



ADDENDUM NO. 1

RFP No. 22-07

8/26/2021

To Whom It May Concern:

The New Mexico Department of Transportation (NMDOT or Department) has received the following question submitted along with the Department's response. Attached to this addendum No.1: It shall be the responsibility of the interested Offerors to adhere to any changes or revisions to the RFP as identified in this Addendum No. 1. This documentation shall become permanent and made part of the Department's procurement file.

Question: Is there an estimate or budget available for the above-mentioned project?

Answer: The amount we have programmed is \$1.5 million of State House bill 2 funds and is only for Phase A/B.

Question: Is the bridge at milepost 4 the only structure that the Department would like a Bridge Type Selection Report on?

Answer: Revisions to RFP 22-07: Section A, Phase I-D: Preliminary Bridge Design is deleted from the Scope of Work

APPENDIX A TO RFP 22-07

PROJECT INTRODUCTION AND SCOPE OF WORK

SCOPE OF WORK - CN 6101220, DISTRICT 6

PHASE I AND II SERVICES FOR NM 264

PROJECT RFP 22-07

General Information:

Control Number: 6101220

Project Number: 6101220

**Michelle Lujan
Grisham**
Governor

Michael R. Sandoval
Cabinet Secretary

Commissioners

Jennifer Sandoval
Commissioner, Vice-Chairman
District 1

Bruce Ellis
Commissioner
District 2

Hilma E. Chynoweth
Commissioner
District 3

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Commissioner, Chairman
District 4

Thomas C. Taylor
Commissioner
District 5

Charles Lundstrom
Commissioner, Secretary
District 6

Type of Work: (MP 0 to MP 16) Phase I-A/B Study: Detailed Evaluation of NM 264, (MP 10 to MP 14) Phase I-C Services: Environmental Documentation, (MP 10 to MP 14) Phase I-D Services for the Reconstruction of 4-Lane Facility, Drainage Improvements, and Erosion Mitigation Design, and Phase II.

Posted Route: NM 264

Beginning Mile Post: MP 0

End Mile Post: MP 16

Total Study Length: 16 Miles

Total Length of Project: 4 Miles

Termini: Study- NM 264 from MP 0 to 16

Reconstruction- NM 264 from MP 10 to 14

NMDOT District: 6

County: McKinley (Navajo Nation)

Proposed Improvements: MP 10 to 14 Roadway Reconstruction and Drainage Improvements.

Major Structures: Bridge 8626 and Bridge 8627 at approximate MP 4

Functional Classification: Principal Arterial

Terrain Type: Level/Rolling

Construction Programmed Year: 2025

Anticipated Letting Date: TBD

Project Development Engineer: Priscilla Benavides

Urban or Rural: Rural

Request for Proposals

As a four-lane divided highway, NM 264 extends East to West for 16 miles, from Yah-Ta-Hey, NM to the Arizona state line. NM 264 serves the Navajo Nation as a main corridor to their capital, Window Rock, AZ located 5 miles across the Arizona state line. Junction of NM 264 with US 491 is 8 miles north of Gallup.

NM 264 consists of 2-12' driving lanes, with variable shoulders widths, but in most locations a 10' outside shoulders and 4' inside shoulders for both westbound and eastbound.

There are numerous 12' left turn access locations, reducing the 24' median to a 12' median in both directions. The roadway is crowned at the median, with an As-Built of 1.5% but

currently varies due to the result of maintenance projects, throughout the years. The terrain type is mostly level with a rolling terrain.

Based on the Pavement Condition Assessment Report prepared by NMDOT, the overall roadway condition of NM 264 in both eastbound and westbound is classified as “Fair”. The roadway condition is based on data collected in 2019. The projected Pavement Condition Rating (PCR) for production year 2025 is “Poor”.

Drainage structures are within the project limits, accommodating the slope gradient of the surrounding terrain that runs from North to South. The field review highlighted several classifications of drainage issues that include maintenance and operation, scour and erosion. Several arroyos were observed along flatter lands, with each showing significant signs of erosion. Evidence of embankment erosion and scour was found in surrounding areas including at culvert outfalls.

Scope of Work

This Request for Proposals (RFP) is issued by the New Mexico Department of Transportation (Department, NMDOT) to solicit competitive sealed proposals for the award of a contract to an Engineer/Successful Offeror to provide services for Phase I-A: Initial Evaluation of Alternatives, Phase I-B: Detailed Evaluation of Alternatives, Phase I-C: Environmental Documentation Process, Phase I-D: Preliminary Design Services, Phase II (Final Design) Services and the combination of Aerial Photography, Survey, and Mapping. Phase III (Consultant Services during Construction) Services will be included as contract amendment, if requested.

It is the intent of the Department to be provided services in potential phases. The phases are described as follows:

- Phase IA – Initial Evaluation of Alternatives.
- Phase IB – Detailed Evaluation of Alternatives.
- Phase IC – Environmental Documentation Process.
- Phase ID – Preliminary Design Services.
- Phase II – Final Design Services.

NMDOT may elect to negotiate a fixed price via contract amendment for the final phase of the Project:

- Phase III – Engineering Services During Construction

Preliminary design plans will be started as soon as the preferred alternative has been chosen. Value engineering, environmental investigations, public meetings and a 60% grade and drain design are part of the preliminary design. Upon completion of the preliminary design study, the project will proceed toward final design.

The Engineer has total responsibility for the accuracy, completeness and correctness of the plans and related data prepared under the terms of this Contract and shall check all material accordingly. The plans will be reviewed by the Department for conformity with Department procedures and Contract terms. Review by the Department does not include detailed review or checking of design components and related details or the accuracy with which such designs are depicted on the Plans. The engineer shall not deviate from standard geometric design without the express written approval of the Department.

Although every effort has been made to fully describe the scope of services, it is anticipated that changes may be required during the project to accommodate input from the public, other agencies, and/or from within the Department. Changes to the scope of work that may be required to provide a complete project shall be negotiated and authorized by an amendment to the Contract as they are identified.

The Engineer shall attach a List of Work Activities for the project described in this Request for Proposal, which shall be used in evaluating the Engineer's Proposal.

The Engineer shall be responsible for all studies, analysis, coordination, engineering, and all else necessary to complete the Phase I A/B study, preliminary design, and final design. It is the intent of the Department that the Engineer will have full latitude and complete responsibility for developing this project.

The work performed by the Engineer shall be done in imperial units in accordance with the Guidelines for Geometric & Roadway Design and Surveying, or if required, transit design guides. All documents shall have only imperial units.

Engineer's Responsibilities, Accuracy of Work, Indemnification, and Professional Liability.

Engineer's Responsibility

The Engineer has full responsibility for the accuracy, completeness and correctness of the plans and related data prepared under the terms of this Contract and shall check all material accordingly. The Department for conformity with Department procedures and Contract terms will review the plans. Review by the Department does not include detailed review or checking of design components and related details or the accuracy with which such designs are depicted on the Plans. The engineer shall not deviate from standard geometric design without the express written approval of the Department.

Although every effort has been made to fully describe the scope of services it is anticipated that changes may be required during the course of the project to accommodate input from the public, other agencies and/or from within the Department. Changes to the scope of work that may be required to provide a complete project shall be negotiated and authorized by an amendment to the Contract as they are identified.

The Engineer shall attach a List of Work Activities for the project described in this Request for Proposal, which shall be used in evaluating the Engineer's Proposal.

All project reports, such as the Detailed Evaluation of Alternatives Study Report, which will be used as references during the development of the project shall be bound and labeled on the spine of the report as well as on the cover. Each report shall be bound with project identification, including control number and route location, clearly printed on the spine of the

report. This is intended to ease the retrieval of the many volumes of information. The Project Development Engineer should be consulted before reports are bound.

The Engineer shall be responsible for all studies, analysis, coordination, engineering, and all else necessary to complete the Phase I A/B study, preliminary and final design. It is the intent of the Department that the Engineer will have full latitude and complete responsibility for developing this project.

The work performed by the Engineer shall be done in imperial units in accordance with the Guidelines for Geometric & Roadway Design and Surveying, or if required, transit design guides. All documents shall have only imperial units.

A. PHASE I SERVICES- STUDY PRELIMINARY DESIGN

I. PHASE I-A/B: IDENTIFICATION AND EVALUATION OF ALTERNATIVES FOR IMPROVEMENTS ON NM 264 FROM MP 0 to MP 16.

This work shall include the following:

- o Information gathering
- o Purpose and Need Statement
- o Survey and/or mapping as required;
- o Conduct Safety analysis using latest edition and methodology of the Highway Safety Manual and ISate to evaluate safety characteristics of existing conditions and proposed alternatives;
- o Detailed Transportation Needs Analysis of roadway and major structures;
- o Pedestrian warrant analysis
- o Detailed inventory of existing environmental conditions and determination of environmental level of effort.
- o Preliminary Drainage Study and Report
- o Agency coordination and Public Involvement Plan (PIP), including public meetings as needed;
- o Detailed inventory of existing transportation conditions;
- o Analyze physical condition of existing facility
- o Analyze existing and future traffic
- o Existing and future Intelligent Transportation Systems (ITS)
- o Geotechnical Scoping Report
- o SUE Quality Level B or C
- o Identify and evaluate all viable alternative alignments

- o Conceptual design, constructability, and construction cost estimates
- o Identify existing right-of-way and encroachments
- o Conceptual right-of-way requirements
- o Context Sensitive Design Plan
- o Detailed engineering analysis
- o Quality Control Plan;
- o Priority Plan for preferred alternatives
- o Phase I-A/B Documentation – Detailed Evaluation of Alternatives Report and Conclusions.

Deliverables

Provide five (5) hard copies and one (1) CD (or DVD or USB) containing an electronic file (.pdf format) of both the Draft and Final Identification and Evaluation of Alternatives reports for NMDOT review and file.

Phase I-C: Environmental Investigations and Documentation

Based on the scope of work outlined above, the level of effort for the environmental certification process will be determined and the Engineer will complete the work necessary to obtain federal approval based on the determined level of effort. The use of federal funds for construction of this project requires adherence to federal and state law including, but not limited to, the National Environmental Policy Act

(NEPA), which requires the identification and assessment of impacts associated with a proposed action, and mitigation of impacts if necessary.

In addition, the Engineer shall prepare environmental documentation including:

- o Biological Evaluation;
- o Cultural Resource inventory and report
- o Categorical Exclusion (CE) and all supporting documentation, or Environmental Assessment (EA) if required;
- o Input Synopsis;
- o Finding of No Significant Impact (FONSI) request and FONSI (if required)

Deliverables

In addition, the Engineer is to prepare Environmental documentation including:

- Biological Technical Memorandum
- Categorical Exclusion (CE) and all supporting documentation, or Environmental Assessment (EA), if required

- Input Synopsis
- Finding of No Significant Impact (FONSI) request and FONSI (if required)
- Quality Control Plan.

PHASE I-D: PRELIMINARY DESIGN ON NM 264 FROM MP 10 TO MP 14

The engineer shall be responsible for providing the following:

- o Preliminary Property Ownership Maps
- o Coordination
- o SUE Quality Level B or C
- o Preliminary Roadway Design Plans
- o Preliminary Traffic Control Plans
- o Preliminary Engineering Estimate
- o Preliminary Determination of Right of Way
- o Final Geotechnical Services & Report
- o Utility Designation & Coordination
- o Preliminary Drainage Report

Deliverables

The Engineer shall submit and distribute five (5) bound sets of plans (11" x 17" reduced) and an electronic file (.pdf format) of plans for each design submittal. Each submittal shall be accompanied by an estimate of construction costs. The Engineer shall submit and distribute five (5) bound sets of the draft contract book at each design submittal beginning at the pre-final (60%) submittal. All design data and computer-aided-drafting (CAD) drawing files supplied under contract shall be produced and submitted to the NMDOT in a native Autodesk® (.dwg) file format at the current department standard version. The NMDOT is currently utilizing Autodesk® AutoCAD 2021 and Autodesk® AutoCAD Civil 3D 2021 as its standard version.

The Engineer shall provide minutes of all meetings, including comments received, and responses which include corrective action to the PDE. These minutes and design reports will be submitted within two (2) weeks of the plan review meeting.

Survey

All survey, topography, and mapping (existing, right-of-way, and monumentation), and preliminary design data shall be created and submitted to the Department in AutoCAD Civil 3D R2021, or latest version used by NMDOT in (.dwg) format. AutoCAD Civil 3D Software adhering to the standards set by the Department for the use of that software, shall be used

produce all drawings. All design related data files must be produced using AutoCAD Civil 3D software products. Electronic files submitted shall include, but are not limited to, geometry, points, surfaces, alignments, aerial imagery if acquired for photogrammetric mapping, coordinate system details, calibration reports, survey notes, survey field books (electronic and scanned field books with structure details), and survey controller files. Standards and resource files are available upon request from the Engineering Automation Section. NMDOT will only accept projects delivered on CD-ROM, flash drive or external hard drive. Data is not to be compressed by any software.

All surveying and mapping activities, including surveys for Subsurface Utility Engineering (SUE) services, shall be performed by a qualified Professional Surveyor licensed in New Mexico and shall meet the Minimum Standards for Surveying in New Mexico (12.8.2 NMAC).

Project Study Reports

The Engineer shall provide five (5) bound copy of any report(s) generated during final design summarizing major findings along with the recommendations and one (1) CD containing an electronic file (.pdf format) of the report(s) for NMDOT review and file.

Environmental Documentation

The Engineer, in consultation with the NMDOT, shall determine the NEPA Environmental Level of Effort and proper documentation based on the proposed scope of work and impacts to the cultural, natural, and human environment. Based on the proposed scope of work, impacts to the cultural, natural, and human environment are expected to be minimal. Therefore, the expected level of effort is a Categorical Exclusion (CE).

The Engineer shall provide one (1) draft electronic copy (MSWord format) of the draft biological evaluation to the NMDOT. After the NMDOT has reviewed and approved the document, the Engineer shall submit one (1) electronic copy and two (2) hardcopies to the NMDOT.

For the cultural resources inventory report, the Engineer shall provide one (1) draft electronic copy (MSWord format) and one (1) PDF copy of the draft. After the NMDOT has reviewed and approved the document, the Engineer shall submit one (1) electronic copy (MSWord format), one (1) PDF copy, and two (2) hard copies of the environmental resource documentation to the NMDOT.

The Engineer shall provide one (1) draft electronic copy (MSWord format) of the CE to the Department. After the NMDOT has reviewed and approved the document, the Engineer shall submit one (1) electronic copy of the final CE with all supporting resource and public involvement documentation to the NMDOT.

If at the end of Phase I-A/B, the NMDOT determines that significant environmental impacts may exist, the Engineer shall prepare an Environmental Assessment (EA) and shall provide one (1) draft electronic copy (MSWord format) of the EA, request for FONSI and FONSI to the Department. After the NMDOT has reviewed and approved the documents, the Engineer shall provide sufficient copies of the EA and mail them for appropriate public and agency review of the document and provide ten (10) hard copies and twenty-five (25) CD's

containing an electronic file (.pdf format) of the approved EA (with FONSI attached) to the NMDOT, plus additional copies for agencies and other interested parties. The Engineer shall also provide five (5) hard copies and one (1) CD containing an electronic file (.pdf format) of the Input Synopsis to the NMDOT.

Preliminary and Final Drainage Reports

The Engineer shall provide one (1) electronic (.PDF) copy of the reports for review. Upon acceptance, the Engineer shall provide three (3) bound and one (1) electronic copy of the Preliminary and Final Drainage Reports to the Department.

Preliminary Design Plans

The Engineer shall submit and distribute seven (7) bound sets of plans (11" x 17" reduced) and one (1) CD containing an electronic file (.pdf format) of plans for each design review. The Engineer shall provide minutes of all review meetings, including comments received, and responses, which include corrective action to the PDE. These minutes and design reports will be submitted within one (1) week of the plan review meeting.

Geotechnical Services

The Engineer shall provide geotechnical recommendations and a Preliminary Geotechnical Report, and shall provide geotechnical recommendations related to any structures, and submit Preliminary Foundation Report. The Foundation Report shall include detailed recommendations for structures and retaining walls and shall be prepared for the selected structure alternatives. Field Exploration activities (soil borings/rock cores) will be performed by the NMDOT Geotechnical Field Exploration Unit. Undisturbed samples for laboratory testing (consolidation, triaxial shear), if required, will be delivered to the consultant's laboratory for testing. Boring log summaries will be completed by the NMDOT Geotechnical Section.

Phase I-A/B

Geotechnical Scoping Report

The following activities shall be conducted for the development of the Geotechnical Scoping Report.

Field Reconnaissance

Determine the nature, range, and extent of major geologic units. A field reconnaissance of the proposed alignment shall be performed. The following tasks should be performed:

- o Geologic literature search
- o Compilation of a preliminary geologic map

- o Briefing of geologic conditions impacting the alignment study
- o Perform initial geophysical testing (seismic refraction) if necessary

Field Geologic Mapping

Topographic base maps and aerial photographs shall be utilized along with supplemental information gathered by backhoe pits or borings to develop geologic mapping of the alignment. Critical structural units and the nature of surficial geologic contacts that may be obscure shall be identified.

Geotechnical Scoping Report

The Geotechnical Scoping Report shall document the results of scoping geotechnical activities. The preliminary geologic and geotechnical study of the corridor with recommendations regarding the impacts, effects and possible mitigation measures associated with highway construction throughout the corridor, shall be provided for use in the detailed evaluation of alternatives. One (1) copy of this report shall be submitted to the Department with one CD containing a PDF of the report.

Phase I-D

Preliminary Geotechnical Report

The following activities shall be conducted for the development of the Preliminary Geotechnical Report.

Geotechnical Exploration Plan

Based on the recommended alignment of the Location/Alignment Study Report, a geotechnical exploration plan proposed for the geotechnical investigation to be performed during Preliminary Design shall be developed. The Engineer shall submit the exploration plan to the State Materials Bureau, Geotechnical Design Section for review and approval prior to mobilization for this activity.

Geotechnical Investigation and Laboratory Testing

Geologic/geotechnical exploration shall follow the procedures, requirements and guidelines as outlined in the latest edition of the NMDOT Materials Geotechnical Manual. The Final Geotechnical Report shall present data collected during the geotechnical investigation. Information shall include at least the following:

- o project location map
- o description of the project scope
- o presentation of the field investigations

- o station to station descriptions of the earth materials encountered during the field investigation
- o laboratory test results including consolidation, tri-ax, direct shear, point load and unconfined compression tests (rock cores)
- o geophysical test results
- o plan and profile sheets with test holes or pits shown in plan and profile views.

Preliminary Geotechnical Report

The Preliminary Geotechnical Report shall document the results of preliminary geotechnical activities. The preliminary geologic and geotechnical study of the corridor with recommendations regarding the impacts, effects and possible mitigation measures associated with highway construction throughout the corridor, shall be provided such as determine creep and consolidation settlement or instability of roadway embankments, soils stabilization, excavation/rippability determination of rock cuts, cut fill slope stability for slope exceptions, retaining and steepened slope alternative recommendations, shrink/swell, groundwater and subgrade drainage.

Preliminary Foundation Report

The following activities shall be conducted during the Preliminary Design for the development of the Preliminary Foundation Report.

Geotechnical Investigation and Laboratory Testing

Foundation and geologic/geotechnical exploration shall follow the procedures, requirements and guidelines as outlined in the latest edition of the NMDOT Materials Geotechnical Manual. The geotechnical exploration and laboratory testing shall include at least the following:

For retaining walls, one soil boring and/or rock core shall be completed every 200 feet with no less than two borings completed per wall. Borings should be taken to a depth of twice the height of the walls.

For drainage structures, the need for borings will be determined on a site-by-site basis.

Perform required lab testing and soil classifications as required by the Manual. Lab testing may require consolidation and tri-axial testing of undisturbed samples if clay soils are encountered, direct shear tests, or rock core point load and unconfined compression tests.

The Preliminary Foundation Report shall document the recommendation for the most suitable structure foundation and/or retaining wall alternatives based on the geology documented from the geologist's field exploration cards. Analysis shall include development of two conceptual bridge foundation and/or retaining wall alternatives; including evaluation of reuse of the existing piles to meet current AASHTO design standards. A cost comparison should be performed between the two alternatives as well as a comparison of which alternative is most constructible. A recommendation shall be made for the most suitable foundation/wall alternative with concurrence given by the Department's State Geotechnical Engineer. Preliminary points-of-fixity shall be provided for deep foundation alternatives.

Recommended state of stress lateral soil pressures and equivalent soil-spring constants shall be provided as required.

Subgrade Soils and Pavement Testing

Pavement exploration will be performed by the Engineer and shall consist of but not limited to field coring and subgrade sampling and laboratory testing of base course and subgrade samples. Results shall be provided for the Pavement Design following the NMDOT Pavement Design Policy.

Right-of-Way Maps, Title Reports and Monumentation Maps

The Engineer shall provide final right-of-way mapping, title reports and field Monumentation to the Department such that the Department may acquire the required right-of-way, if applicable. Submit one (1) unbound (full size) original set of the final accepted right-of-way maps to the NMDOT in addition to electronic submission.

Subsurface Underground Engineering/Utility Coordination

The Engineer shall provide SUE and Utility coordination services. The Subsurface Utility Engineering (SUE) process is used to identify the type, size and the ownership of existing underground and overhead utilities and establish their exact/precise location within the proposed project limits of NMDOT proposed construction projects. The SUE Quality Level B or C (Phase I-D services) can enable the accomplishment of preliminary engineering goals. Decisions regarding location of storm drainage systems, footers, foundations, and other design features can be made successfully to avoid conflicts with existing utilities. Slight adjustments in design can produce substantial cost savings by eliminating utility relocations. SUE services, including all utility coordination, shall be provided by qualified, experienced SUE consultants, who must meet the minimum requirements/standards outlined below prior to providing services.

Research of Records and Utility Designating

The SUE provider shall coordinate with utility owners and others, as required, in researching/investigating records, including but not limited to utility “as-builts”, government/entity permit files, reviewing proposed installation plans, contacting one-call centers, private utility owners, conducting field reviews, etc., to establish the location of existing and planned utilities. During this activity, the SUE provider shall also be required to ascertain the age and general condition of each utility facility.

For the purpose of the Contract, “designating” shall mean to provide accurate horizontal location of underground and overhead utilities by using geophysical equipment and techniques such as electromagnetic induction, resonant sonics, terrain conductivity meters, magnetics, radar devices and others. The type, size and ownership of each utility shall also be provided. The SUE Consultant shall also designate wells and septic systems. While performing the designating activity, the SUE Consultant may excavate test holes, at no expense to the NMDOT, for determining the approximate depth of the utility. Any markings on sidewalks or roadways for survey identification shall be of a temporary nature. The SUE Consultant shall provide the Engineer and the NMDOT with all data secured in hard copy plan sheet(s) NMDOT AutoCAD standard format.

New Mexico Department of Transportation

Department Shall Provide

The Department will furnish the below items to the Engineer. However, the Department may choose to have the Engineer perform all or part of these services. If any of the services listed below are required from the Engineer, each service will be initiated through Contract negotiations or by amendment to the Contract.

The Department shall provide:

- o As-builts.
- o A Project Development Engineer from the Department staff to serve as an engineering liaison for the project.
- o Traffic forecasts and accident data.
- o Hazardous material investigations and recommendations.
- o Review of the Alignment Study Report.
- o Review of Preliminary and Final Drainage Reports.
- o Review of environmental documentation and mitigation measures.
- o Equivalent single axle loads (ESALs).
- o Preliminary and final pavement design.
- o Verification of right-of-way mapping.
- o Review of environmental re-evaluation and mitigation measures.
- o Review bridge or structural design.
- o Review of Preliminary and Final Geotechnical Recommendations
- o Geotechnical exploration for structures
- o Final boring log summaries

Department Review

The Department will provide review of the Engineer's work for conformity with Department procedures and Contract terms only. Review by the Department does not include detailed review or checking of design components and related details or the accuracy with which such is depicted. Department acceptance of the Engineer's work product, plans, studies, etc., does not constitute Department approval.

Phase I - Scope of Services

Project Alignment Studies

This work involves the development and preparation of a Phase I-A/B Alignment Study Report. The project study shall be conducted in accordance with the latest edition of the NMDOT Location Study Procedures: A Guidebook for Alignment and Corridor Studies. The PDE shall determine the number of reports under these tasks during contract negotiations.

The engineer shall provide recommendations for construction of new facilities including, but not limited to:

- o Preliminary right-of-way needs analysis
- o Existing environmental conditions documentation in accordance with NEPA and potential mitigation of impacts;
- o Coordination, including but not limited to FHWA, McKinley County, Navajo Nation, and BIA
- o Public Involvement Plan (PIP) and public meetings.

Preliminary and Final Property Ownership Maps

The Engineer shall provide Property Ownership Layout Maps. These maps may be prepared by research/investigation of county records. Maps shall be prepared at a horizontal scale of 1" = 100' and a vertical scale of 1" = 10'.

Location Survey & Mapping (As needed to supplement the data provided by the NMDOT)

The Engineer shall provide controlled location and topographic survey and digitized cross-sections. All surveying shall be performed under the direct supervision of a New Mexico Registered Professional Land Surveyor.

Computer Mapping (As needed to supplement the data provided by the NMDOT)

Mapping limits should extend from approximately milepost 0 to 16 on NM 264. Mapping limits can be expanded to incorporate drainage basins that affect the project area, if necessary. Computer mapping software used should be compatible with the NMDOT's mapping and design software.

Graphics File (As needed to supplement the data provided by the NMDOT)

Provide a graphics file covering the complete project. The graphics file shall contain all digital terrain modeling (DTM) breaklines, planimetric, topographic, alignment data, and approximate locations of existing right-of-way limits. The contour map scale should equal the horizontal scale used on the plan and profiles. Select the scales accordingly.

Planimetric Plan and Profile Sheet Files (As needed to supplement the data provided by the NMDOT)

Provide Plan and Profile (P&P) Sheets with planimetric and topographic data at a horizontal scale of 1" = 100' and a vertical scale of 1" = 10'. Provide planimetric and topographic coverage for 300 feet left and right of the roadway on a D-size sheet. Provide baselines for all turnouts and side roads, if applicable. It may be necessary to place angle points along the baseline to define the turnouts and side roads. Along major side roads, provide P&P sheets with planimetric and topographic data on both sides of side road centerline for 500 feet, if applicable.

Surface Model Files (As needed to supplement the data provided by the NMDOT)

Provide contour maps at a scale of 1" = 100' with one-foot contour intervals unless the Project Development Engineer recommends an alternate scale. Maps shall meet the US National Map Accuracy Standards. Provide planimetric and topography coverage for 500 feet left and right of roadway.

Areas within the mapping corridor with steep slopes may be covered with 5-foot contour intervals or as directed by the Project Development Engineer. Drainage areas that require a structure of 100 square feet or more opening will require 1,000 feet of planimetric and topographic data left and right of the centerline beginning 500 feet before and continuing 500 feet after the structure. Provide a flow line baseline for 1,000 feet from centerline up and down stream with a tie to centerline on the contour map. Show flow line baseline on graphics files and planimetric P&P files.

Existing Structure Section Sheet Files (As needed to supplement the data provided by the NMDOT)

Provide existing structure sections at a scale of 1" = 10' horizontal and 1" = 10' vertical on a D-size sheet with a maximum of three structures sections per sheet.

Turnout and Side Road Profile Sheet Files (As needed to supplement the data provided by the NMDOT)

Provide turnout and side road profile sheets at a scale of 1" = 10' horizontal and 1" = 10' vertical for 200 feet of profile left and right of mainline centerline and 500 feet of profile for major side roads, if applicable.

Major Side Road Cross-Section Files (As needed to supplement the data provided by the NMDOT)

Provide cross-sections at 100-foot intervals for turnouts and at all breaks for at least 200 feet left and right of side road baselines, for a distance of 500 feet left and right of mainline centerline, if applicable. Show baselines on graphics files, contour maps and P&P sheets.

Survey Notes Sheet File (As needed to supplement the data provided by the NMDOT)

Provide a Survey Notes/Control Sheet file. The survey notes sheet shall be appropriately incorporated into the final plan set to be used for construction of the project.

Reference Stakes (As needed to supplement the data provided by the NMDOT)

The Centerline of the Survey or Centerline of Construction, as appropriate, shall be staked at 500 foot station pluses and at all PC's and PT's of curves. If the actual alignment cannot be staked because of safety measures, the alignment may be staked on a parallel offset line.

Sheet Boundaries or Reference Marks (As needed to supplement the data provided by the NMDOT)

On all electronic files transmitted to the NMDOT wherein P&P or other sheets are extracted, the sheet boundaries or reference marks shall be left intact and shall remain in place as invisible or phantom lines. This is done to allow the exact duplication of coordinates when extracting and printing the P&P sheets.

Copies (As needed to supplement the data provided by the NMDOT)

Provide one hard copy of all planimetric Plan & Profile sheets, contour maps, existing Structure Section sheets, Preliminary Property Ownership Layout Maps, and Turnout & Side Road Profile sheets to Robert Sexton, Surveying and Lands Engineering Section, at 505-827-5560

Coordination Procedure

The Engineer will be responsible for all coordination necessary to accomplish the work required by the Contract.

This responsibility shall include coordination with all property owners and federal, state, city, county, schools and other agencies having jurisdiction or interest in the project. This will include obtaining approvals and/or concurrence on all work that is to be completed by the Engineer including work completed by sub-contractors working under the Contract.

This responsibility shall also include obtaining all initial informal (verbal) approvals. For any required formal (written) approvals, the Engineer will provide the NMDOT with all required data and draft letters of transmittal. In the event the Engineer is not successful in obtaining informal approvals, the Engineer shall promptly notify the NMDOT in writing, and the NMDOT will assist in resolving the matter.

In addition to the above, the Engineer shall be responsible for:

- o Scheduling all design reviews.
- o A project specific Quality Control Plan
- o Copying and the distribution of plans and documents.
- o Writing design review reports (due within one week of the meeting).
- o Writing design team meeting minutes (due within 48 hours of the meeting).
- o Documenting verbal approvals in writing in the monthly reports to the design team and NMDOT.
- o Performing and documenting property owner interviews.
- o Being the focal point, for the flow of all project activity, including the sub-contractor work.
- o Providing monthly progress reports for design, utility, environmental, right-of-way and construction.
- o Providing periodic presentations to the design team, NMDOT management. (I.e. Division Director, Bureau Chief, District Engineer), local agencies, and/or other public or private entities, etc., if applicable.
- o Scheduling PS&E Office Review
- o Writing PS&E Office Review Report
- o Providing meeting minutes of all project meetings within two weeks of the meeting taking place.

Agency Coordination

Agency coordination will include any agency with management responsibilities, all agencies with sensitive resource responsibilities and any agency that may have permit authority for project activities. In consultation with the Environmental Bureau, the Engineer will coordinate the environmental and cultural resource mitigation measures.

The appropriate federal, state, tribal, county, and local agencies, the public and other interested agencies will be contacted to ensure that the community and governmental concerns are identified and considered for inclusion in the design development of the project. It is anticipated that coordination with the agencies listed below will be required during the design and construction of this project:

- o Federal Highway Administration (FHWA)
- o McKinley County
- o Navajo Nation
- o BIA

This list is for information only and not intended to be the final list of agencies to be contacted.

Subsurface Utility Engineering Services and Coordination

The NMDOT Utilities Section will provide utility Coordination. Quality Level B or C. QL-B involves the application of appropriate surface geophysical methods to determine the existence and horizontal position of virtually all utilities within the project limits. This activity is called “designating”.

Pre-final Field Review

The Engineer shall conduct a Pre-Final Design Review (PFDR) after NMDOT transmittal of Corridor Data is complete. The PFDR will be held to establish the scoping for the project.

Roadway Design Guidance

All work accomplished under this Contract shall be in accordance with the AASHTO “A Policy on the Geometric Design of Highways and Streets,” FHWA Policy, the Department’s Survey Handbook (newest edition), other Department manuals, standards, guidelines, standard specifications, and standard procedures.

Design Plans

Provide preliminary (30%), plans for the project. Project plans will include recommended horizontal and vertical alignment, typical roadway sections, intersection layouts, slope limits, right-of-way requirements, utility relocation/adjustment requirements, and preliminary earthwork analysis. Project plans shall be prepared using NMDOT standards for general content and format. Plans shall be prepared for the alignment and typical sections, as approved by the NMDOT and Federal Highway Administration (FHWA).

The design plans shall include, but are not limited to, the following:

- o General Sheets
- o Title Sheet
- o Vicinity Map
- o Project Layout Sheet
- o Index of Sheets
- o Summary of Quantities
- o General Notes and Incidental Items
- o Environmental commitments
- o Miscellaneous Sheets
- o Typical Sections
- o Miscellaneous Details
- o Surfacing Schedule
- o Structure Quantities
- o Miscellaneous Quantities
- o Curb and Gutter Layouts
- o Erosion and Sediment Control
- o SWPPP Information Sheet
- o Seeding and Landscaping
- o Grading Plans
- o Visual/Aesthetic Details
- o Plan and Profiles Sheets
- o Turnout Profiles
- o Bridge/Retaining Wall/Noise Wall Plans
- o Traffic Control Plans
- o Notes
- o Sequence of Construction
- o Sign Face Details
- o Traffic Control Plans

- The Engineer shall develop a proposed sequence of construction and traffic control plan for the construction. Traffic Control plan shall:
 - Address bicycle and pedestrian movements as well as vehicular traffic.
 - Include requirements for the Contractor to keep the public and businesses informed (on a periodic basis) as to the progress of the project.
 - Include suggestions for the Contractor to utilize social media to disseminate project related information throughout the construction phases of the project.
 - Include requirements for the Contractor to provide an Incident management plan prior to the start of construction.
- o Signal Plans
- o Signal Warrant Analysis for at-grade intersections
- o Signal Design Plans
- o Lighting Plans
- o Lighting Analysis
- o Lighting Plan
- o Permanent Signing and Striping Plans
- o Overhead Signs
- o Sign Face Details
- o Earthwork Cross-Sections

Preliminary Design Completion Review

The engineer shall schedule and conduct the project design review. Submit and distribute seven (7) bound sets of plans (11" x 17" reduced) for each design review (District Engineer, Assistant District Engineer – Construction, Assistant District Engineer – Engineering, Assistant District Engineer – Maintenance, Construction Liaison Engineer, Federal Highway Administration – Area Engineer, Project Development Engineer).

Provide copies of the minutes of the reviews including comments received at the review to the members of the design team and other review participants. The minutes of the inspection reviews will be submitted within one (1) week of the plan review inspection. Provide one (1) PDF of the plans for each design review.

For bridge and structural design computations, provide one (1) copy of all bridge and structural computations to the NMDOT. Provide one (1) PDF of the design computations.

Design Data Transmittal

All surveying, mapping and design data shall be submitted to the NMDOT in an Intergraph (.dgn) format or other compatible format approved by the NMDOT. The Engineer must obtain the latest version of the NMDOT's information table from the NMDOT's Surveying and Lands Engineering Section prior to digitizing any data. The Engineer must obtain the latest symbols, layer names, and template data from, Surveying and Lands Engineering Section, prior to digitizing any data. Data must be submitted to the NMDOT on CD ROM.

Environmental Services

The environmental investigation and documentation process, subsequent circulation, and public/stakeholder meetings, shall be completed in accordance with the latest edition of the NMDOT Location Study Procedures: A Guidebook for Alignment and Corridor Studies; FHWA Technical Advisory T 6640.8A, 23 CFR Part 771; and other applicable guidelines and regulations. The use of federal funds construction on this project requires adherence to federal and state law including, but not limited to, NEPA, which requires the identification and assessment of impacts associated with a proposed action, and mitigation of impacts if necessary.

The following are the minimum services to be provided by the Engineer:

- o Environmental and Cultural Resource Investigations
- o Agency Coordination and Public Involvement, including public meetings and a public hearing (if required)
- o Preparation and distribution of the necessary level of environmental documentation (e.g., Categorical Exclusion or Environmental Assessment)
- o Summary of all public involvement activities and Public Input Synopsis, including Transcript of Public Hearing, Public and Agency Comments, and Responses to Comments

The environmental document summarizes the environmental investigations, agency coordination, and public involvement. The effort must be commensurate with the potential for environmental impacts. The necessary level of environmental documentation will be dependent on the environmental issues discovered during the project planning process.

If significant design changes have occurred or significant time has elapsed since the issuance of the environmental document, a contract amendment will be undertaken, and the appropriate environmental level of effort will be negotiated.

Environmental and Cultural Resources Investigations

An interdisciplinary team including qualified natural resource and cultural resource specialists must conduct the environmental investigations. The environmental investigations will include, if appropriate, surveys and analyses in the following areas:

Biological surveys conducted by qualified biologists including a biological survey report and biological evaluation for threatened and endangered species and, if necessary, an official Biological Assessment and Evaluation for Endangered Species Act compliance regulatory agency review and approval;

A visual impact assessment including, if necessary, a separate Visual Impact Assessment Report for NMDOT review and approval;

A cultural resource survey conducted by permitted archaeologists and historians including a report and all appropriate forms and attachments, following the guidelines set forth in 4.10.15 NMAC.

A noise analysis including, if necessary, a separate Noise Analysis Report for NMDOT review and approval;

An air quality analysis including, if necessary, a separate Air Quality Analysis Report for NMDOT review and approval;

Other surveys, investigations, and analyses may be required as appropriate to the project.

Environmental investigations must include analyses of all issues mandated by NEPA as well as other state and federal environmental legislation, including Executive Orders on Wetlands, Floodplains, and Environmental Justice. The environmental investigations shall include evaluations of all appropriate alignment and typical section alternatives, including the no-build option and avoidance options. Environmental investigations will also include, as appropriate, measures to minimize harm, enhancement measures and measures to mitigate impacts.

The cultural resources survey and preparation of a final Cultural Resources Survey Report must meet all federal and state requirements. A permitted archaeologist and historian must conduct the cultural resources survey. Cultural Resource investigations shall include Historic Building inventories and all attachments, following state guidelines delineated in 4.10.15 NMAC and federal guidelines as per the National Historic Preservation Act, Section 106.

All environmental reports submitted to the NMDOT are subject to NMDOT review and approval before investigations are accepted as complete. Based on engineering, cost, environmental and right-of-way impacts, the Engineer shall determine, recommend, and obtain NMDOT concurrence on the preferred alternative to be used for location approval in the environmental document and for final design.

Agency Coordination

Agency coordination will include any agency with management responsibilities, all agencies with sensitive resource responsibilities and any agency that may have permit authority for project activities.

The Engineer will determine and coordinate the environmental and cultural resource impacts and mitigation measures of the alternatives examined, including the consequences of the no-build alternative. The appropriate local, county, and state agencies, the public and other interested agencies will be contacted to ensure that the community and governmental concerns are identified and considered for inclusion in the design development of the project. The Engineer shall be responsible for all coordination that is required to provide a satisfactory Public Involvement Plan and environmental document.

Context Sensitive Solutions (CSS) and Public Involvement Plan (PIP)

A Public Involvement Plan (PIP) consistent with Context-Sensitive Solution methods and practices must be submitted to the NMDOT Environmental Program Manager prior to the first public information meeting. The PIP is expected to be an evolving document and process specific to the project and should follow the outline of the NMDOT Context Sensitive Public Involvement Plan for Location Study Projects as included in Appendix A.

The PIP will be evaluated and updated as necessary to proceed into subsequent project phases. The PIP should include: a brief project description, planning history/background information, community profile, discussion of anticipated issues, known or likely impacts (positive and negative), objectives and goals (including approaches to resolution of issues), proposed public outreach efforts and agency coordination activities, coordination with elected officials & community representatives, and a mailing list.

In addition the PIP should identify the various stakeholders and their issues of concern, techniques for communicating with the community and possible methods for addressing community concerns, opportunities to express local values, modal considerations, and discussion of the design approach with specific consideration of the potential project issues.

It is anticipated that a high level of public involvement will be required. This level of effort typically involves several public meetings, coordination with community stakeholders, agency coordination, and a public hearing (if required). Public meetings will most likely be in a virtual format such as Zoom or Access Live for example.

The NMDOT is committed to a Context Sensitive Solutions/Context Sensitive Design (CSS/CSD) approach to project development in the location study phase for all projects in project development. CSS/CSD is essential to the NMDOT in carrying out its mission of providing for the safety and mobility of the public. The goal of CSS/CSD is to encourage an open, interdisciplinary framework in which project teams can develop roadway designs that fully consider the aesthetic, historic, cultural, and scenic values along with considerations of safety and mobility – the essence of CSS/CSD.

A successful CSS/CSD project includes effective decision-making, implementation and outcomes that reflect community values and are sensitive to environmental resources. This results in project solutions that are safe and financially feasible.

For background, information on Context Sensitive Design, the Engineer is referred to NCHRP Report 480, “A Guide to Best Practices for Achieving Context Sensitive Solutions”, Transportation Research Board (TRB), 2002. An additional reference is Flexibility in Highway Design published by the FHWA. This design guide illustrates how it is possible to make highway improvements while preserving and enhancing adjacent lands and communities. Flexibility in Highway Design urges highway designers to explore options beyond those used in “A Policy on the Geometric Design of Highways and Streets” (the AASHTO Green Book). The Consultant shall integrate Context Sensitive Solutions into both Studies and Design Approaches to the project.

If special or unique Context Sensitive Solutions are required for the project, those services may be negotiated and added by contract amendment.

Environmental Document

A qualified environmental professional shall be responsible for preparation of the environmental document. The environmental document summarizes the environmental and cultural resources investigations, agency coordination, and public involvement. The effort must be commensurate with the potential for environmental impacts. The necessary level of environmental documentation will be dependent on the environmental issues discovered during the project planning process.

The environmental document shall be developed using the format outlined in FHWA Technical Advisory T6640.8A, 23 CFR Part 771 and other applicable guidelines and regulations. Submittal of an environmental document to the NMDOT, which is incomplete as determined by Environmental staff or the PDE, will not be reviewed. Submittal of an environmental document that is considered complete shall be reviewed once and comments made to the Engineer.

A complete environmental document shall have a comprehensive discussion of purpose and need, alternatives (as appropriate), environmental investigations, assessment of impacts, and appropriate mitigation as necessary. Errors or omissions not adequately corrected from the first review will be subject to liquidated damages that will be withheld from final payment of the Contract.

Input Synopsis

The public involvement summary, or Input Synopsis, and draft environmental document, shall be submitted to the NMDOT Environmental Program Manager. The Input Synopsis shall contain copies of the public involvement handouts and written comments. It shall also contain the environmental document circulation list, responses to verbal and written comments and the public involvement summary and transcript. All studies, commitments and recommendations must be summarized and finalized (cultural resources, agency permits, etc.).

Hazardous Material Investigation

An Initial Site Assessment (ISA) will be performed by the Department concurrently with the Engineer's Preliminary Design activities to identify areas of concern and develop any required avoidance and/or mitigation design approaches.

National Pollutant Discharge Elimination System (NPDES)

The Engineer shall prepare an erosion and sediment control plan in accordance with the requirements of the NMDOT NPDES handbook dated January 1997, or current edition. The completed plans shall include the temporary erosion and sediment control measures in accordance with the NPDES requirements.

Quality Control Plan

A project specific Quality Control Plan is required for each phase of this project. The specific requirements are outlined in the current edition of the NMDOT Consultant Services Procedures Manual & Handbook.

Drainage Facilities

The engineer shall provide a drainage analysis consistent with the recommended improvements. A preliminary evaluation of the existing bridges is necessary. The Engineer will perform a comprehensive hydrology and hydraulics study, and a detailed scour analysis. The Engineer shall document the results of the drainage study of this project in a preliminary drainage report and a final stamped and sealed final drainage report. Addressing comments may be pursued as additional services to the contract.

The Engineer shall provide one (1) electronic (.PDF) copy of the reports for review. Upon acceptance, the Engineer shall provide three (3) bound and one (1) electronic copy of the Preliminary and Final Drainage Reports to the Department.

Intelligent Transportation System (ITS) Infrastructure

This work shall include the assessment and preliminary design of ITS infrastructure. The Engineer will need to assess the additional conduit capacity required for entities other than DOT to access conduit for broadband rollout. ITS coordination, project need, and design requirements shall be documented in the ITS section(s) of the Phase IA/IB Report or the project Scoping Report. Coordination with the NMDOT ITS Bureau will continue through Preliminary Design and will vary depending on the intensity of the ITS design required. In addition, the ITS Checklist is required as part of the project certification process for any ITS design and/or ITS relocation plans.

If there are any questions or inquiries in relation to this Addendum No. 1, Offerors may contact Paul Gruber at (505) 469-0374 or by email at Paul.Gruber1@state.nm.us.