

SCOPE OF WORK FOR  
PLANNING AND PRECONSTRUCTION SERVICES  
FOR THE DESIGN OF LOW MOUNTAIN ROAD  
PROJECT H.I.R. 60(1) – H65475

## I. BACKGROUND

The Division of Transportation, Western Regional Office, Bureau of Indian Affairs (herein after called BIA), has need of engineering and related services for the design of approximately 13.693 miles of roadway. The Hopi Tribe has expressed interest in providing this service to the Division of Transportation, Western Regional Office.

## II. PURPOSE

These services are needed to provide project planning and preconstruction services to develop plans, special contract requirements, and engineer's estimate (P,S&E) for the construction of approximately 13.693 miles of Low Mountain Road (IRR 60).

Please note that the Bureau of Indian Affairs, Western Regional Office, currently holds two existing right-of-ways (i.e., H0-60-1 and H0-60-2) starting at a point on State Route (SR) 264 that is approximately 11.5 miles northeast of the intersection with SR 87. From the said starting point the right-of-way(s) go in a northeasterly direction for 13.693 miles.

## III. AUTHORITY

P.L. 93-638 allows the Regional Office, Division of Transportation to enter into this agreement with the Hopi Tribe.

## IV. STATEMENT OF WORK

This Contract shall provide for the Hopi Tribe (herein after called the Contractor) to provide all labor, materials, equipment and services to provide project planning and preconstruction services to develop plans, special contract requirements, and engineer's estimate (P,S&E) for the construction of approximately 13.693 miles of Low Mountain Road (IRR 60) with approach roads. The work shall include but not necessarily limited to a cost estimate and schedule for project development; survey and mapping; geotechnical investigation and analysis; hydrology and hydraulics; detailed design plans; environmental clearance; archaeological compliance; and right-of-way documentation.

## V. TECHNICAL REQUIREMENTS

The Contractor shall perform the work in accordance with the following technical requirements. However, the Contractor should not interpret this to mean that any applicable technical procedure not listed can be either shortened or omitted.

### A. COST ESTIMATE AND SCHEDULE FOR PROJECT DEVELOPMENT

1. The Contractor shall develop and submit a cost estimate, which should be based on the services described in the statement of work, as well as a tentative time schedule for completion of the work.

2. Deliverables:

a. Cover letter of submittal to the Regional Road Engineer.

b. Cost estimate

c. Time schedule (see sample below)

Minimum Submittal for Time Schedule

Activity	Target Date(s) (Month, Year)
Survey and Mapping	
30% Review (Detailed Design Plans) - includes site visit	
Geotechnical Investigation	
60% Review (Detailed Design Plans) - includes field review & public meeting, submittal of final hydraulics report, and submittal of final geotechnical report with foundation recommendations	
90% Review (Detailed Design Plans)	
100% Submittal of Detailed Design Plans for Acceptance (includes special contract requirements and engineer's estimate)	

## B. SURVEY AND MAPPING

### 1. Survey and Mapping:

The person responsible for the surveying shall be a Registered Land Surveyor in the State where the project is located and be proficient in preliminary road project surveying and shall be at the project site whenever surveying activities are in progress.

Survey data shall be collected and recorded in units and notation consistent with U.S. Customary Units. Surveying tolerances shall be as per Table 152-1 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03, U.S. Customary Units."

Control points shall be established every 1000 ft. along the project and shall be identified by a point number, northing coordinate, easting coordinate, elevation and a descriptor code (i.e., cp-1, cp-2, cp-3). Control points shall be 2" x 24" rebar with aluminum or plastic caps set outside of the anticipated construction limits. For projects less than 1000 feet in length, a minimum of three control points shall be set for each project. The control points shall be tied to at least two public land monuments which shall also be identified by a point number, northing coordinate, easting coordinate, elevation and a descriptor code.

Level loops shall be run on the control points prior to any further data collection. No elevation equations are allowed. Vertical control shall originate and close on an existing marker/monument with an established elevation (i.e. Public Land Monument, State Highway Marker, Indian Health Service Marker, BIA Bench Mark, etc.). The monument and/or marker used shall be assigned a point number, northing coordinate, easting coordinate, elevation and a descriptor code. Level loop notes shall be kept in a standard survey field book.

The surveyor shall provide a complete survey of all topographic and physical features within a data collection corridor (100 feet left and 100 feet right of the approximate centerline of the existing roadway). The surveyor shall be responsible for contacting the local utility authorities to have existing utilities blue staked so that the utilities can be included in the survey. Each shot shall have a point number, northing coordinate, easting coordinate, elevation and a descriptor code. Shots shall include but are not limited to ground points, reference points, section line ties, property line ties, topographic string-lines (i.e. top of bank, bottom of bank, middle of drainage, top of ditch, bottom of ditch), physical feature string-lines (i.e. edge of road, edge of driveway, edge of building, fence lines, water lines, sewer lines, utility meters, utility valves, telephone pedestals, etc.), as well as any feature that might be anticipated to impact the design and/or construction of the proposed roadway.

Traffic control during the field surveying operations shall be in accordance with the "Manual on Uniform Traffic Control Devices, 2003 Edition" by Federal Highway Administration (FHA).

## 2. Deliverables:

Bound report containing the following information:

- a. Cover letter of submittal to the Regional Road Engineer.
- b. Signature sheet with project name, project number, date, registered land surveyor's professional stamp with signature and the signature of who prepared the report.
- c. Table of Contents.
- d. Introduction page describing project location, background and purpose. Include 7.5 minute series USGS topographical map showing the approximate location of the survey.
- e. Survey log(s) showing project name, name of RLS and survey crew, equipment used, coordinate system used (i.e. UTM at ground), project datum (i.e. NAD 1983 for coordinate system at ground), coordinate units (i.e. international feet), distance units (i.e. international feet), vertical units (i.e. u.s. survey feet), date, time, weather, temperature, GEOID model (i.e. G03), and other appropriate information.
- f. Hard copy of feature codes used with descriptions for each code.
- g. Hard copy of a map showing the public land monuments that the control points are tied to, description of the public land monuments, description of the basis of bearing for the subject survey.
- h. CD containing collected survey data. Label the CD with the project name, project number and date.

## C. GEOTECHNICAL INVESTIGATION AND ANALYSIS

### 1. Geotechnical Investigation and Analysis:

The person responsible for the investigation and analysis shall be a Professional (Geotechnical) Engineer registered in the State where the project is located. The Contractor shall furnish all labor, materials, equipment, traffic control and incidentals required to perform geotechnical investigations and analysis which shall be in accordance with the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03, U.S. Customary Units" by the Federal Highway Administration (FHA); "Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 24th edition, 2004" by American Association of State Highway and Transportation Officials (AASHTO); Guide for Design of Pavement Structures by AASHTO; "Standard Specifications for Highway Bridges, sixteenth edition, 1996" by AASHTO; BIA Standards; and other pertinent FHA or AASHTO approved design manuals or guidelines relevant to the project.

Traffic control during the geotechnical investigation shall be in accordance with the "Manual on Uniform Traffic Control Devices, 2003 Edition" by FHA.

An environmental permit is required for the geotechnical investigation. A copy of the permit shall be submitted for review and acceptance to the Regional Roads Environmental Specialist prior to the commencement of the field investigation.

a. Testing requirement when determining the structural section for the proposed roadway.

(1) Soil samples shall be taken every 1000 feet or a minimum of three equally spaced samples shall be taken if the project length is less than 1000 feet and at every location where the soil conditions and type change. Determine classification, liquid limit and plastic limit/index, shrinkage and swell factors, sieve analysis, and boundary of each significant soil change. Each sample shall be identified by stationing (or by distance from a permanent and easily identified location) as well as soil boundaries within the project limits.

The bore holes and/or test holes shall be carried to a depth of 3 feet below the proposed grade lines at centerline in fill sections, and a minimum of 5 feet at the ditch line in cut sections. The Engineer shall determine whether deeper or more closely spaced holes are required to accurately reflect the vertical distribution of the soil horizons encountered.

If the project is a rehabilitation of an existing paved road, then an assessment of the existing pavement and sub-grade shall be taken to identify distressed areas. Additionally, soil samples may be required to determine what corrective action is needed to stabilize the area.

b. Testing requirement for a bridge structure(s).

(1) Obtain a subsurface profile of the soils at each sub-structural location.

(2) Obtain representative soil samples for classification.

(3) Observe and/or evaluate any visible surface signs that are of importance to the foundation investigation.

(4) Obtain sufficient subsurface data to make recommendations for foundation type, allowable loading, settlement and global stability.

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## 2. Deliverables:

a. Geotechnical investigation report and analysis for determining the structural section for the proposed roadway. The Contractor shall submit the documents for review and acceptance with the 60% review of the detailed design plans. A bound report shall include (as a minimum) the following:

- (1) Cover letter of submittal to the Regional Road Engineer.
- (2) Signature sheet with project name, project number, date, registered engineer's professional stamp with signature, and the signature of who prepared the report.
- (3) Table of Contents.
- (4) Introductory page describing project location, background and purpose.
- (5) A section discussing the soils investigation which shall include equipment used as well as sampling and testing methods.
- (6) A section which shows sample numbers; soil test locations; depth of bore holes; P.I. and percent passing the #200 sieve; and R-value (based on ADOT percent passing #200 Sieve/PI Chart).
- (7) A section showing the R-value for design; traffic analysis; serviceability index; regional factor; sub-grade conditions (resilient modulus and design structural number); pavement structural layer coefficients; proposed pavement structure showing materials, thickness and structure number equivalent.
- (8) A section discussing the project site conditions and areas of distress (for an existing bituminous surfaced road).
- (9) A section on the laboratory analysis performed, and results given.
- (10) An appendix section showing all boring log summaries (labeled by station) showing depth and description, test results, graphs, charts, design calculations, boring hole location maps, copy of the approved environmental permit, etc.
- (11) A brief summary of the report and its finding.

b. Geotechnical investigation report and analysis for determining foundation type, allowable loading, settlement and stability for a bridge structure(s). The Contractor shall submit the documents for review and acceptance with the 60% review of the detailed design plans. A bound report shall include (as a minimum) the following:

- (1) Cover letter of submittal to the Regional Road Engineer.
- (2) Signature sheet with project name, project number, date, registered engineer's professional stamp with signature, and the signature of who prepared the report.
- (3) Table of Contents.
- (4) Introductory page describing project location, background and purpose.
- (5) A section on "Geology".
- (6) A section on "Procedures and Results".
- (7) A section on "Analysis" with subsections on "site characterizations", "subsurface interpretation", "bridge foundation" and "lateral capacity".
- (8) A section on "Recommendations" with subsections on "pile design recommendations", "settlement", "abutment design" and "construction considerations".
- (9) Appendices. The appendices shall include location map(s), boring logs, laboratory test results, photographs, summary of boring logs (subsurface profile), copy of the approved environmental permit and language to be inserted into the special contract requirements.

## D. HYDROLOGY AND HYDRAULICS

### 1. Hydrology & Hydraulics Study and Analysis:

The person responsible for the study and analysis shall be a Professional (Civil) Engineer registered in the State where the project is located. The Contractor shall furnish all labor, materials, equipment, and incidentals required to perform a hydrology and hydraulics study (including scour evaluations and analysis) of the proposed project site using as a minimum AASHTO's "Highway Drainage Guidelines" latest edition; "Nationwide Summary of U.S. Geological Survey Regional Regression Equations for Estimating Magnitude and Frequency of Floods for Ungaged Sites, 1993" by U.S. Geological Survey, Water-Resources Investigations Report 94-4002; applicable Hydraulic Engineering Circulars such as HEC-RAS, HEC-18, HEC-20 and HEC-11, most current editions; Watershed Modeling System (WMS) and Water Surface Profile (WSPRO) programs used by Federal Highway Administration (FHA), most current editions; and FEMA Flood Insurance Studies and Mapping. The analysis shall be based on the following minimums:

For drainage areas of two square miles or less, calculate the peak flows (Q) in cubic feet per second for 2 year, 25-year and 50 year return intervals. For drainage areas of two square miles or more, calculate the peak flows (Q) in cubic feet per second for 2-year, 50-year, 100-year and 500-year return intervals. Minimum drainage structure size shall be a 24-inch diameter pipe.

### 2. Deliverables:

The Contractor shall provide a hydrology and hydraulics study and analysis as well as a scour report & analysis for review and acceptance with the 60% review of the detailed design plans. A bound report shall include (as a minimum) the following:

- a. Cover letter of submittal to the Regional Road Engineer.
- b. Signature sheet with project name, project number, date, registered engineer=s professional stamp with signature, and the signature of who prepared the report.
- c. Table of Contents.
- d. A section describing project location, background and purpose. Include in this section a statement as to whether the site(s) is within a FEMA mapped flood zone. If the site is within a FEMA mapped flood zone, provide the map showing this as well as a local contact person with address and phone number.
- e. A section describing the method and procedures used in the analysis. Include 7.5 minute series USGS topographical map(s) showing the delineated drainage areas. Label each drainage area.
- f. Discussion of analysis, recommended structure(s) and erosion control measures. For each structure show the calculated peak flows (Q), mean velocity ( $V_m$ ) in feet per second and mean water surface elevation (WS WL) in feet.
- g. Appendix sections showing computations, charts and graphs used in the analysis, and references to other information, design books, manuals, etc., used.

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## E. DETAILED DESIGN PLANS

### 1. Detailed Design Plans and Special Contract Requirements:

The design criteria shall be in accordance with the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03, U.S. Customary Units" by the Federal Highway Administration (FHA); "A Policy on Geometric Design of Highways and Streets, 2004" (Green Book) by the American Association of State Highway and Transportation Officials (AASHTO); "Manual on Uniform Traffic Control Devices, 2003 Edition" by FHA; "Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 24th edition, 2004" by AASHTO; "Standard Specifications for Highway Bridges, sixteenth edition, 1996" by AASHTO; "Highway Drainage Guidelines, latest edition" by AASHTO and other pertinent FHA or AASHTO approved design manuals or guidelines relevant to the project. Minimum design criteria shall be determined by using the "Green Book".

The detailed plans shall include, but not be limited to:

- a. Cover Sheet.
- b. Typical Section Sheet.
- c. Project Plan Map.
- d. General Notes.
- e. Quantity List.
- f. Project Land Ties.
- g. Control Point Table. The Table shall include information on all critical points such as control points, vertical control points, land ties points and PI points.

Please note the following: The format of the Sheets described above (a,b,c,d,e,f and g) shall be similar to the format currently used by the Western Regional Roads Branch. A sample set of plans shall be provided upon request.

h. Plan and Profile Sheets. The plan and profile sheets shall show as a minimum (but not limited to) the following:

(1) Existing topography, physical features, structures and utilities with appropriate labeling. A table shall be shown on either the p&p sheet or on a separate detail sheet summarizing information on utilities such as size and type of utility, height of utility and/or cover over the utility in relation to the finished grade of the proposed roadway.

(2) Horizontal alignment with stations every 100'. Show the bearings of the tangent portion of the alignment.

(3) Horizontal curves with table showing curve data and PI station with coordinates.

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- (4) Proposed construction.
  - (5) Proposed and/or existing right-of-way.
  - (6) Location and dimensions of existing and proposed turn-outs or road approaches.
  - (7) Location of existing and new drainage structures with a table showing station, size, and structural excavation required to install the new structure.
  - (8) Construction notes.
  - (9) Contour lines plotted at an appropriate interval that will not cover up other important details.
  - (10) Profile portion of the p&p sheets shall show curve transitions and full super data referenced by station.
  - (11) Profile alignment showing vertical curve data and existing ground lines appropriately labeled.
  - (12) Drainage structures shown on the profiles with size, invert elevations and design flows for each drainage structure.
  - (13) Earthworks with balance points shall be shown on the profile portion of the sheets.
- i. Detail sheets as applicable to the project. All details shall show type of materials, installation procedures and references if any to the standard specifications and special contract requirements.
  - j. Legend.
  - k. Standard Detail Sheets such as Object Marker Detail; Warning and Regulatory Signs; Slope Staking Examples; Construction Sediment Control; and Standard Construction Signs shall be similar to the format currently used by the Western Regional Roads Branch. A sample set of plans shall be provided upon request.

## 2. Process Review:

The Contractor is required to participate in office and field reviews of the proposed design. For each process review the Contractor shall submit 5 copies all documents to the Regional Road Engineer. Public hearings and other meetings as necessary shall be conducted as required by 25 CFR Part 170. The review process and the level of design to be completed for the review(s) shall be as follows:

### a. 30% Review:

(1) Traffic study report, minimum design criteria, cover sheet, preliminary typical section sheet, project plan map, control point sheet, public land ties sheet and plan & profile (p&p) sheets. The p&p sheets shall show all existing topography (i.e. water valves, fire hydrants, buildings, edge of roads, fence lines, drainage structures, etc.), contours, preliminary horizontal alignment with curve data, preliminary location of drainage structures, control points, reference points, bench marks, property corners, existing terrain profile and preliminary vertical alignment with curve data.

(2) The review will be performed by appropriate Regional Roads, Agency, and Tribal staff for recommendations and/or clarifications to be incorporated into the design. A maximum of 15 working days shall be required to conduct the review. Included in the 15 days shall be a project site visit. Participants in the site visit shall be Regional Roads, Agency, and Tribal staff as well as the Contractor's representatives. As a minimum the Contractor shall be represented by the Project Manager, Environmental Specialist and Archaeologist.

(3) The Contractor shall be responsible for coordinating the site visit.

### b. 60% Review:

(1) Geotechnical report and drainage study shall be completed (stamped and signed) and submitted at this review.

(2) Projects that include a bridge or bridges shall include a sheet showing the proposed type, size and location (T,S&L) of the structure(s). Bridge designs shall be performed by a Professional (Structural) Engineer registered in the State where the project is located.

(3) Cover sheet, typical section sheet, project plan map, control point sheet, public land ties sheet and plan & profile sheets. The p&p sheets shall show all existing topography (i.e. water valves, fire hydrants, buildings, edge of roads, fence lines, drainage structures, etc.), contours, proposed horizontal alignment with curve data, proposed location, type and size of drainage structures, control points, reference points, bench marks, property corners, existing terrain profile, proposed vertical alignment with curve data, preliminary earthworks, appropriate detail sheets and end-areas.

(4) The review will be performed by appropriate Regional Office, Agency, and Tribal staff for recommendations and/or clarifications to be incorporated into the design. A maximum of 15 working days shall be required to conduct the review. Included in the 15 days shall be a plan-in-hand field review at the project site as well as a public meeting. For the plan-in-hand review, stakes with stationing marked on them shall be placed every 100 feet on the proposed centerline. Participants in the field review shall be Regional Roads, Agency, and Tribal staff as well as the Contractor's representatives. As a minimum the Contractor shall be represented by the Project Manager, Environmental Specialist and Archaeologist.

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(5) The Contractor shall be responsible for coordinating the field review and public meeting (See F. Environmental Clearance, 3. EA Level Projects, f.).

c. 90% Review:

(1) Projects that include a bridge or bridges shall include finalized structure drawings and associated details that have been stamped and signed by the Professional (Structural) Engineer. Copies of structural calculations shall also be submitted at this review.

(2) For projects that include a bridge or bridges, the BIA will submit the deliverables from C. Geotechnical Investigation and Analysis; D. Hydrology and Hydraulics; Structure Drawings and Associated Details; and Structure Calculations to the Federal Highway Administration for review.

(3) The detailed plans as described under E. Detailed Design Plans, 1.a. through k.

(4) End areas that show elevations at the catch point, ditch lines, centerline of the template, distance from the centerline to the catch point, right-of-way location and drainage structures.

(5) Special contract requirements.

(6) Engineer's estimate

(7) This review shall involve finalizing the plans and special contract requirements prior to submittal to the Regional Road Engineer for final acceptance. The review will be performed by appropriate Regional Office, Agency, and Tribal staff for recommendations and/or clarifications to be incorporated into the design.

(a.) If there are no bridge structures then a maximum of 15 working days shall be required to conduct the review.

(b.) If a bridge structure or structures are included, then the Regional Roads Branch will hold review comments until Federal Highway Administrations' comments have been received and submit the collected recommendations and/or clarifications to the Contractor. Please note that the Federal Highway Administrations review shall take a maximum of 6 months.

### 3. Deliverables:

- a. Cover letter of submittal to the Regional Road Engineer.
- b. 100% complete detailed design plans with special contract requirements and an engineer's estimate. These documents shall include the recommendations and/or clarifications from the 90% review. The project cover sheet shall be stamped and signed by the Professional (Civil) Engineer and all structural drawings shall be stamped and signed by the Professional (Structural) Engineer.
- c. Quantity calculations.
- d. Correspondence
- e. All project sheets shall be drawing (.dwg) files that can be imported into Autodesk Land Enabled Map 2005. All final drawings for the project shall be stored on a CD. Label the CD with the project name, project number and date.
- f. Copy of the special contract requirements in Microsoft Word format on a CD. Label the CD with the project name, project number and date.

## F. ENVIRONMENTAL CLEARANCE

Environmental clearance for this project will be achieved pursuant to the Bureau's NEPA Handbook 59 IAM, which provides guidance for compliance with the National Environmental Policy Act of 1969 (NEPA), as implemented through regulations issued by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508), and procedures issued by the Department of the Interior (516 DM 1-7).

The level of NEPA compliance necessary for the proposed project is anticipated to be an Environmental Assessment (EA). This level may be changed at any time based on information received through public scoping, input from Tribal or Bureau staff, or specialists from other agencies (USFWS, ACOE, EPA, etc.).

### 1. Environmental Assessment (EA) Level Projects:

a. The Contractor shall make a site visit and conduct internal/external scoping to determine the likely depth and scope of the EA document. The Contractor shall prepare a brief summary/report (preparation plan) outlining the results of project scoping. The preparation plan should include: short description of the proposed project; existing site conditions; relevant issues and scope of the analysis; anticipated alternatives (if any); anticipated data needs; public participation plan; and level of expected opposition/controversy. It should also address any known or suspected problem areas that may alter or lengthen the contract time or that might change or jeopardize the proposed project (e.g., presence of T&E species, significant archaeological site, etc.). The plan should include a short outline of the EA that includes the aforementioned alternatives and issues to be covered. The plan should outline expected tasks and time frames to complete each task, including a projected completion date. Completion of the Final EA and its delivery date will take into account the appropriate projected completion stages and dates of project design (30%, 60%, and 90%) and should incorporate adequate allowance for consultation with outside agencies [which may be as long as 60+ days for 401 Certification, an additional 45 days for 404 consultation (6 months to a year if an individual permit is needed), and 135 days if formal consultation for endangered species is needed]. The preparation plan shall be submitted to the Regional Roads Engineer through the Contracting Officer (CO) for approval.

b. After approval of the preparation plan, the Contractor shall prepare for review and approval, an EA that fully complies with NEPA and its implementing regulations at 40 CFR Parts 1500-1508, and any other applicable federal laws, statutes, regulations, executive orders, secretarial orders, or local (tribal) rules and ordinances. Mandatory minimums for bridge projects would include Endangered Species Act (ESA) clearance\*, SHPO concurrence, and Clean Water Act (CWA) Section 401 & 404 permits\*\*.

\* ESA clearance is anticipated to be achieved through the preparation of a Biological Evaluation (BE) resulting in a determination of "no effect" or "may affect, not likely to adversely affect". Preparation of a BE will be considered obligatory to the preparation of the EA. If during the preparation of the BE it is anticipated that the determination will be "may affect, likely to adversely affect", then the contractor shall instead prepare a Biological Assessment (BA) as required by the U.S. Fish and Wildlife Service (USFWS). The BA shall be prepared in the format and with the content required by the USFWS sufficient for the BIA to successfully carry out formal Section 7 consultation. Copies of BEs/BAs shall be submitted as Drafts to the Regional Roads Engineer through the CO for approval.

\*\* CWA Section 404 compliance is anticipated to be through the use of a Nationwide Permit with a preconstruction notification (PCN). It shall be the responsibility of the Contractor to determine the actual level of compliance necessary by performing a jurisdictional delineation (JD) and preparing the requisite documents to support the determination. The JD shall be prepared in the format required by the Army Corps of Engineers (ACOE), Los Angeles District, and shall at a minimum include aerial photographs with the following specifications: 1:1200 scale; ortho-rectified +/- 0.1-foot horizontal control); digital aerial imagery; geotif format; and 3-inch image pixel resolution. The Contractor shall prepare the appropriate 401 and 404 documentation/application package (NWP Condition Checklist, no PCN required; NWP Condition Checklist and PCN; or Individual 404 Application) depending on the results of the JD. If a PCN or Individual Application is required, they shall be prepared with the BIA/WRO/Roads Branch as the Applicant. In all cases, the JD, Checklists, PCN, or Individual Application shall be submitted to the Regional Roads Engineer through the CO for review and approval prior to submission to the ACOE.

Section 401 Certification will be required regardless of the level of 404 compliance necessary for the project. In all cases, application shall be made to the Environmental Protection Agency (EPA) in San Francisco with the BIA as the Applicant. The application shall be prepared in the format and with the content required by the Wetlands Regulatory Office. The 401 Certification application shall be submitted to the Regional Roads Engineer through the CO for review and approval prior to submission to the EPA.

c. The EA shall be prepared in the format as recommended and outlined in 59 IAM, NEPA Handbook, Chapter 4.

d. The EA shall include all pertinent information, tabulations, photographs, charts, graphs, maps, etc., necessary to describe existing conditions and support the findings and recommendations of the analysis/investigations. Supporting studies, reports, etc., shall be attached as appendices. The body of the document shall be commensurate in length with the scope and complexity of the project.

e. A copy of the EA document shall be submitted to the Regional Road Engineer through the CO at the following stages: preliminary draft; draft, final. The BIA, WRO, Branch of Roads will review the document and provide written comments to the Contractor within 15 working days of receipt by the CO. The document will be reviewed based on its technical content and accuracy, formatting, and whether it fulfills the Bureau's requirements under NEPA and its implementing regulations.

f. The Contractor shall conduct a public scoping/information dissemination meeting prior to the completion of the final EA and prior to final design. The Contractor shall be responsible for securing a meeting place, and furnishing all materials necessary to conduct the meeting. The Contractor shall be responsible for providing adequate notice, and in a timely manner to provide for maximum public participation. Within 15 working days, the Contractor shall provide a written meeting report, which should include all comments made at the meeting. The report shall include the sign-in sheet and all attachments provided by the participants.

g. The Final EA shall be provided as individual, spiral bound copies. A copy of the final document shall be provided in Microsoft Word format on a CD.

h. All reports, studies, and backup data that was acquired or produced for the EA shall become the property of the Federal Government and shall be turned over to the Government upon completion of the contract.

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## 2. Deliverables:

Preparation Plan	2 copies
Preliminary Draft EA	2 copies
Draft EA	5 copies
Public Meeting Report	1 copy
Final EA***	10 copies

\*\*\*which shall include support compliance documentation (T&E Reports, 401/404 Certifications/Permits, SHPO concurrence, etc.)

## 3. Environmental Impact Statement Level Projects:

Proposed road construction projects requiring preparation of an Environmental Impact Statement (EIS) will be addressed through a separate scope of work.



## G. ARCHAEOLOGICAL COMPLIANCE

The BIA's responsibilities as prescribed at Section 106 of the National Historic Preservation Act, as amended (NHPA) shall be addressed pursuant to BIAM Supplement 2, which provides guidance for compliance with all federal historic preservation law. Recommendations for the level of compliance necessary can be made by the contractor with final approval by the Regional Roads Archaeologist. This level depends on the project scope of work, previous NHPA compliance efforts, consultation with Tribes and the SHPO, and any other interested/affected parties.

The archaeological process has been refined by revised regulations for Section 106 of the NHPA which were issued December 12, 2000, and revised July 6, 2004. Under the new process, the Agency Official (Regional Director), initiates the process by transmitting letters of project initiation to the appropriate Tribal government, the Tribal cultural resources specialists, and the State Historic Preservation Officer (SHPO).

### 1. Project Initiation:

a. The Contractor shall prepare letters of project initiation which establishes the undertaking, describes the proposed project, and establishes the proposed Area of Potential Effects (APE). The letters shall request if the recipients agree on the proposed APE. In the initiation letter, the Tribal government shall be requested to provide information on areas of religious and cultural significance in the proposed APE. Also, requested is information on what other parties should be consulted, and how the public may be involved. Each letter shall have an enclosure of the appropriate 7.5' topographic map with the map name, year map was published, and the project APE clearly marked on it. The proposed letters of project initiation and maps shall be sent to the Regional Roads Archaeologist for review and approval and will be sent out under BIA letterhead and Regional Director's signature. Hard copies and a CD containing the proposed letters shall be sent.

b. The Contractor shall prepare letters to be sent to all additional tribes that have expressed a concern for projects state-wide or in the project specific area. The letters shall request if they would like to be a consulting party for this project. These letters shall be sent to the Regional Roads Archaeologist for review and approval and will be sent out under BIA letterhead and Regional Director's signature.

### 2. Archaeological Survey:

a. The Contractor shall have a qualified archaeologist (as outlined at 36 CFR Part 61 and approved by the Regional Roads Archaeologist) identify all historic properties in the project area by making a check of previous studies, records, maps, photographs, etc. At a minimum, records shall be researched at the Colorado River Tribes Museum, Arizona State Museum, and the SHPO. An intensive (100% coverage) archaeological survey shall be accomplished by walking the entire APE. The survey interval for parallel transects shall be 65 feet or less. Traditional Cultural Properties (TCP's) shall be identified through research and interviews. Potential impacts to TCP's shall be identified and measures to mitigate impacts to TCP's shall be created. A report of the archaeological survey and TCP study shall be prepared with standard information as required by the BIA and the SHPO. If no historic properties are identified or affected, a recommendation for A No Historic Properties Affected@ is made. Historic properties, if present, are recorded on the appropriate state archaeological site forms, photographed, mapped, and recommendations are made for National Register eligibility and mitigation of adverse effects. Two copies of the archaeological survey report, photographs, site forms and 7.5' Quad maps with survey area and sites plotted are submitted to the Regional Road Archaeologist.

Scope of work

### 3. Mitigation of Adverse Effects:

a. In consultation with tribe(s) and the SHPO, the BIA Regional Roads Archaeologist shall evaluate any historic properties within the APE and make determinations of eligibility for the National Register of Historic Places. If eligible historic properties will be adversely affected, the adverse effects will usually be mitigated by data recovery in accordance with 36 CFR Part 800. The Contractor shall prepare a comprehensive mitigation plan and report suitable for BIA's use to conclude the Section 106 process.

Prior to collecting artifacts or conducting data recovery, the Contractor shall obtain approval from the Tribe and landowner(s) and obtain a permit from the Regional Roads Archaeologist.

b. As required by 36 CFR 800.6 (b)(iv), a memorandum of agreement (MOA) specifically describing the mitigation shall be prepared by the Contractor. Hard copies and a copy on CD shall be provided to the Regional Roads Archaeologist. The MOA will then be executed by the BIA between the WRO, the Colorado River Indian Tribes, the SHPO, and tribes that are invited to be signatories. Final reports are provided to the Tribe(s), SHPO, and WRO.

c. Upon conclusion of this work, all research materials, data, reports, maps, forms, photographs, etc., shall become the property of the United States Government and shall be curated pursuant to 36 CFR 79.

### 4. Deliverables:

Deliverables are dependent on the level of compliance effort required for the BIA to meet its NHPA Section 106 responsibilities. The level of compliance necessary for any given project and resultant deliverables shall be determined when the scope of the bridge and roadway design are declared and if eligible sites are determined to be affected. Deliverables shall then range from: A standard survey and report required=, to A mitigation and data recovery plan and report required.@

- a. Draft initiation letter to Colorado River Indian Tribes.
- b. Draft initiation letter to additional Tribes.
- c. Draft archaeological survey report.
- d. Final archaeological survey report.
- e. Archaeological site forms, project and site maps, and photographs.
- f. Draft archaeological mitigation and treatment plan (if required).
- g. Final archaeological mitigation and treatment plan (if required).
- h. Draft archaeological mitigation and treatment report (if required).
- i. Final archaeological mitigation and treatment report (if required).
- j. List of all artifacts and records curated.

Scope of work

## H. RIGHTS OF WAY

1. Work Requirements. All work shall be in accordance with 25 CFR 169 and 25 CFR 170.5 and shall consist of:

a. A preliminary title search of all lands along the proposed road and a determination made of:

(1) Ownership and title to the land, and identifying the owners by name and addresses.

(2) All existing encumbrances on the land. The names and addresses of all parties with an interest in easements, leases, and extent of interests. Existing public and private easements.

(3) Description of each parcel and a copy of any and all public surveys, including BLM survey plats and/or notes.

b. Upon determination of the extent of right-of-way required for each road, a plat and description shall be prepared for each property in compliance with the following:

(1) Original plat on Mylar at a scale that permits the discernment of the property being taken and a legal description of the right-of-way.

(2) A grant of easement in compliance with Exhibit A.

(3) A request for an appraisal if the work is to be performed by the Bureau of Indian Affairs.

c. Perform an appraisal for each parcel in accordance with the Uniform Standards of Professional Appraisal Practices. The Appraiser shall be certified and licensed by the state in which the property is located. Each appraisal will be subject to review and approval by the Western Regional Chief Appraiser.

d. Acquire consent to grant right-of-way from each designated owner or interest holder for each parcel. The acquisition of the consents shall be in accordance with Tribal policy and the Grantee shall be the Bureau of Indian Affairs, Western Regional Branch of Roads and their assignees.

2. Developing Rights of Way Documents. The Contractor will use survey data collected under "Survey & Mapping". These surveys will be used to prepare the right of way plat, and the meets and bounds of the right of way boundaries for the BIA Route(s) involved. The surveys will also be used to compute the land areas of the various owners. The format of this right of way plat will be provided by the Western Regional Office, Branch of Roads.

3. Appraisal of Right of Way. An appraisal of the right of way shall be made. This appraisal shall be in accordance with the *Uniform Standard of Professional Appraisal Practices*, and shall be conducted by a Certified Licensed Appraiser, using values of land in the proximity of the subject property. Upon completion of the Appraisal, it shall be submitted to the Western Regional Office Branch of Realty, review Appraiser for approval.

Scope of work

4. Acquisition of the Right of Way. The Contractor shall acquire the right of way for the BIA Route(s) involved on behalf of the Bureau of Indian Affairs, Western Regional Office, Branch of Roads. All transfer documents shall be reviewed and approved prior to the final negotiations with the land owner.

5. Payment of Rights of Way. In the event payment for right of way is required, the Western Regional Roads Engineer will negotiate with the owner, in consultation with the Tribe and using the data developed under this contract, with the land owners a fair and reasonable price for the right of way easement.

6. Deliverables. After all signatures for consent are obtained, the following deliverables shall be submitted to the Western Regional Roads Engineer:

1. Original Approved Appraisal Report.
2. One original and three copies of the right-of-way map.
3. One original and one copy of the Application for the right-of-way.
4. One original Grant of Easement for right-of-way.

