

A. GENERAL PROJECT INFORMATION:

1. Project Location.

The project is located along Bureau of Indian Affairs (BIA) Route SP-38 Haak'u Road, in the Pueblo of Acoma, Cibola County, New Mexico beginning immediately at the intersection with Pueblo Road through its various crossing intersections to its end at the intersections of SP-22 and SP-30. The project length is approximately 13 miles.

2. Scope of Services.

This RFP is for engineering services and related incidental, planning, and special services.

3. Proposed Improvements:

The proposed improvements include but are not limited to roadway reconstruction and rehabilitation, structure evaluations and replacement if needed, signing and striping, replacement of roadside barriers, drainage improvements, and relocation of existing utilities and lighting, as needed and an addition of a pedestrian/bicycle trail along the corridor.

4. Purpose:

The purpose of this project is to design final construction plans in cooperation with the Pueblo of Acoma to meet the funding schedule for construction.

5. Fees & Schedule:

It is the intent of the Pueblo of Acoma to negotiate a fixed price for each of the following services:

- Phase I-B: Evaluation of Existing Conditions
- Phase I-C: Environmental Documentation and Processing
- Phase I-D: Preliminary Design Services (30%)
- Phase II: Final Design (60% to 100%)

If needed, the Consultant will be asked to negotiate services for the additional phases of the project:

- Phase III: Engineering Services during Construction

B. SCOPE OF WORK:

The Engineer shall be responsible for all studies, analysis, coordination, engineering, right-of-way activities, and all else necessary to complete the design. It is the Pueblo of Acoma's intent that the Engineer will have full latitude and complete responsibility for developing this project.

The work performed by the Engineer shall be in accordance with the Guidelines for Geometric & Roadway Design and Surveying, or if required, transit design guides. All documents shall have only imperial units including right-of-way (ROW) documents. All work accomplished under the Contract shall be in accordance with the latest edition of the AASHTO "A Policy on the Geometric Design of Highway and Streets, 2018 Edition": FHWA Policies; any applicable BIADOT and NMDOT design standards.

The Engineer shall perform services under Phase I & Phase II. Specifications of tasks in Phase II shall apply to each relevant task in Phase I. The required services include but are not limited to the following:

C. PHASE I-B

This work involves the development and preparation of the following.

Detailed Evaluation of Existing Conditions following:

- Information gathering on existing conditions;
- Survey and/or mapping as required;
- SUE Quality Level D and coordination with utility owners as necessary;
- Identify existing right-of-way, property ownership along the corridor, and encroachments;
- Determination of traffic volumes with vehicle classifications on SP-38 for updates to the BIA Road Inventory Field Data System. Traffic volumes and classifications shall be collected in 15-minute intervals. Adequate traffic data shall be collected to determine any oversaturated segment. Approval of data collection methodology and plan by the Pueblo of Acoma shall be required before implementation of plan;
- Establish design criteria which will guide the conceptual design process;
- Geometric design of concepts to include horizontal and vertical alignments, and right-of-way requirements;
- Assessment of structural requirements including bridges, culverts, and retaining walls as needed;
- Conceptual construction phasing to determine implementation feasibility;
- Conduct Safety analysis using latest edition and methodology of the Highway Safety Manual to evaluate safety characteristics of existing conditions and proposed alternatives;
- Planning level construction and right-of-way costs to be categorized by order of magnitude for comparison;
- Stakeholder coordination and Public Involvement Plan (PIP) as needed, including public meetings should they be necessary;

- Preliminary Geotechnical Scoping Report;
- Drainage evaluation;
- Utility impact assessment;
- Inventory of existing environmental conditions and determination of environmental level of effort;
- Phase I-B Documentation – Detailed Evaluation of Existing Conditions Report.

1. Location & Topographic Survey

The Engineer/Surveyor shall provide required location and topographic survey for the entire project limits suitable for planning and conceptual design. Existing right-of-way shall be surveyed and made known with the location survey and mapping deliverables, along with but not limited to, Access Control lines, all fences, structures, utilities, signs, break-lines, and encroachments. Encroachments shall include owners name and address with perpendicular distance(s) from right of way. All surveying and mapping activities 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). The Engineer/Surveyor is responsible for establishing primary project control. The engineer is responsible for coordinating all surveying and mapping efforts required for design and determination of right-of- way impacts due to design.

2. 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 Pueblo of Acoma 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 Pueblo of Acoma in writing, and the Pueblo of Acoma will assist in resolving the matter.

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

- Scheduling project team meetings assumed to occur monthly over the duration of this project phase.
- Copying and the distribution of documents.
- Documenting verbal approvals in writing in the monthly reports to the design team and the Pueblo of Acoma.
- Performing and documenting property owner interviews, if needed.
- Being the focal point, for the flow of all project activity, including the sub-contractor work.
- Providing periodic presentations to the design team, Pueblo of Acoma, local agencies,

and/or other public or private entities, etc., if applicable.

- Scheduling and participation in individual stakeholder meetings.

3. Electronic Submittal of Design Data by Engineer

All survey, topography and mapping (existing, right-of-way, and monumentation), and preliminary design data shall be created and submitted to the Pueblo of Acoma in PDF format.

4. Project Study Reports

The Engineer shall provide five (5) bound copies and one (1) USB flash drive containing an electronic file (.pdf format) of both the draft and final Phase I-B Detailed Evaluation of Existing Conditions Report for Pueblo of Acoma review and file.

D. PHASE I-C SERVICES – ENVIRONMENTAL INVESTIGATIONS AND DOCUMENTATION

The environmental investigation and documentation process, subsequent circulation, and public/stakeholder meetings, shall be completed in accordance with the latest FHWA/BIA requirements. Based on the scope of work outlined in this RFP, the level of effort for the Environmental Clearance will be determined based on project scope and the Engineer will complete the work necessary to obtain federal approval based on the determined level of effort for the project and in consultation with the Pueblo of Acoma. The use of federal construction funds 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:

- Cultural Resource Investigations (Section A)
- Agency and Stakeholder Coordination and Public Involvement Meetings (Section B)
- Preparation of a Categorical Exclusion (CE) or Programmatic Categorical Exclusion (PCE) and all supporting documentation. (Section C)
- Summary of all public involvement activities including an official transcript (if a Public Hearing is required), Public and Agency/Stakeholder Comments, and Responses to Comments (Section D)
- The environmental document summarizes the environmental investigations, agency/stakeholder coordination, and public involvement activities. The effort must be commensurate with the potential for environmental impacts. (Section E)

5. Environmental and Cultural Resources Investigations

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

- A visual impact assessment.
- A cultural resource surveys.

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- 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. 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 federal requirements. A permitted archaeologist and historian must conduct the cultural resources survey. Cultural Resource investigations shall include Historic Building inventories and all attachments, following federal guidelines as per the National Historic Preservation Act, Section 106.

All environmental reports submitted to the Pueblo of Acoma are subject to BIA/FHWA review and approval before investigations are accepted as complete.

6. Agency/Stakeholder/Landowner Coordination

Agency, stakeholder, and landowner coordination will include any party with management responsibilities, is adjacent to the project area, would be impacted by project construction, 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. The appropriate local, county, and state agencies, the public and other interested parties will be contacted to ensure that the community and governmental concerns are identified and considered for inclusion in the design development of the project, including the traffic control plan. The Engineer shall be responsible for all coordination that is required to provide a satisfactory public involvement summary and environmental document.

7. 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. It is anticipated that a Categorical Exclusion (CE) or Programmatic Categorical Exclusion (PCE) will be the appropriate level of effort required. 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 Pueblo of Acoma, which is incomplete as determined by the Pueblo of Acoma staff, will not be reviewed. Submittal of an environmental document that is complete shall be reviewed once and comments made to the Engineer.

8. Public Involvement Summary

The Public Involvement Summary shall be submitted to the Pueblo of Acoma. The Public Involvement Summary should compile and summarize all project activities and documents as they relate to public and stakeholder outreach efforts, a summary of comments, and a description of how comments are being addressed. If a Public Hearing is required, all specific legal requirements shall be fulfilled.

9. Deliverables

Provide draft reports electronically to the Pueblo of Acoma for review. After the Pueblo of Acoma has reviewed and approved the document, the Engineer shall submit up to three (3) hard copies if requested of the cultural report and one set of archival forms as needed, and electronic files (PDF) of the final cultural report and any associated forms that are requested.

The Engineer shall provide one (1) draft electronic copy (MSWord format) of the NEPA Document to the Pueblo of Acoma. After the Pueblo of Acoma has reviewed and approved the document, the Engineer shall submit an electronic copy (.pdf format and MSWord format) of the final NEPA Document with all supporting resource documentation to the Pueblo of Acoma. The Engineer shall provide sufficient copies of the NEPA Document and mail them for appropriate public and agency review of the document, if needed.

E. PHASE I-D SERVICES – PRELIMINARY DESIGN

Provide Preliminary Design (30%) for roadway reconstruction and rehabilitation, structure evaluations and replacement if needed, signing and striping, replacement of roadside barriers, drainage improvements, and relocation of existing utilities and lighting, as needed.

The Preliminary Design will establish the corridors conceptual features, alignment, grades, and initial slope limits. The Engineer will further identify potential project impacts and provide a preliminary construction concept and sequence. Preliminary plans must show existing and proposed drainage structures and provide a preliminary cost for construction. Preliminary Design services include but are not limited to the following:

- Project Specific QA/QC Plan
- Coordination and Design Partnering
- Public Involvement
- SUE Quality (Level C Anticipated)
- Preliminary Design Plans
- Preliminary Drainage Report
- Construction Phasing and Traffic Control Plans
- 30% Design and Field Review
- Preliminary Engineering Estimate
- Property Owner Interviews (if applicable)
- Determination of initial Right-of-Way requirements (if applicable)

1) Deliverables

- The Engineer shall submit and distribute to all appropriate parties ten (10) bound sets of plans (11” x 17” reduced) and one (1) USB flash drive containing an electronic file (.pdf format) of the plans for the design review.
- The Engineer shall provide minutes of the review meetings, including comments

received, and responses which include corrective actions taken by the Engineer. These minutes and design reports will be submitted within one (1) week of the plan review meeting.

1. Preliminary Drainage Report:

Before performing a preliminary drainage analysis, the Engineer shall meet with the Pueblo of Acoma to discuss the hydrologic methodologies and hydraulic analysis of existing and proposed drainage structures. The preliminary hydraulics shall be computed based on existing information to provide the scope of drainage work and cost estimate. The Preliminary Drainage Report shall include preliminary design and locations of drainage infrastructure.

The Preliminary Drainage Report shall summarize the results of the preliminary drainage analysis and shall conform to Section 305 of the NMDOT Drainage Design Manual (July 2018).

1) Deliverables:

- The Engineer shall provide one (1) electronic copy (.pdf format) of the Preliminary Drainage Report.

F. PHASE II SERVICES – FINAL DESIGN

1. Planimetric Plan and Profile Sheet Files

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" = 5' or as approved by the Pueblo of Acoma. Provide planimetric and topographic coverage for approximately 200 feet left and right of the roadway or as needed. Provide baselines for all turnouts and side roads. Along major side roads, provide P&P sheets with planimetric and topographic data on both sides of the side road centerline at approximately 200 feet or as needed.

2. Surface Model Files

Provide contour maps at a scale of 1" = 100' with one foot contour intervals unless an alternate scale is designated by the Pueblo of Acoma. Maps shall meet the US National Map Accuracy Standards. Provide planimetric and topography coverage for 200 feet left and right of roadway or as needed. Areas within the mapping corridor with steep slopes may be covered with 5-foot contour intervals or as directed by the Pueblo of Acoma.

Drainage areas which 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 structure 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. Verify limits with Drainage design engineer designated by the Pueblo of Acoma.

3. Existing Structure Section Sheet Files

Provide existing structure sections at a scale of 1" = 20' horizontal and 1" = 20' vertical or as needed with a maximum of three structures sections per sheet.

4. Turnout and Side Road Profile Sheet Files

Provide turnout and side road profile sheets at a scale of 1" = 10' horizontal and 1" = 10' vertical for 300 feet of profile left and right of mainline centerline and 500 feet of profile for major side roads, if applicable.

5. Major Side Road Cross-Section Files

Provide cross-sections at 50-foot intervals for turnouts and at all breaks for at least 200 feet left and right of side road baselines, for 500 feet left and right of mainline centerline, if applicable. Show baselines on graphics files, contour maps and P&P sheets.

6. Sheet Boundaries or Reference Marks

On all electronic files transmitted to the PUEBLO OF ACOMA 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.

7. Subsurface Utility Engineering Services and Coordination

Engineer will provide Utility Coordination. Quality Level C (QL-C) is anticipated for this project

If potential conflicts are identified during the design process, the Engineer will be responsible for Quality Level A locating by pothole exploration and associated survey required to establish proper project control.

Coordination with all affected utility companies will be required for private utility relocation design. For public water and/or sewer relocations, the Engineer will be responsible for design and construction plans for this work to be performed by the Pueblo of Acoma contractor.

8. Intelligent Transportation System (ITS) Engineering and Design Services (if applicable)

The Engineer must demonstrate knowledge in FHWA's Intelligent Transportation System Architecture and Standards. The principal goal of this scope is to provide ITS expertise to service the needs of the PUEBLO OF ACOMA transportation system. This element is not identified as a major scope element of this project, but is included for unanticipated ITS needs of the PUEBLO OF ACOMA transportation system. The design (if applicable) will follow the Department's design process for all tasks and conform to the FHWA or NMDOT's Standards and Specifications.

9. Roadway Design

The Engineer shall provide or conduct the following:

1) Roadway Design Plans:

- Provide comprehensive Grade and Drain plans (60% completion), a Constructability Plan and review, Plan-in-Hand (90% completion), and PS&E (100% completion) plans.
- Project plans will include proposed planimetries, proposed alignments and profiles, roadway and structure sections, intersection layouts, miscellaneous details, slope limits, turnout profiles, plan quantities, right-of-way requirements, permanent traffic control, utility relocation/adjustment requirements, lighting plans, earthwork analysis and cross sections, construction sequencing and traffic control plans. Each plan submittal shall accompany a construction cost estimate by construction type.

- Project plans shall be prepared using NMDOT Design Directives and Standards for general content and format.
- 2) Design Completion Reviews:
- Schedule and conduct the project milestone design reviews. The reviews shall be held for the entire project depending on the priority plan. Submit and distribute ten (10) bound sets of plans (11" x 17" reduced) for each design review (District Engineer, Assistant District Engineer – Engineering, Assistant District Engineer – Construction, Assistant District Engineer – Maintenance, District Technical Support Engineer, Construction Liaison Engineer, FHWA Area Engineer, and PDE). 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) CD or electronic download containing a PDF of the plans for each design review.
- 3) Contract Documents:
- The Engineer shall prepare and submit to the Pueblo of Acoma a Draft and Final Contract Book using Boiler Plate information approved by the Pueblo of Acoma.
- 4) Final Design Reports:
- The Engineer shall prepare and submit to the Project Development Engineer reports after the grade and drain (60%) design review, plan-in-hand (90%) design review, and the PS&E office review detailing project status, minutes and required plan modifications within one (1) week of holding reviews.
- 5) Design Data Transmittal:
- All surveying, mapping and design data shall be submitted to the NMDOT in a 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.

10. Environmental Follow-Up

During Phase II – Final Design, the Engineer will complete the environmental investigation documentation process to re-evaluate the NEPA document and update as needed, including subsequent circulation.

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

- Supplemental Public/Agency Coordination
- Final NEPA Documentation (i.e., CE, PCE, FONSI re-evaluation, EA, FONSI).

The environmental document summarizes the environmental investigations, agency coordination, and public involvement activities. The effort must be commensurate with the potential for environmental impacts. It is anticipated that a CE or PCE will be the appropriate level of effort required. Should environmental re-evaluation investigations

be necessary, all requirements of Environmental Investigations and Documentation of this RFP will be followed. If significant design changes have occurred or significant time has elapsed since the issuance of the NEPA document, a contract amendment will be undertaken, and the appropriate environmental level of effort will be negotiated.

11. Final Drainage Report

The Final Drainage Report is a refinement of the Preliminary Drainage Report. Refinement of the hydrologic and hydraulic calculations and models shall be done concurrently with project design and plan sets. Modifications to the preliminary analyses are completed as required and final structure sizes are established. A Draft Final Drainage Report should be developed and submitted prior to the 90% Plan Review.

12. National Pollutant Discharge Elimination System (NPDES)

The Engineer shall prepare a final stabilization temporary erosion and sediment control plan in accordance with the requirements of the NMDOT NPDES Manual dated December 2020, or current edition. The completed plans shall include the final stabilization temporary erosion and sediment control measures in accordance with the NPDES requirements.

13. Deliverables

1) Electronic Submittal of Design Data by Engineer:

- All survey, mapping (existing, right-of-way, and monumentation), and preliminary design data shall be created and submitted to the Department in AutoCAD/Civil 3D format and NMDOT CAD Survey template adhering to the standards set by the Department for the use of that software. 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 data collection files (if applicable). Standards and resource files are available upon request from the Engineering Automation Section. PUEBLO OF ACOMA 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).

2) Final Drainage Report:

- The Engineer shall provide one (1) electronic copy (.pdf format) of the Draft Final Drainage Report to the PUEBLO OF ACOMA. After the PUEBLO OF ACOMA has reviewed and approved the document, the Engineer shall submit one (1) electronic copy (.pdf format) of the final report to the PUEBLO OF ACOMA. The Engineer shall submit the final hydrologic and hydraulic data and models (digital files), spreadsheets and other relevant supporting computations to the PUEBLO OF ACOMA.

3) Production Documents:

- Provide the Project Development Engineer all documentation required for the PS&E and Production. Engineer to provide one (1) production set of original sign and sealed plans and one (1) copy.

G. PHASE III SERVICES (BY NEGOTIATED FUTURE AMENDMENT)

Phase III Services (engineering services provided during construction) will be negotiated and added by contract amendment or new RFP, if required. The services will be detailed in the amendment or RFP.

1. Pueblo of Acoma Review

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