review and accept the proposed remedy prior to implementation. If the

Department determines that removal is required, the Nonconforming Work shall be removed and replaced at no additional cost to the Department.

The Department may allow certain Nonconforming Work to remain in place. In such cases, the Department may accept the Nonconforming Work subject to a pay adjustment to account for the reduced value or service life of the affected Work. Where applicable, pay factors or price adjustments established in the NDOT Standard Specifications for Highway Construction will govern the affected Work. For other accepted Nonconforming Work, the pay adjustment will be applied to the value of the portion of Work affected by the Nonconformance, as represented in the Schedule of Values, pay item, or cost-loaded Baseline Schedule Activity. The Department will document the basis for the pay adjustment as part of the NCR resolution. Acceptance of Nonconforming Work with a pay adjustment does not relieve the Design-Builder of responsibility for meeting all other Contract requirements.

The Design-Builder shall maintain a log of all NCRs and provide the log to the Department on a weekly basis. Each NCR shall be numbered sequentially and include a brief description, location, status, and an expected closure date if the NCR remains open.

All NCRs must be closed with the stamp of the EOR or a licensed Professional Engineer in the State of Nebraska from the same firm assigned to replace the original EOR and must include the Department's written acceptance. The Department will not grant Final Acceptance if any NCR remains unresolved.

The Department retains the authority to require removal of any Nonconforming Work. The Department also has the right, but not the duty, to issue its own NCRs pertaining to the Work. NCRs generated by the Department shall be subject to the same review and closure procedures as NCRs prepared by the Design-Builder.

Refer to Section 9 of the Contract for additional provisions regarding Nonconformances.

2.3.13 Construction Certification

Design-Builder shall provide a monthly written certification by the Quality Manager, delivered to the Department with each payment request, indicating that the CQMP and all of the measures and procedures provided therein are being fully complied with and are functioning properly.

2.3.14 Construction Documentation

Design-Builder shall maintain all Project records in the EDMS. The EDMS shall serve as the official system of record for the Project.

Design-Builder shall maintain complete and current records of all drawings, shop drawings, specifications, addenda, amendments, Change Orders, written interpretations, and clarifications. Such records shall be kept current and annotated to reflect all changes made during construction.

Design-Builder shall maintain quality records documenting all quality management activities, including inspections, tests, and related documentation performed by Design-Builder and its Subcontractors. Quality records shall include, at a minimum, material acceptance testing reports, inspection reports, RFIs, and Nonconformance Reports (NCRs).

All records shall be complete, current, and accessible to the Department at all times

through the EDMS.

2.3.14.1 General Requirements

During performance of the Project, Design-Builder shall collect and preserve the following data, at a minimum, in written form acceptable to the Department:

- Daily labor and equipment reports for Design-Builder and each subcontractor for construction- related activities.
- Daily occurrence logs for construction-related activities, recording in narrative form all significant occurrences on the Project, including:
  - Weather
  - Asserted Force Majeure Events
  - Events and conditions causing or threatening to cause any significant delay or disruption or interference with the progress of the Work
  - Injuries to person or property
  - A listing of each Activity depicted on the current Baseline Schedule status submittal that is being actively prosecuted.
  - A daily record in a standard format recording all labor, materials, and equipment expenses that are being incurred.
  - Buy America Certification as described in Exhibit 4 of the DBA.

For any Utility Enhancement, such data shall be maintained separately for each Governmental Entity or Utility.

For the Hazardous Materials Management Work element, such data shall be maintained separately for each area in which Hazardous Materials Management Work is performed.

If it becomes necessary to undertake Work for which a CO has not been executed or that may be the subject of a future claim, Design-Builder shall identify this Work on separate daily occurrence logs.

2.3.15 Submittals

Table 2-2 reflects a list of deliverables identified in this Section 2.3. It is Design-Builder's responsibility to determine and submit all deliverables as required by the Contract Documents, Project Standards, Governmental Approvals, and Governmental Entities.

Table 2-2. Construction Quality Deliverable List

Submittal	Submittal Schedule	Department Action	TP Section
Construction Quality Management Plan	Prior to NTP2	Approval	2.3.1
Rolling 3-week Inspection Notice	Weekly	For information	2.3.6
CQC Inspection Records	Within 24 hours	For information	2.3.7
Nonconformance Reports	Within 24 hours	Acceptance	2.3.11
Nonconformance Report Log	Weekly	For information	2.3.11
Buy America Certification	Monthly	For information	2.3.13.1

3.0 Project Schedule

The Baseline Schedule requirements set forth herein expand upon the scheduling approach described in the RFQ and establish the detailed requirements for planning, monitoring, and execution of the Work.

Section 3.0 includes requirements for the Baseline Schedule.

3.1 General Requirements

Design-Builder shall plan, schedule, and execute the Work using the approved Baseline Schedule developed in accordance with Critical Path Method (CPM) principles and shall submit such schedules, supporting information, and data to the Department as specified herein. The Baseline Schedule is a planning and management tool and shall not modify, amend, or supersede the Contract Documents, nor shall it constitute a basis for entitlement to additional compensation or time unless expressly provided through a Change Order.

The Baseline Schedule shall identify the Critical Path, as defined in this Contract. The Critical Path shall represent the longest duration sequence of logically connected Work activities and shall control the overall duration of the Work.

The scheduling Work shall be performed by a qualified Project Scheduler.

- Scheduling software shall be Primavera Project Management (P6), version 8.2, or later, or an equal software accepted by the Department. If a Scheduling Software other than P6 is accepted, the software shall be compatible with P6 with an export to a .xer[1] file format.
- Schedules shall show the order in which Design-Builder proposes to carry out the Work with logical links between time-scaled Activities and retained logic calculations made using CPM to determine the controlling operation or operations. Design-Builder shall ensure that all Activity sequences are logical and that each Schedule shows a coordinated plan for complete performance of the work within the contract period.
- Schedules shall comply with the staging, phasing, work restrictions, and milestones defined in the Contract Documents.
- Schedules shall be developed with the intent of expeditious completion of the Project and continuous flow of operations from NTP1 to Final Acceptance.
- Schedules shall be based on work shifts of at least 8 hours per Day and a minimum of a 5-Day work week except during periods of weather limitations.
- Schedules shall clearly define and identify significant interaction points and action responsibilities between Design-Builder, Subcontractor(s), the Department, and other entities (such as, Utilities, Local Agencies, vendors, or adjacent projects or contractors).
- Schedules shall have a sufficient number of Activities to ensure adequate planning of the Project, to permit monitoring and evaluation of progress, earned value analysis,

[1] Files created by Primavera (P6) software use the .xer file extension.

and to perform analysis of potential effects on cost and time. In addition to the Work required by the Contract Documents, other cost, time, or milestone type Activities shall be included in the Schedule within the Work Breakdown Structure (WBS) (TP Attachment 3-1, Work Breakdown Structure). These types of Activities include:

- Mobilization
- Project milestones and Project staging, that is, traffic switches, completion of structures, major roadway elements and phases.
- Design and Submittal processes including preparation, review, and acceptance Activities.
- Design review meetings.
- Fabrication, delivery, installation, sampling, testing, and similar Activities for materials, plants, and equipment.
- Settlement, surcharge, and cure periods.
- Coordination and notification of Utilities, Utility Adjustments, and other third-party work.
- Notifications to the Department or third parties for significant events.
- Installation, erection and removal, and similar Activities related to temporary systems or structures such as temporary electrical systems or shoring.
- Governmental Approvals
- QA/QC process
- Additional Activities as requested by the Department.

- All costs to develop and maintain Schedules and documentation are solely Design-Builder's obligation and at no additional cost to the Department.
- The requirements specified herein are the minimum requirements and Design-Builder shall incorporate additional requests or requirements.
- The Baseline Schedule, Monthly Progress Schedule, and Three-Week Detail Schedule each serve a distinct purpose for planning, progress tracking, and field coordination.
- Float Ownership. Total Float is a shared Project resource available to both the Department and Design-Builder and shall not be considered for the exclusive use or benefit of either party. Use of Float shall be on a first-come, first-served basis, subject to the requirements of the Contract Documents.
- No schedule submittal, update, or approval or acceptance shall constitute agreement by the Department that any delay is excusable or compensable.

3.1.1 Personnel Requirements

3.1.1.1 Project Scheduler

The Project Scheduler shall be located at the Project Office full time during the construction phase of the Project and as required during the design phase of the Project. The Project Scheduler shall demonstrate:

- Ten years of experience in scheduling transportation projects.

3.2 Administrative Requirements

3.2.1 Schedule Submission Process

Except as provided herein, Design-Builder shall use the Submittal process outlined in TP Section 2.2.6 (Submittal Packaging Process) for the preparation and submittal of all Schedules provided by Design-Builder to the Department. Provide one 11-inch by 17-inch PDF grouped by WBS, one 11-inch by 17-inch PDF of the longest path sorted by early start, one PDF of the narrative and supporting documents, and one electronic copy of the Schedule in the native Scheduling Software format with each submittal.

Schedule review process steps include the following:

1. Submittals shall be considered complete when all documents and data have been provided as described herein to the Department.
2. Review durations shall commence upon Department receipt of a complete Submittal in accordance with TP2.
3. The Department will review the Schedule and return it accepted, accepted with comments, or rejected with comments, within 14 Days following the date of receipt of a complete Schedule submittal. Review, acceptance, or comments by the Department shall not relieve the Design-Builder of responsibility for the accuracy, completeness, or compliance of the Schedule with the Contract Documents.
4. Design-Builder shall address any comments and revise the Schedule and narrative, as necessary, and submit a revised Schedule within 14 Days.

3.2.2 Schedule Requirements

All Schedules shall adhere to the following requirements:

1. **Schedule Identification**. Schedule submittals shall use Project ID and Project naming conventions accepted by the Department. Design-Builder shall clearly identify each Schedule Submittal using the Project ID and Project name in the Scheduling Software. Each Schedule's Project ID and name shall identify the Schedule revision. Resubmissions of Schedules shall use the same Project ID as the original submission specifically identified by a sequential appended letter (A, B, etc.) or number (00,01, 02, etc.), as an indication of a revised version.
2. **Activity Identification**. Schedule Activities shall be described in detail so that all of the contracted Work is readily identifiable and the progress on each Activity can be readily measured. Schedules shall include Activities to establish a level of detail acceptable to the Department. As a minimum, the following attributes shall be uniquely assigned to each Activity within Schedules:
    a. A unique alphanumeric Activity ID shall be assigned to each Activity. The proposed Activity ID format shall be submitted to the Department for acceptance.
    b. An Activity description that clearly describes the Work represented by the Activity. Each Activity description shall indicate its associated scope and or location of work by including such terms as, type or description of work, Bridge number, station to station location, side of highway (such as, eastbound or southbound), shoulder, ramp name, pipe number, etc. Activity descriptions shall use a similar and

consistent format, as accepted by the Department.

c. Activity ID and descriptions shall be used uniformly and consistently throughout the Schedule.

d. Each Activity shall be additionally described by assigning the following Activity codes:

i. Discipline

1. Design

a. Geotechnical

b. Environmental

c. Roadway

d. Structures

e. Traffic

f. Utilities

2. Construction

ii. Responsibility

iii. Change Order

Design-Builder shall fully use the Activity code structure shown above and make every effort to enhance this structure. Proposed modifications to the Activity code structure shall be submitted in the above format to the Department for review and acceptance. Activity coding shall be assigned consistently and uniformly among all similar Activity types. The Department may require Project specific adjustments to the Activity code template.

4. **Activity Duration.** The duration of each Activity shall include the necessary work Days to actually complete the work defined by the Activity and shall be based on the quantity of work divided by a reasonable production rate(s). Activity durations shall not be artificially inflated:

a. A duration in whole Days of not less than 1 working Day, except for milestone type Activities.

b. Not more than 20 working Days, except for non-work type Activities such as mobilization, settlement durations, submittal preparation, or submittal reviews.

c. The duration of Activities assigned to multiple resources shall be evaluated based on the production rate of each resource assignment.

d. Activity durations shall not include time for weather contingency.

e. A review period of 14 Days shall be used for all review periods not specifically identified in the specifications.

f. Fractional Activity and Float durations shall not be permitted.

5. **Cost Allocation**. Design-Builder shall allocate the total price and commodity quantities throughout the Activities in the Schedules. The cost allocation must be consistent with the accepted Schedule of Values (SOV). Design-Builder shall accurately reflect Design- Builder's cost allocation for each Project Activity. All Work

shall be represented by cost resource-loaded Project Activities. Design-Builder shall certify that line items in the Schedule have not been artificially inflated, imbalanced, or front-loaded. The price of each Project Activity shall be all-inclusive and include all direct and indirect costs, overhead, risks, and profit.

6. **Schedule of Values.** Design-Builder must prepare and submit a Schedule of Values (SOV) for the Department review and approval prior to the first progress payment. The SOV must allocate the total Contract Price across the Work in a manner that reasonably represents the value of the Work to be performed and must align with the WBS and the cost-loaded Baseline Schedule.

   Each SOV item must represent a clearly identifiable portion of the Work and include all labor, materials, equipment, overhead, risks, and profit associated with that Work. The Department may require revisions to the SOV if the allocation of value does not reasonably reflect the relative value of the Work.

   The SOV must include a separate line item equal to five percent (5%) of the Contract Price allocated to Final Acceptance. This amount must be shown as a separate line item titled “Final Acceptance” and may not be distributed among other SOV items or included within Mobilization, Design Activities, or any other SOV items.

   Payment of this amount will not be made through progress payments and will only be eligible for payment after the Department issues Final Acceptance and all contract closeout requirements are complete.

   The remaining SOV items may represent no more than ninety-five percent (95%) of the Contract Price. The SOV may not be structured to front-load early work activities. The Department may require revisions to the SOV before approval.

   The Final Acceptance allocation described in this section is not retainage.

   The SOV must remain consistent with the cost-loaded Baseline Schedule. With each Monthly Progress Schedule update and pay application, the value of completed Work reflected in the SOV must align with the progress shown in the Baseline Schedule Activities.

7. **Milestones**. Design-Builder shall identify each Project milestone separately

8. **Constraints and Float Suppression**. Date constrained Activities, by calendar or date constraint, shall only be permitted if identified within the Contract Documents, or as requested or accepted by the Department. Schedules shall not include or use unspecified milestones, negative lag durations, open-ended Activities, float suppression techniques, or date constraints that are not contractual. The Schedule shall not include unjustified positive lag durations, unspecified milestones, and unreasonable logic ties. Sequestering of total float through the manipulation of calendars, extending Activity durations, logic ties, or sequences is prohibited. Multiple relationships with the same predecessor or successor and reverse logic conditions are prohibited. Redundant logic shall be removed from the Schedule.

9. **Early Completion**. Any Schedule showing an early completion date shall show the time between the Scheduled completion date(s) and the applicable Completion Deadline(s) as Float.

10. **Progress**. Design-Builder shall show actual progress and not calculated progress in the Monthly Progress Schedule. Accepted logic changes and Work changes shall be incorporated into the Progress Schedule. Each Schedule Submittal shall clearly and individually define the progression of the Work within the applicable time frame by

using separate Project Activities.

11. **Scheduling Software Options Settings**
    a. Set method of scheduling to retained logic.
    b. Calculate start-to-start lag from early start.
    c. Define critical Activities as longest path.
    d. Compute total float as finish float = late finish - early finish.
    e. Set calendar for scheduling relationship lag to predecessor calendar, unless directed otherwise by the Department.
    f. Level resources, apply actual, update progress, auto compute actuals, or similar functions shall not be used to automatically update the schedule. The schedule shall be updated manually with actual information.

12. **Scheduling Software project level Settings**
    a. All calendars shall be project level calendars; not global or resource calendars.
    b. All Activity codes shall be project level; not global or enterprise project structure (eps) level Activity codes.
    c. The schedule shall not use user defined fields.
    d. The drive activity dates by default box shall be unchecked.
    e. Project start and finish times shall be set such that fractional durations and float are prevented. See item 4. Activity Durations.

13. **Project calendars and weather contingency**
    a. Each Activity shall be assigned a Project specific calendar. Each calendar, except for the 7-Day calendar, shall include the minimum reasonable number of non-work Days related to normal weather events that prevent work from occurring; weather contingency Days shall be shown as non-workdays on the appropriate calendar(s) and shall be documented and justified in the Preliminary Baseline Schedule and Baseline Schedule narratives. Saturdays cannot be used as a weather contingency work Day if a 5- Day work week is planned, and Sundays cannot be used as a weather contingency work Day if a 6-Day work week is planned. The estimated number of weather contingency Days shall not be the basis for additional time compensation in the event the number of weather contingency Days is exceeded.
    b. Each calendar shall include holidays as non-work Days
    c. Calendars shall be updated monthly in the Scheduling Software with actual Days worked and Days not worked prior to submittal of an updated Schedule.
    d. The number of work related calendars shall be minimized to prevent the distortion of total float; however, calendars specific to a particular type work, such as earthwork, structures, paving, etc., shall be used to address seasonal weather limitations based on the type of work. Calendars shall be assigned consistently and uniformly among all similar Activities.

14. **Narrative**. Design-Builder shall provide a narrative as described in TP Section 3.2.3 (Schedule Narratives).

15. **Minimum Logic**. All Activities shown in the Schedule, with the exception of the first and last Activities, shall have a minimum of one logical predecessor and one logical successor Activity.

3.2.3 Schedule Narratives

Design-Builder shall provide a stand-alone narrative with each Schedule submittal. The narrative report shall be organized and tabbed in the following sequence and include all applicable and appropriate supporting documentation including:

- Design-Builder's transmittal letter.
- Narrative description supporting the approach to the Work outlined in the Progress Schedule, including reasons for the sequencing of Work, problem areas, unusual conditions, restrictions regarding labor, equipment or material, use of multiple shifts, specified overtime or work at times other than regular Days, potential conflicts, and other items that may affect the Schedule and how they may be resolved.
- Narrative description of the general status of the Project including Work completed during the period, Work planned to be completed during the next reporting period, current total Float, and calculated percent complete.
- Narrative description of the difference between previously planned Work and the actual Work performed.
- The working Days per week, number of shifts per Day, number of hours per shift, the holidays to be observed, and how the Schedule accommodates adverse weather Days for each month or Activity.
- Planned production rates with justification of rates above or below typical.
- A listing of Activity durations exceeding the 20 working Days with justification thereof.
- A list of Activity relationships with lags with justification for use of the lag.
- A list of constrained Activities with a justification for use of the constraint.
- A list of all Project calendars and the number of working and non-working Days with justification thereof.
- Activities requiring coordination with the Department or third parties (for example, Utilities, Other Department Contractors, or adjacent third-party contractors)
- Schedule changes. Design-Builder shall provide a listing of all changes and a narrative description of the reason or justification for the changes and the resulting effects of the changes in a Microsoft Excel spreadsheet:
    - Added, deleted, or modified Activities.
    - Added, deleted, or modified date constraints.
    - Added, deleted, or modified lags.
    - Added, deleted, or modified logic.
    - Added, deleted, or modified calendars.
    - Modified Activity descriptions.
    - Modified Activity durations.

  - Calendar assignment changes.
  - Activity type changes.
  - Significant changes in Float.
- Narrative description of the current longest path.
- Comparative analysis of changes to the longest path with the previous Schedule submittal, including identification of and justification for the cause of the changes.
- Changes to the scheduled completion date since the last Schedule submittal including identification of and justification for the cause of the change.
- Current and anticipated delays:
  - Cause of delay.
  - Effect of delay on other Activities, milestones, and completion dates.
  - Corrective action and schedule adjustments to correct the delay.
- Pending items and status thereof:
  - Governmental Approvals
  - Contract changes
  - time adjustments
  - Impacted Delay Analysis
- Cost information:
  - Include a listing and justification for adjustments to cost loading.
  - Comparison of Schedule cost loading and current pay application.
- Additional information as requested by the Department.
- A statement certifying the Schedule submittal is based on factual, accurate information that represents true planned and as-built conditions accompanied with the signature of the Project Manager and Project Scheduler.
- For the Baseline Schedule Submittal, the construction philosophy supporting the approach to the Work outlined in the submitted Baseline Schedule. (Design-Builder shall address the reasons for the sequencing of Work and describe any limited resources, potential conflicts, and other salient items that may affect the Schedule and how they may be resolved.)
- For all subsequent Schedule Submittals, Design-Builder shall describe any changes to the construction philosophy provided in the narrative for the Baseline Schedule. (Design-Builder shall address the reasons for the sequencing of Work and describe any limited resources, potential conflicts, and other salient items that may affect the Schedule and how they may be resolved.)

3.3 Schedule Deliverable Requirements

Design-Builder shall prepare the following deliverables:

- Baseline Schedule

- Monthly Progress Schedule
- Three-Week Detail Schedule
- Recovery Schedules, as needed

3.3.1 Preliminary Baseline Schedule

Design-Builder submitted a Preliminary Baseline Schedule as part of its Proposal. The Preliminary Baseline Schedule represents Design-Builder's proposed plan for designing, constructing, and completing the Project at the time of Proposal submission.

To the extent the Preliminary Baseline Schedule is deficient with respect to the requirements of this Section 3.0, Design-Builder shall address such deficiencies in the development of the Baseline Schedule. The Baseline Schedule shall fully comply with the requirements of this Section and shall not materially deviate from the Preliminary Baseline Schedule without justification acceptable to the Department.

The Preliminary Baseline Schedule shall not be revised or resubmitted unless specifically directed by the Department.

3.3.2 Baseline Schedule

Design-Builder shall use the Preliminary Baseline Schedule as a foundation to prepare the Baseline Schedule until the Baseline Schedule is accepted by the Department under this Section 3.3. Design-Builder shall submit a Preliminary Baseline Schedule, including design and construction Activities, which complies with the requirements of this section), for review and approval by the Department.

3.3.2.1 Baseline Schedule Requirements

Design-Builder shall address the following for Department approval:

1. All requirements of this TP Section 3.0 (Project Schedule). The Baseline Schedule shall include the entire scope of Work and how Design-Builder plans to complete all Work contracted. The Baseline Schedule shall clearly show the Activities that define the Critical Path. Multiple Critical Paths and near-Critical Paths shall be minimized by minimizing the number of predecessors and successor relationships between Activities, illogical or redundant logic.
2. The Baseline Schedule shall include all Work and shall start and finish within the Contract Time established in the Contract Documents, including the Project start date, Project completion date, Substantial Completion, Final Acceptance, and any applicable closure limitations. Unless otherwise directed by the Department, the Baseline Schedule shall use a date corresponding to Contract execution and shall represent the full duration of the Work through Final Acceptance. The Baseline Schedule shall reflect all Contract Time requirements and shall be developed using relative logic and durations and shall not incorporate actual progress data.
3. In addition to other narrative requirements, Design-Builder shall include in the narrative a listing of all Submittals and review periods by each required review entity called out in the Contract Documents. The Baseline Schedule shall include separate Activities representing each required submittal at each design submittal milestone as well as associated reviews. Separate review Activities for each review entity shall be provided.

3.3.3 Monthly Progress Schedule

Design-Builder shall update and provide the Baseline Schedule to the Department each month during the term of the Contract until Final Payment is made.

Monthly Progress Schedule updates shall be submitted each month with a data date matching the progress through date of the first, or last, pay request of each month unless directed otherwise by the Department. The first Monthly Progress Schedule update shall be submitted as prescribed the first month following approval of the Baseline Schedule. Each Monthly Progress Schedule update shall be submitted within 7 Days of the schedule's data date. Progress Meetings shall be scheduled by Design- Builder to correspond with the Schedule Submittals to review progress with the Department.

Monthly Progress Schedule updates shall include all elements defined in this TP Section 3.0 (Project Schedule) except that a Monthly Progress Schedule shall include progress and, as-built updates, and updated actual units and cost for each Activity, etc.

Each Monthly Progress Schedule shall show the status of work actually completed up to the data date and the work remaining to be performed as planned. The CPM schedule diagram shall accurately reflect as-built information for each Activity shown on previous schedules, including actual start dates (discounting early starts not representative of true as-built conditions), remaining Days of work, percent complete, actual finish dates (when the Activities were completed so that dependent work could proceed), and actual resource utilization. Schedule calendars shall be updated to show actual Days worked and Days not worked.

Monthly Progress Schedules shall accurately represent all planning changes, adjustments, or updates in the sequencing and timing of Work remaining to ensure that the Monthly Progress Schedule is current with Design-Builder's plan for performing and furnishing work remaining. If the Monthly Progress Schedule submittal indicates slippage or delayed progress, Design-Builder shall include a schedule recovery statement.

Design-Builder may propose modifications by adding or deleting Activities or changing Activity descriptions, durations or logic that do not (1) alter the Critical Path(s) or near Critical Path(s), (2) extend the scheduled completion date compared to that shown on the Baseline Schedule, and (3) do not disrupt the integrity or comparative relationship between the Baseline Schedule and the Monthly Progress Schedule. Design-Builder shall provide written reasons in the update narrative for any changes to Baseline Schedule or planned work.

If any proposed changes to the schedule or planned work shall result in (1), (2), or (3) above, then Design-Builder shall submit an Impacted Delay Analysis as described herein.

Design-Builder shall incorporate planning revisions, which have been agreed upon in COs ordered since the last revision. Those revisions shall conform to the sequencing and time of performance requirements of the applicable instrument. These types of revisions shall be included in the Monthly Progress Schedule when reconciling extensions in the date of Substantial Completion.

If Work is performed out of sequence, Design-Builder shall implement logic changes to allow the out of sequence Work to proceed. Thorough justification for such changes shall be provided in the narrative.

As part of the monthly Progress Report, Design-Builder shall submit the Monthly Progress Schedule for discussion at the Progress Meeting, as set forth herein and in Contract

Section 3.2. Design- Builder shall provide the Invoice Certificate and the Project Manager and Quality Manager shall certify that the progress shown on the Monthly Progress Schedule update accurately represents Work completed through the cutoff date of the Submittal. The value of Work reported in each pay application must be consistent with the progress shown in the cost-loaded Baseline Schedule Activities and the accepted Schedule of Values (SOV). Design-Builder shall provide a PDF, sorted in the same format as the Baseline Schedule Submittal, and a PDF of the longest path. Design-Builder shall provide an electronic copy of the Monthly Progress Schedule in .xer format to the Department as part of the Invoice submittal.

Each Schedule submittal and revision shall include a narrative as described above.

Design-Builder shall actively participate in monthly Progress Meetings or meetings held at the request of the Department to review and discuss the status of the Project. Design-Builder shall ensure attendance by any Subcontractor that the Department requires attend. The monthly Progress Meeting shall include discussion of differences in the Monthly Progress Schedule from the Baseline Schedule. The causes, responsible Party, effects, and potential solutions to all issues identified shall be addressed in the meeting with the intent of finding the most effective solutions to problems through the following:

- Make available the Project Manager, Project Scheduler, and appropriate field personnel to participate in the monthly Progress Meetings.
- Make and record an action item list that specifies who is responsible for resolving existing or pending issues and the date by which the issue shall be resolved to avoid Project delays.

Provide additional, separate, filtered reports of Project Activities and Work elements based on the Monthly Progress Schedule with the monthly Progress Report including the following:

- Description of coordination with Utility Owners and the progress of all Utility Adjustments
- Bar chart schedule sorted by segment indicating the physical status of all Activities as of date of the update
- Graphical report, which compares Design-Builder's progress to planned progress by Segment or section, and major payment item/WBS
- Design Document Submittals for the forthcoming period
- Tabular report listing all Activities with 10 Days or less Float
- 60-Day look-ahead report identifying all Department acceptance, Department acceptances, and Governmental Approvals required
- 90-Day look ahead bar chart schedule sorted by WBS and Activity early start dates
- Monthly expenditure projections and cash expenditure curves by WBS
- Critical items graphical report for each Critical Path sorted by Activity early start date
- Time-scaled Critical Path network plot indicating the status of all Activities as of the date of the update

3.3.4 Three-Week Detail Schedule

The Three-Week Detail Schedule is a bar chart that spans a forward-looking, rolling period of at least 21 Days. Design-Builder shall base the Three-Week Detail Schedule on the Baseline Schedule and provide a greater breakdown of the Baseline Schedule Activities for the purpose of materials inspection, sampling, and testing. Design-Builder shall clearly note and explain any Deviations from the Baseline Schedule. Design-Builder shall reference the Baseline Schedule Activity identification numbers and define subsequent specific daily operations for all Work Activities scheduled to be performed during the three-week period. Submit the Three-Week Detail Schedule to the Department weekly, one Day prior to the weekly Construction meeting.

3.3.5 Recovery Schedule

Whenever a Recovery Schedule is required under the Contract Documents, provide the following information and as required in Contract Section 5.2.

3.3.6 Impacted Delay Analysis

If Design-Builder believes that such event, situation, or change adversely affects a Critical Path of the Baseline Schedule then, as part of the Change Order process, Design-Builder shall provide an Impacted Delay Analysis showing the cumulative effect of the change on the completion or contractual milestone date. Design-Builder shall provide to the Department a schedule, narrative, and written report, in a form satisfactory to the Department, describing the Impacted Delay Analysis. The revision to the Baseline Schedule associated with the time extension may not modify the early- and late-start cost curves of the Baseline Schedule, except with respect to Activities that have been affected by the event that justifies the extension. Design-Builder may reschedule Activities, except for Completion Milestones, not otherwise affected by the event to take advantage of additional Float available as the result of the time extension. Any such rescheduling must be reflected in the Impacted Delay Analysis schedule.

Each impacted delay analysis must include a fragnet demonstrating the following information:

- How Design-Builder proposes to incorporate an accepted change
- The changes to the Baseline Schedule
- The sequence of new and existing Activity revisions that are proposed to be added to the Baseline Schedule that is in effect when the change or delay is encountered
- The proposed method for incorporating the delay and its effect on the Baseline Schedule

3.3.7 As-Built Schedule

Upon completion of the Punch List Work, Design-Builder shall submit an As-Built Schedule for review and acceptance by the Department, with actual start and actual finish dates for all Activities. The As-Built Schedule, once accepted, shall serve as the final update of the Baseline Schedule. Design-Builder shall provide a written statement with the As-Built Schedule Submittal signed by the Project Manager and an officer of Design-Builder with the following:

- The enclosed final update of the Baseline Schedule reflects the actual start and

completion dates of the Activities for the Project contained herein.

Submittal of the final update of the Baseline Schedule and the Project Manager's certification is a condition precedent to the release of any funds retained in accordance with Contract Section 3.3.

3.4 Submittals

Table 3-1 reflects a nonexclusive list of deliverables identified in these TPs and is not intended to be an all-inclusive or exhaustive listing of deliverables. It is Design-Builder's responsibility to determine and submit all deliverables, as required by the Contract Documents, Project Standards, Governmental Approvals, and Governmental Entities.

Table 3-1. Nonexclusive Deliverable List

Submittal	Submittal Schedule	Department Action	TP Section
Schedule of Values	Prior to first progress payment	Approval	3.2.2
Preliminary Baseline Schedule	With Proposal	For Information	3.3.2
Baseline Schedule	Prior to NTP2	Approval	3.3.2.1
Progress Schedule	Monthly	Acceptance	3.3.3
Three-Week Detail Schedule	Weekly, 1 Day prior to Construction Meeting	For information	3.3.4
Recovery Schedule	As needed	Approval	3.3.5
Impacted Delay Analysis	As needed	Approval	3.3.6
As-Built Schedule	Prior to Final Acceptance	Acceptance	3.3.7