**AKSAS Project No: 57xxx**

**Date Prepared: January 6, 2006**

STATEMENT OF SERVICES

APPENDIX B

Port Lions Airport Relocation

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**PROJECT ORGANIZATION**

**Group Task(s)**

**A**: 1, 2 (Public/Agency Involvement; Environmental Services)

3, 4, 7 (Land Surveying; Airport Property Plan; Platting, Utility Conflict Report)

5, 8a (Airport Layout Plan, Design Engineering - Local Review, incl. Draft EDR)

6 (Geotechnical Investigations)

8b-d (Design Engineering – PIH through PS&E, incl. EDR)

9, 10 (Completion Documentation; Assistance During Bidding)

**B**: 11, 12 (Assistance During Construction; Construction Engineering)

ARTICLE B1

**INTRODUCTION**

**B1.1 Project Location and Area.** The City of Port Lions is located on the northerly end of Kodiak Island near the mouth of Kizhuyak Bay roughly half way between the City of Kodiak and Shelikof Strait. It is approximately 19 air miles west northwest of Kodiak and 150 air miles southwest of Anchorage. It is in Section 5, Tier 27 South, Range 22 West, Seward Meridian, at 57° 53’ North Latitude, 152° 51’ West Longitude as shown on U.S. Geological Survey (USGS) Quadrangle Kodiak D-3. The project site is approximately one mile south of the City in Section 8, Township 27 South, Range 22 West of Seward Meridian. The project site is a mix of forested lands and brushy wetlands. Several trails adjoin or cross the project site. See the Project Location Map, Exhibit B-1.

**B1.2 Project Need.** The existing airport has deficiencies as listed in the *Port Lions Airport Master Plan, Phase I – Scoping* drafted by HDR, Inc., August 2003.

**B1.3 Project Description.** The project consists of providing an Environmental Assessment, Airport Layout Plan and bid-ready plans, specifications and engineer’s estimate (PS&E) for a new airport about one mile south of the City. See the Project Location Map, Exhibit B-1. The airport is to include a 75 by 3,300-foot runway, 150 by 3,900-foot RSA, 100,000 square foot apron and aircraft support area, 35-foot wide taxiway between the runway and the apron, heated, two-bay equipment building (building design by others), runway and taxiway lighting, apron lighting, rotating beacon, Precision Approach Path Indicators (PAPIs), Runway End Identifier Lights (REILs), extension of electric power and telephone from the nearest tie-in point to the airport. The existing airport shall be properly closed and the area restored after the proposed relocated airport is officially opened. Funding for this project is provided through the Federal Aviation Administration and the State of Alaska. Bid-ready plans, specifications and engineer’s estimate must be submitted by April 15, 2008.

**B1.4 Scope of Services.** The Contractor shall be required to provide an Environmental Assessment (most likely document) leading to a Finding of No Significant Impact (FONSI), a new ALP, land surveying for design, right-of-way, engineering investigations, design, and associated professional services for an Engineer’s Design Report (EDR). After the EDR is approved, the Contractor shall gather additional data and provide professional services for final design, plans, specifications, estimates and acquisition of any required pre-construction permits for the project. The Contractor shall assist the Contracting Agency through bidding and construction. The Contracting Agency will provide Engineer’s Design Report template, Safety Plan guidelines, drafting guidelines, file survey data, geotechnical analysis, pavement structural recommendations, drafting templates (cover sheet, borders, etc.) and utility permits. All work shall conform to current FAA Advisory Circulars and other pertinent FAA documents.

**B1.4.1** **Possibility of Reduced Contract.** There is no guarantee that the Contractor will be required to provide all of the services detailed in this Statement of Services or that the Contractor will incur all of the costs for services as estimated in Appendix C.

**B1.4.2 Possibility of Increased Contract.** Contractor services for additional environmental, geo-technical and/or construction engineering and inspection may be negotiated and added to the Contract by amendment.

ARTICLE B2

**GENERAL ADMINISTRATIVE REQUIREMENTS**

**(Incidental to Contract)**

**B2.1 General.** The contract is divided into several tasks. The Contractor shall provide each service as identified and authorized by a sequentially numbered Notice-to-Proceed (NTP). The Contractor shall neither perform a service nor incur a billable expense except as authorized by an NTP. The Contracting Agency makes no guarantee that all tasks will be accomplished and reserves the option to terminate the contract at the end of any task.

**B2.2 Duplicate Requirements.** In combining all of the tasks into one contract, duplicate requirements may be encountered during project development in regard to reports, drawings, activities, etc. No duplication is intended. The Contractor shall coordinate all work items with the Contracting Agency to maximize the work effort and to eliminate any perceived duplication.

**B2.3 Project Staff.** All services must be performed by or under the direct supervision of the individuals listed below. Additions to or replacement of Project Staff named below shall be permitted only with prior written approval from the Contracting Agency.

**Name** **Project Responsibilities**

Company Name

John Doe Contract Manager, Project Manager

Sub

Jane Buck Document Writing

Sub

Pat Fawn Surveying

**B2.4 Codes, Regulations, Standards, and Procedures.** All studies, reports and design services shall be done in accordance with applicable codes, regulations and standards; professional practices; and commonly recognized construction methods. The Contractor shall consider the geographical location of the project and other environmental or site-specific constraints when performing services for this project.

**B2.4.1** **Revision of Standards and Guidelines; Conflicts.** Applicable publications containing current aviation design standards, drafting standards, and other standards and guidelines pertaining to the work performed under this Agreement are referenced throughout this Statement of Services. During the period of this Agreement those documents may be added to, deleted, or revised. If a conflict arises between this document (Appendix B) and any herein referenced Contracting Agency document or exhibit, this document shall control. If a conflict arises between this document and any referenced federal document or exhibit, the current federal document or exhibit shall control. The Contracting Agency will resolve any questions about conflicting provisions.

**B2.5 Professional Registration.** All reports, plats, plans, specifications, estimates and similar work products provided by the Contractor shall be prepared by or under the supervision of a currently-registered Alaska Professional Engineer or Land Surveyor as appropriate who shall sign, seal and certify as to the accuracy of each final work product for which he or she is in responsible charge.

**B2.5.1 Plan Sheets.** Each design plan sheet shall have a title block. The Alaska Professional Civil Engineer, Mechanical Engineer, Architect, Electrical Engineer or Land Surveyor, as appropriate, who is responsible for the work shall seal each sheet including the Contracting Agency’s Standard Drawings sheets. All seals shall remain unsigned until after the Final Plans, Specifications and Estimate (PS&E) assembly submittal when all seals shall be signed and dated. The Survey Control sheet may be sealed, signed and dated prior to PS&E if approved by the Contracting Agency.

**B2.6 Billing Reports.** The Contractor shall provide a two-page (typical) report in a format approved by the Contracting Agency with each monthly billing for months in which services are performed. The report shall specifically describe the work completed and other expense items for each task, the dollars expended to date, the remaining dollars estimated to complete each task, and the estimated percent complete for each task. Each billing shall be accompanied by the necessary support documentation with all costs clearly identified. Any delayed costs from previous billing periods that are included in the current billing must be clearly explained in the report.

**B2.7.1 Correspondence.** All correspondence prepared by the Contractor shall bear the Contracting Agency's assigned Project name and numbers (State & Federal). Copies of all outgoing correspondence and originals of all incoming correspondence shall be provided to the Contracting Agency at least once a week.

**B2.7.2 Digital Correspondence.** Because e-mail space for Contracting Agency personnel is limited, e-mail attachments shall be in formats compatible with the program that originally created them whenever feasible. That is, AutoCAD drawings shall be sent in .dwg or .dxf format, text or spreadsheet items in MS Word, Excel, or in other easily-converted format. .pdf and raster image files may be used if doing so is the only way to transmit certain documents such as scanned copies and photographs. A small number of .pdf or graphic files will quickly use all available Contracting Agency personnel e-mail space. Very large files may instead be posted to the State ftp site (<ftp://ftp.dot.state.ak.us/>) or as arranged with the Contracting Agency.

**B2.8 Documents and Reports** shall be printed with solid black letters on white, 8.5-inch by 11-inch, 20-pound bond or copy paper. Other paper sizes may be used for illustrations if they are folded to 8.5-inch by 11-inch size with clearance for the binding. Original documents and reports shall be printed on one side of the paper only and shall be unbound, ready for copying. Documents and reports shall have no photographs or multicolored graphics except as specifically approved by the Contracting Agency. Original, camera ready, final documents and reports shall be submitted to the Contracting Agency for review before printing.

**B2.8.1 Paper Copies.** When the Contract calls for more than one copy of a document or report (not plans), the copies shall be printed on both sides of the paper. However, the cover and pages with approved illustrations, multicolored graphics, photographs, or estimates shall be printed on one side of the page only. All copies shall be bound with comb binders unless otherwise directed by the Contract or the Contracting Agency’s Project Manager. For Reviews, copies of estimates shall be bound as the first item behind the cover of the Specifications. See B2.10 below about copying plan sets.

**B2.8.2 Reproduction and Distribution.** When the Contract requires only the original or only one copy of a work product to be submitted, the Contracting Agency will reproduce and distribute any other copies as necessary. Items delivered for reproduction shall be organized and camera ready for copying and shall not be stapled or otherwise bound. The Contracting Agency will be responsible for the distribution of all draft and/or final reports produced under this contract.

**B2.8.3 Digital Copies.** The Contracting Agency uses MS Windows OS, MS Office Suite (Word, Excel, et al.), AutoCAD 2004 Land Desktop and the more common Windows-based, professional raster file viewing and editing software. All digital submittals except as noted below shall be in formats fully compatible with Contracting Agency software. Attachments necessary to complete digital drawings such as raster image files and xref files shall be submitted with the drawing files in the same folder/subdirectory. Submittals shall be on CD or as approved by the Contracting Agency’s Project Manager. Informal digital submittals shall be provided as approved by the Contracting Agency’s Project Manager, usually as e-mail attachments or postings on the Contracting Agency’s ftp site. Certain submittals may be in PDF or other format, but only upon specific approval by the Contracting Agency.

**B2.8.3.1 Digital Deliverables.** The Contractor shall submit with digital deliverables all files referenced in the main files. It is critical that all subsidiary files be submitted with the main files in order to reduce delays. The Contractor shall ensure that subsidiary files are properly incorporated into the main files when opened **as submitted**.

**B2.8.4 Page Numbers.** All documents shall be page numbered so that every major Section, Chapter, Appendix, etc., begins on a right hand, odd numbered page.

**B2.8.5 Covers.** Covers of all documents and reports shall include the following:

1. Name of document or report.
2. Date.
3. Indication whether draft or final.
4. Project Name.
5. State and Federal Project Numbers.
6. Prepared for: Alaska Department of Transportation and Public Facilities.
7. Prepared by: Company Name (No logo or stylized font)
8. Map and/or picture of project area.

**B2.9** **Contractor Name on Plan Sheets and Documents.** The Contractor shall not place Contractor logos on any electronic or hard-copy document produced for use by the Contracting Agency. The Contractor company name shall be included in a box alongside the Engineer’s or Surveyor’s seal on each plan sheet. The Contractor name shall be in the same font as other non-emphasized lettering on the plan sheet or document, shall be 1/20” to 1/16” in height on half-size (11-inch by 17-inch) plan sheets, and shall be in the following format (No address, no phone numbers):

PLAN DEVELOPED BY:

Company Name

The Contractor’s company name only shall appear on non-plan documents produced for the Contracting Agency at the bottom right of the first page, cover sheet or title sheet only. Contractor letterhead shall be allowed only as exhibits in document appendices.

**B2.10 Plans, Maps, and Plats** shall be submitted on bond, vellum or drafting film as directed by the Contracting Agency. Single draft plan set copies submitted for review shall be unbound, half-size and printed on one side of the paper only. Multiple-copy draft plan sets shall be bound, half-size and printed on one side of the paper only except that one set shall remain unbound. Final plats and final draft ALP drawingsshall be full-size, reverse image, on 4-mil, double-matte drafting film. Final construction plans shall be signed and submitted on half-size on paper.

**B2.10.1 Drafting.**  All drawings shall conform to the requirements of *State of Alaska, Department of Transportation and Public Facilities, Central Region, Revised Drafting Manual*, Chapter 6, Aviation Design, except as otherwise noted herein.

**B2.10.2 Dimensions.** All dimensions shall be shown in U.S. Customary Units such that 3937 feet = 1200 meters exactly.

**B2.11 Revisions.** The Contractor shall modify work products in response to direction from the Contracting Agency. Corrections, adjustments, or modifications necessitated by the review/approval process but which do not substantially affect the scope, complexity, or character of the services, shall be considered a normal part of the Contractor's services.

**B2.11.1 Errors and Omissions.** Except as described in this Statement of Services, work products shall be essentially complete when submitted to the Contracting Agency. Work products having significant errors or omissions will not be accepted.

**B2.11.2 Review Meetings.** Following each review, the Contracting Agency will provide written comments and may hold a meeting to discuss the issues. The Contractor's personnel in responsible charge for the work products under review shall attend the meeting and may be asked to interpret and provide explanations of the content.

**B2.11.3 Comment Resolution.** With subsequent submittals, the Contractor shall provide a written response to each written or oral comment from the Contracting Agency. All changes from previous submittals shall be clearly explained.

**ARTICLE B3**

MANAGEMENT

**(Incidental to Contract)**

**B3.1 Performance Schedule.** The Contractor shall perform this contract in accordance with the Project Schedule provided by the Contracting Agency in Exhibit B-2 except that any subsequently negotiated Project Schedule shall replace the Project Schedule of Exhibit B-2. The Project Schedule shows the interdependence and duration of the various design activities and contract tasks. It is sequenced in accordance with FAA requirements for project development and with the Contracting Agency’s duration estimates in order to complete the project on time. This schedule shall be used to track Contractor progress and billings. If the Contractor generates a revised project schedule approved by the Contracting agency, a hard copy and a digital copy shall be submitted to the Contracting Agency. Upon approval by the Contracting Agency, the revised Project Schedule shall replace any previous Project Schedule.

**B3.1.1 Timely Information.** The Contractor shall provide timely information to the Contracting Agency for project-related services performed by Contracting Agency functional groups.

**B3.1.2 Timely Performance.** Adherence to the Project Schedule is necessary to meet the Contracting Agency's long-term goals and commitments. The Contractor shall expend every effort necessary to stay on schedule and to meet contract delivery dates.

**B3.1.3 Progress Meetings/Reports.**  The Contractor shall host progress meetings (typically every other week for about an hour) with the Contracting Agency’s Project Manager and/or staff to review its progress reports, invoices, and schedule. The Contractor shall provide "exception reporting" of scheduled activities that are late, suspended, or significantly accelerated. The Contractor shall explain why any activity is off-schedule, or likely to become so. The Contractor shall also explain what corrective action(s) are being taken. Upcoming events and milestones to be achieved over the following month are also to be discussed at the meetings. Attendance at the meetings will be limited to the Contracting Agency’s Project Management staff and invited guests, along with the Contractor’s project engineer/manager and appropriate sub-consultants. The Contractor shall keep minutes of all meetings and submit them to the Contract Manager within five working days after each meeting.

**B3.2 Project Coordination.** The Contracting Agency’s Project Manager will coordinate required services or activities of various Contracting Agency functional groups such as Materials/Geotechnical; Right-of-Way/Locations/Survey; Planning; Traffic, Safety & Utilities; Preliminary Design & Environmental; Specifications and Cost Estimating; and Contracts. The Contractor shall not initiate communication with Contracting Agency functional groups without the prior knowledge and consent of the Contracting Agency’s Project Manager. The Contractor shall keep the Contracting Agency’s Project Manager apprised of the nature of all such communications and shall provide the Contracting Agency with copies of telephone records and meeting minutes. If any major issues or problems surface, the Contractor shall consult the Contracting Agency’s Project Manager for resolution.

**B3.2.1 Federal Aviation Administration (FAA) Communication.** Communication with the FAA regarding this project will be handled solely by the Contracting Agency.

**B3.2.2 Contracting Agency and Public Coordination.** The Contractor shall assist the Contracting Agency in coordinating with appropriate federal, state, and local government agencies, and the public, including special interest groups and organizations that could potentially be affected by the proposed project. The Contractor shall make no commitments on behalf of the Contracting Agency; any commitments to action or mitigation will be made solely by the Contracting Agency.

**B3.2.3 Agency Meetings/Release of Information.** The Contractor shall notify the Contracting Agency’s Project Manager of all meetings with agencies, organizations, or individuals at least three working days in advance. Prior to such meetings, the Contractor shall discuss the agenda for the meetings with the Contracting Agency’s Project Manager to ensure that no inappropriate or incorrect information is disclosed. Data collected under this agreement shall not be released to any agency or to the public without prior approval of the Contracting Agency. The Contractor shall document all meetings and telephone conversations concerning the proposed project. Original signed documents shall be forwarded to the Contracting Agency’s Project Manager.

**B3.2.4 Data Collection Materials.** The Contractor shall submit all written material used to solicit and collect data for this project to the Contracting Agency for review and acceptance prior to its use or distribution.

**B3.3 Right-of-Entry Permits.** The Contracting Agency will obtain Right-of-Entry authorizations for the Contractor when required. The Contractor shall provide a minimum of 10 working days prior notice for the Contracting Agency to acquire any authorization. Should an authorization take additional time to obtain, the performance schedule(s) may be adjusted accordingly. The Contractor shall not be entitled to any additional compensation for any delay incurred in obtaining Right-of-Entry Permits.

**B3.4 Partial Summary of Key Management Provisions.**

The Contractor shall:

a. Stick to the Project Schedule and notify the Contracting Agency in a timely manner of any likely changes;

b. Conduct periodic (approximately bi-weekly) progress meetings;

c. Communicate with the Contracting Agency functional groups and the FAA through the Contracting Agency’s Project Manager;

d. Take minutes of all project-related meetings at which the Contractor is a key participant and provide the minutes to the Contracting Agency.

ARTICLE B4

PROJECT SCOPING and PUBLIC/AGENCY INVOLVEMENT

**TASK 1**

**B4.1** **General.** This article describes Project Scoping requirements and Public/Agency Involvement to be initiated during Project Scoping, but to continue through final design of the project. The purpose of Project Scoping is to gather and assimilate information regarding the project. It involves collecting and reviewing historical information pertaining to project and the surrounding area; informing agencies, organizations, and the public of the proposed project and project development schedule, and soliciting information and views from these groups; and conducting a field reconnaissance investigation of project alternatives. The scoping process shall identify issues, project and design alternatives, environmental concerns, and present a recommended alternative or alternatives for final design and development. It shall identify sources of information and the need for special studies. The scoping effort shall culminate in a Scoping Summary Report.

**B4.2 Scoping Plan.**  In accordance with the Project Schedule included as Exhibit B-2, the Contractor shall prepare and submit a draft Scoping Plan and a preliminary scoping schedule. The Scoping Plan shall detail proposed sources of historical information; proposed methods for notifying and soliciting information from agencies, organizations, and the public; and shall identify specific information to be collected during the field reconnaissance trip. Generally, a minimum of one public meeting in the community or village (usually during the field reconnaissance trip) and one agency workshop in Anchorage is included in the Scoping Plan. Should the plan require revisions, the Contractor shall revise the plan as directed by the Contracting Agency and resubmit the final plan and schedule for acceptance within two (2) working days of receipt of comments. Following Contracting Agency acceptance of the Scoping Plan, the Contractor shall initiate the scoping process.

##### B4.3 Review of Historical Information. The Contractor shall review all existing information and data pertaining to the project prior to conducting the public and agency meetings and the field reconnaissance trip. Such information may be available from the Contracting Agency, State and Federal Agencies, native organizations, and other local entities. The scope and level of detail contained in the review are a function of project requirements. In addition, the review shall address at least the following items for an Airport Layout Plan (as applicable):

1. Analyze wind data to determine runway orientation. The Contractor shall coordinate with the Climate Center at the University of Alaska Anchorage and other possible sources to obtain available wind data. If directed by the Contracting Agency, the Contractor shall install necessary equipment at a location approved by the Contracting Agency to record wind direction and speed on an hourly basis. The data collected shall be used to develop a wind rose as described in FAA Advisory Circular 1500/5300-13, Appendix #1.
2. Research land status, land costs, and planned land uses in the areas of possible airport development.
3. Examine obstructions, topographical features, recreational areas, and population distributions relative to possible airport alternatives.
4. Assemble, organize, and forecast air traffic activity data for the airport. Relevant data on air taxi, air charter, and general aviation shall be collected including enplanements and operations. The Contractor shall contact air carriers, air taxi and air charter operators to obtain the most current air traffic data. Data shall also be obtained from relevant individual operators and from the FAA. Available historical air traffic data shall be obtained and evaluated for growth in passenger, freight, mail, and number of operations. Trends in traffic activity shall be evaluated to determine growth rates, changes in aircraft types and frequency of service. Annual opera­tions by specific aircraft type shall be obtained. Special operational considerations shall also be reviewed, such as increased seasonal activities.
5. Determine airport facility requirements. These requirements shall include the design Airport Reference Code to be used and a compiled list of dimensional requirements for improvements, including: airfield requirements (runways, safety areas, taxiways, lighting, apron areas, and service access); approach area dimensions and requirements for proposed and future approach category; general aviation needs (fixed base operations, aircraft storage, automobile parking, buildings, road access, transient and permanent aircraft parking and tie‑down areas); general airport access, circulation and parking requirements; other building area and land use requirements, including lease lot identifica­tion and development.
6. The Contractor shall investigate and review background information from Airport Layout Plans, Property Plans, previous construction reports and as-built plans, file correspondence, aerial photography, and United States Geodetic Survey (USGS) topographic maps. The Contractor shall produce base maps that shall be either enlargements of existing USGS maps or other available data to show the major physiographic features and land contours or adaptations of any existing AutoCAD mapping for the airport. The Contracting Agency will make the latter available to the Contractor. These maps shall be used to illustrate the location of each alternative and shall be displayed as full sized visual displays at subsequent public meetings. These maps shall illustrate existing land uses, terrain units and classifications, political bound­aries, transpor­tation systems, airport property lines, location of any existing landfill, sewage lagoon, or waste transfer stations, and other features as appropriate for each specific applica­tion in subsequent reports and the Environmental Assessment (EA). Base maps shall be produced on ANSI D-size mylar sheets and reduced to half-size sheets.
7. Identify potential airport development alternatives. Study USGS quadrangle sheets, existing aerial photography, aeronautical charts and other data available for possible airport improvements. Map locations of existing and planned airport facilities and ground transportation facilities. Airport alternatives shall be based on reasonable and practical development and shall show all necessary major run­way/taxiway and aircraft parking development during a twenty‑year planning period. The effort shall identify logical requirements for future air carrier, air taxi, cargo, general aviation, and revenue support development for efficient and safe separation of different uses, if necessary. Aids to aerial navigation requiring relocation will be identified. The Contractor shall confer with state airport management, state aviation personnel, FAA, local pilots and charter operators, and community officials to identify issues, policies, and guidelines impacting alternatives. This effort shall result in a series of overall aviation develop­ment alternatives.
8. Provide a preliminary summary of potential environmental, functional, social, and economic impacts of each alternative in the form of an Initial Environmental Assessment (IEA), which consists of an IEA checklist. This evaluation shall be expanded into the EA in accordance with Article B5, Environmental Services. This summary shall provide a brief community profile identifying the community demographics. The community profile will include a brief summary of the physical and climatic characteristics in the community. The IEA shall consider all resource impact categories discussed in FAA Order 5050.4A. However, the summary shall only discuss those impact categories where there may be issues and/or controversy. The IEA shall be a chapter of or appended to the Scoping Summary Report (B4.6). The IEA should identify what issues will be evaluated and what analyses will be required in the EA (for example air, noise, wetlands, essential fish habitat, etc.).
9. Review other facts such as possible operational impacts of snow and ice, smoke and fog, proximity of landfills, sewage lagoons, waste transfer stations, and other items as may be appropriate to the particular alternatives under consideration.
10. Estimate site development and maintenance costs. The site development cost estimates should consider problems such as location and availability of construction materials; the location of existing water, sewer, electrical and communication utility lines; soil conditions; and geological features in the vicinity of possible airport alternatives. Maintenance cost estimates will include labor costs and the initial purchase (if appropriate), annual operation, and periodic replacement of maintenance equipment.

**B4.4 Public/Agency Involvement.** Although an important part of Project Scoping, the Public/Agency Involvement effort shall also be employed throughout the project, and public and agency meetings may be required during preparation of the EA, Airport Layout Plan, preparation of the Engineer’s Design Report, and Final Design of the project. It consists of the total effort, both informal and formal, made by the Contractor and the Contracting Agency to keep the public and agencies informed about the project, to ensure that all reasonable alternatives are identified, to solicit information with respect to airport needs and project alternatives, to ensure that environmental requirements are satisfied, and to ensure that public and agency concerns are considered and addressed. Because an EA is required, at least one public hearing may also be required. Public/Agency Involvement outside Project Scoping is further addressed in Articles B5, Environmental Services and B10, Design Engineering. It is not intended that separate public/agency meetings be held for each of these efforts if they are on concurrent time lines. In the interest of efficiency and minimizing costs, the meetings should be combined to the extent practicable.

**B4.4.1 Public/Agency Involvement Techniques.** Public/Agency Involvement techniques may include public notices, agency and public meetings and workshops, agency scoping letters, newsletters, e-mail, web pages, etc. This effort shall also satisfy environmental scoping requirements for the project (Article B5) and no duplication of scoping effort is intended. The issues, level of detail, and specific items to be addressed during the Project Scoping effort will vary widely depending upon the nature of the project. For example, a new airport will require an extensive scoping effort while the scoping effort associated with a minor expansion of an existing apron will be limited. The Contracting Agency will determine Project Scoping requirements in consultation with the Contractor.

**B4.4.1.1** Public meetings may consist of formal public hearings, informal public "open house" meetings, agency meetings, workshops, user group meetings, presentations at community council meetings, and presentations at local government meetings. These meetings may include, but are not limited to, public and agency scoping meetings; progress meetings; and a Public Hearing upon completion of the EA. They will be dictated by project requirements. If directed by the Contracting Agency, the Contractor, shall moderate the meeting proceedings, conduct technical presentations, provide presentation graphics, prepare and provide displays for such meetings, establish and maintain a mailing list and project phone line, create and maintain an issues board, and prepare and mail project newsletters. Meetings may be conducted in open-house format if approved by the Contracting Agency. Contractor participation at agency scoping meetings shall also include, but not be limited to, compiling a list of attendees; providing necessary graphics and visual aids; providing comment sheets for written comments; responding to questions and requests for information; and preparation of a written meeting summary.

**B4.4.1.2** If directed by the Contracting Agency, the Contractor shall also establish a project e-mail address and website. The website should be set up to keep the public informed of the latest project developments and record their comments. The Contractor’s website should be linked to the Contracting Agency’s website on the *Project Information/Public Notices* page.

**B4.4.2 Agency Scoping Letters.** Agency scoping letters shall be sent to affected resource agencies, local governments, and native corporations, and shall incorporate the standard Contracting Agency scoping questions.

**B4.4.3 Meeting Preparation.** The Contractor, in coordination with the Contracting Agency, shall be responsible for organizing public meetings; notifying local councils and native corporations, responsible agencies, and the public of the meeting date, place, and time; advertising the meeting through local media; arranging for an interpreter of the local native language if necessary; reserving facilities; preparing meeting agenda; providing necessary graphics and visual aids; and set-up and removal of information and visuals. The Contractor shall provide the Contracting Agency with an ad announcing a "Notice of Intent to Conduct Preliminary Engineering and Environmental Scoping Activities" (or other appropriate meeting title) in electronic format. The Contracting Agency will be responsible for publication of the ad in appropriate newspaper(s), including those of local circulation. The Contractor shall mail such meeting notices to all those on the mailing list (Article B4.4.4). A minimum of twenty-one (21) calendar days notice of the public meeting shall be provided. The Contracting Agency will approve all notices before publication and approve the agenda, time, date, and location of the meeting.

**B4.4.4 Project Mailing List.** The Contractor shall update and maintain a current Project Mailing List of all interested agencies, organizations, aviation interests, (including but not limited to air taxis and air carriers), and individuals, including affected residents, businesses and property owners, for the purpose of distributing flyers, project milestone announcements, and other information to the affected public. The Project Mailing List shall contain but not be limited to the appropriate points of contact for the FAA, local government, village councils, regional and local native corporations, the U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, U.S. National Marine Fisheries Service, U.S. Army Corps of Engineers, Alaska Native Tribal Health Consortium, Office of the Governor – Division of Governmental Coordination, Alaska Department of Natural Resources, Alaska Department of Environmental Conservation, and the Alaska Department of Fish & Game. The Contracting Agency will provide a start for the mailing list. The Mailing list shall be reviewed and approved by the Contracting Agency before any mailings occur. The mailing list will be subject to constant revision, and the latest revised version shall be provided electronically to the Contracting Agency upon request.

**B4.4.5 Project Informational Flyers.** At key points during the development of the project identified by the Contractor and approved by the Contracting Agency, the Contractor may be required to prepare and distribute a one sheet double-sided, 8.5” by 11” project flyer to all parties on the most current version of the mailing list. The flyers will provide information regarding the status and schedule of the project, a brief discussion of issues identified through public and agency involvement, and appropriate graphics. The Contractor shall submit a draft of each flyer to the Contracting Agency for review prior to distribution. The Contractor shall make any necessary revisions before reproducing the flyer. The Contractor shall be responsible for its distribution.

**B4.4.6 Agency Field Trip.** If directed by the Contracting Agency, the Contractor shall also arrange for the agencies to visit the project site, perhaps in conjunction with the Contractor’s field reconnaissance trip identified in Subarticle B4.5, to afford the agencies an opportunity to observe the project location and alternatives, and to identify sensitive resource areas.

**B4.4.7 Other Public Involvement**. The Contractor shall provide additional support as required for informal public involvement through final design of the project. This support may include providing written and/or oral information and responses through the Contracting Agency, in response to requests for information about the project from individuals and/or agencies.

**B4.5 Field Reconnaissance.** The field reconnaissance is intended to familiarize the project team with field conditions associated with alternative project sites identified in the original planning studies or scoping work that establish the need for the project, and with field conditions associated with additional alternative sites as identified by the Contracting Agency and the Contractor. It includes a preliminary assessment of field conditions at each site. Prior to the field visit the Contractor shall review background information obtained in the Review of Historical Information (B4.3). The field reconnaissance shall include introduction of the project team to community representatives, and personal interviews with air taxi operators and Contracting Agency Maintenance and Operations personnel. It shall include observation of wind direction, site topography, approach conditions and obstructions, soil conditions, surface drainage, potential for snow drifting, site access, potential borrow sources, waste excavation disposal areas, the location of electrical power, and other items included in the Review of Historical Information (B4.3), as applicable. Special attention shall be given to possible hazardous waste contamination from current or discontinued operations. If directed by the Contracting Agency, the Contractor shall obtain preliminary soil information from each alternative airport site using a hand auger or similar method to quantify organic deposits, visually classify surface materials and note geotechnical features suggesting a potential on-site borrow source. A visual classification and description of the existing soils shall be adequate to make a preliminary estimate of airport construction costs. In the interest of economy and efficiency, it is generally desirable to conduct the first community public meeting in conjunction with the field reconnaissance trip. As stated in Subarticle B4.4.6, the Contracting Agency may also direct the Contractor to arrange for appropriate regulatory agencies to visit the project site in conjunction with the field reconnaissance trip.

**B4.6 Scoping Summary Report.** Following completion of planned scoping activities, the Contractor shall meet with the Contract Manager to discuss progress and to develop ideas on how to proceed with the project. At this point the Contracting Agency will determine the appropriate class of environmental document (Categorical Exclusion, EA, or Environmental Impact Statement) for the selected project alternative(s). After this meeting, the Contractor shall prepare a draft Scoping Summary Report. The report shall summarize scoping methods; identify issues and concerns of agencies, organizations, and individuals; list relevant information identified in the scoping process and its sources; and identify any special studies required to adequately assess the impacts of the proposed project. The report shall also identify any reasonable project and design alternatives brought up during scoping. It shall include the project mailing list and public and agency meeting minutes. The draft report shall be organized in a chapter format and prepared in narrative and graphical form to allow for easy reading. The draft report shall discuss the advantages and disadvantages of each alternative and shall identify the alternative(s) considered reasonable and practicable, and recommend a preferred alternative . The report shall justify the deletion of the alternatives that are not considered to be reasonable and practicable and recommend preferred alternative(s) for design and development. The topics/information evaluated in the report shall include, but not be limited to, the following as they pertain to the project:

a. Characteristics of the existing community and airport.

b. Community development plans.

c. Forecasts of aviation demand.

d. Facility requirements.

e. A summary of airport development criteria, including typical airport dimensions and imaginary surfaces.

1. A description of alternatives.
2. Results of the IEA. (Note: The IEA can either be made a chapter of or appended to the Scoping Report).
3. An overview map, showing all airport alternatives in relation to the existing community and designated parklands and other Section 4(f) properties.

i. A description of existing soils and material sites.

j. A description of prevailing winds and other weather factors.

1. A summary of land status.
2. A description of surface access to the airport.
3. A summary of available utilities.
4. A preliminary estimate of airport development costs including estimated land acquisition costs.
5. Cost calculations for development and maintenance costs for viable alternatives and an explanation of all estimate assumptions.

**B4.7 Review of Scoping Summary Report.** A draft of the Scoping Summary Report shall be submitted to the Contract Manager for review within fourteen (14) calendar days following the meeting discussed in B4.6 between the Contractor and Contract Manager. The Contracting Agency will review the draft Project Scoping Summary Report and submit its comments to the Contractor within thirty (30) calendar days. If deemed necessary, the Contracting Agency may submit a copy of the draft Project Scoping Summary Report to FAA for review and approval. This review will determine whether the Contracting Agency and FAA agree that the problems have been correctly identified and that appropriate alternative solutions have been proposed. The Contractor shall revise the draft Project Scoping Summary Report to address Contracting Agency and FAA comments, and produce the final Project Scoping Summary Report within ten (10) days after receiving the comments.

##### B4.8 Deliverable Items.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Scoping Plan | B4.2 | 2 | 1 | 0 |
| Written Meeting Summary | B4.4.1.1 | 2 | 1 | 0 |
| Project Mailing List | B4.4.4 |  | 1\* | 1 |
| Project Informational Flyers | B4.4.5 |  |  |  |
| *Draft* |  | 0 | 1 | 0 |
| *Final* |  | 0 | 1 | 0 |
| Correspondence | B4.4.7 | 0 | 1 | 0 |

\* Provide updated mailing list as changes are made throughout project.

**B4.9 Provided Items.** The Contracting Agency will provide the following:

1. Past studies, documents, survey information, etc.
2. Start for mailing list.
3. Existing AutoCAD mapping for the airport (if available).

**ARTICLE B5**

**ENVIRONMENTAL SERVICES**

**B5.1 General.** The Contractor shall complete the Alaska Department of Transportation and Public Facilities Environmental Checklist (EC). The EC shall be submitted to the FAA by the Contracting Agency for a determination of whether the project qualifies as a Categorical Exclusion (CE). If the project is not eligible for a CE, the Contractor shall prepare an Environmental Assessment (EA) for the project. If an EA is prepared, a subsequent decision will be made by FAA as to whether to issue a Finding of No Significant Impact (FONSI) or whether the project will require an Environmental Impact Statement (EIS). If an EIS is required, the Environmental Services may be terminated. EIS preparation requires selection by FAA of a consultant who specializes in doing this type of work. Irrespective of whether a CE or EA is required, the Contractor shall coordinate with the public and with Federal, State, and Municipal agencies and shall acquire all necessary permits for the project. The Contractor shall be required to make presentations at scoping meetings and if an EA is required, may be required to make presentations at a Public Hearing. Communication with the public and agencies, and Scoping, shall be conducted in accordance with Article B4.

#### **B5.2 Coordination.** The Contractor shall coordinate with federal, state, and local agencies during preparation of the EA and during acquisition of environmental permits. This coordination will commence during Project Scoping & Public/Agency Involvement as defined in Article B4. Correspondence to agencies shall be on Contracting Agency letterhead. At a minimum, the EA shall be coordinated with:

1. Local government and IRA Traditional Tribal Council.
2. Regional and Local Native Corporations and other land owners.
3. Coastal Resource Service Area.
4. Division of Governmental Coordination.
5. State Historic Preservation Officer (SHPO).
6. Alaska Department of Community and Regional Affairs (DCRA).
7. Alaska Department of Fish & Game (ADF&G).
8. Alaska Department of Natural Resources (ADNR).
9. Alaska Department of Environmental Conservation (ADEC).
10. U.S. Bureau of Land Management (BLM).
11. U.S. Fish & Wildlife Service (USF&WS).
12. U.S. Environmental Protection Agency (EPA).
13. U.S. Army Corps of Engineers (COE).
14. National Park Service (NPS).
15. National Marine Fisheries Services (NMFS).
16. U.S. Department of Agriculture, Natural Resource Conservation Service.
17. Any other Local, State, or Federal agency with jurisdiction (or permit authority regarding activities associated with construction) over possible airport locations.

**B5.2.1** Depending on circumstances, other agencies may also be contacted for input into the content of the EA. The purpose of this coordination is to identify agency concerns, provide information on the proposed project, obtain information that will aid in the assessment of project impacts, identify permitting requirements, and to identify any critical environmental issues and concerns that might require special study. This process shall have been started during Project Scoping & Public/Agency Involvement (Article B4). In coordinating with the agencies, the Contractor shall not negotiate or in anyway commit the Contracting Agency to any specific mitigation plan or course of action.

**B5.3 Document Format**. The EA, and all reports prepared in conjunction with its development, shall be written in plain language (per 40 CFR Part 1502.8) and shall include appropriate graphics (maps, illustrations, and/or photographs) to ensure that the public can easily comprehend the scope of the proposed project and the potential environmental impacts associated with the proposed alternatives. Draft reports shall be typed with double line spacing; final reports shall be typed with one and one-half line spacing. Both texts must be clearly reproducible in black and white. Lettering shall be black inking or typeset. Lettering aids such as Kroy and tape shall not be used on graphics which are to be reproduced on photocopy machines or other reproducing equipment.

**B5.3.1** An electronic copy of all draft and final versions of the environmental document, as well as any associated reports (e.g. Noise, History/Archaeological), shall be submitted to the Contracting Agency. The electronic copy of these documents shall include spreadsheets, photos, or other graphics, scanned meeting sign-in sheets, and public and agency comments sheets. The Documents shall be in Microsoft Word format saved to a CD disk. The purpose of the requested electronic copy is to enable the Contracting Agency to reproduce these documents in their entirety or send the document through electronic channels such as e-mail or the internet.

**B5.4 Review and Revision Schedule**. All reviews and revisions shall be completed according to an agreed upon schedule that shall allow approximately thirty (30) working days for each FAA review, and seven (7) working days for each Contracting Agency Review.

**B5.5 Environmental Assessment (EA)**

**B5.5.1 General.** The broad purpose of the environmental study is to scope, analyze, and document the environmental impacts and concerns associated with the proposed project and project alternatives, provide a basis for determining whether the potential impacts would be controversial or significant, and summarize the results of this work in an EA. The EA shall be issues-based; shall document compliance with applicable environmental laws, regulations, and executive orders; shall incorporate and address comments and concerns from the public; and shall identify any permits, licenses, or other entitlements required for the proposed action. The EA report shall be prepared in accordance with FAA Order 5050.4B Airport Environmental Handbook (most recent version and any amendments or updates thereto) and Council on Environmental Quality Regulations. The EA shall systematically examine the potential impacts of project alternatives to determine whether any potentially significant impacts occur. Any alternatives considered but dismissed during preliminary planning stages of the proposed project shall be discussed briefly in the EA. The document shall be developed in coordination with appropriate local, state, and federal agencies, and with community involvement as described in the handbook and Article B4. The FAA will be asked by the Contracting Agency to review and approve a Draft EA prior to public distribution. A public hearing may be held if deemed necessary. The FAA will subsequently be asked by the Contracting Agency to review and approve the final EA.

**B5.5.2 Environmental Scoping.** The purpose of scoping is to obtain and review existing information regarding the proposed project and solicit views of agencies, organizations, and the public and to inform these groups of the proposed project and the project development schedule. The scoping process shall identify issues and alternatives to be addressed in the EA, determine the need for special studies, and identify sources of information. Scoping requirements and procedures are defined in Article 4.

**B5.5.3 EA Draft.**  Subsequent to the environmental scoping process, the Contractor shall initiate studies, collect data, and begin to prepare an EA for the selected alternative(s). The Contractor shall utilize pertinent existing data from the files of the Contracting Agency and other government agencies to the extent it is available and useful.

**B5.5.4 EA Content.** The EA shall contain but shall not be limited to, the following Sections:

1. Cover Sheet
2. Table of Contents

A. List of Figures

B. List of Tables

1. Document Summary
2. Purpose of and Need for Action
3. Alternatives Considered
4. No-Build Alternative
5. Build Alternatives

### Affected Environment

VII. Environmental Consequences

1. Direct Impacts
2. Noise
3. Compatible Land Use
4. Social Impacts
5. Environmental Justice
6. Induced Socioeconomic Impacts
7. Air Quality
8. Water Quality
9. Department of Transportation Act, Section 4(f)
10. Historic, Architectural, Archaeological, and Cultural Resources
11. Essential Fish Habitat
12. Wildlife Hazard Assessment
13. Biotic Communities
14. Endangered and Threatened Species of Flora and Fauna
15. Wetlands
16. Floodplains
17. Coastal Zone Management Program
18. Coastal Barriers
19. Wild and Scenic Rivers
20. Farmland
21. Energy Supply and Natural Resources
22. Light Emissions
23. Solid Waste
24. Construction Impacts
25. Hazardous Materials
26. Material Site Impacts
27. Permits Required
28. Other Considerations
29. Secondary and Cumulative Impacts
30. Consistency with State and Local Plans
31. Public Involvement

VIII. List of Preparers

1. Bibliography
2. Appendices

**B5.5.5 Environmental Consequences.** This section of the EA shall discuss all probable beneficial and adverse social, economic, and environmental impacts of the project and its alternatives under consideration and describe measures to mitigate potentially adverse impacts. The level of detail required for each element of the environment analyzed shall be commensurate with the significance of the issue to be studied. The factors to be discussed under the different impact categories are in the FAA Airport Environmental Handbook, Order 5050.4B and in B5.5.6.

**B5.5.6 Appendices.** The appendices shall document the analysis and data collection completed to support the conclusion and summaries for each chapter and subsection of the EA. Analysis to be completed and documented includes, but shall not be limited to:

**B5.5.6.1 Air Quality Analysis**. If a project area is in a non-attainment area then a quantitative air quality analysis is required. The FAA/USAF Emissions Dispersion Modeling System (EDMS) shall be used to prepare a detailed emissions inventory, including on airport surface transportation related to the practicable alternatives. An emissions inventory for aircraft and vehicular traffic shall be conducted using the EDMS to determine if increased emissions due to the alternatives would exceed the “de minimis” levels established from the 1990 Amendments to the Clean Air Act. EDMS is the approved model for assessment of the air quality impact of aircraft, on-airport vehicular traffic, and ground support vehicular operations. If de minimis levels are exceeded, a dispersion analysis shall be conducted. Specific work elements pertinent to the EDMS analysis subtask follow.

**Pollutant Emission Projections.** Pollutant emission inventories shall be determined for the proposed action, no action, and practicable alternatives selected for the design year.

**EDMS De Minimis Analysis.** The emission projections for the proposed action, no action, and practicable alternatives shall be compared to the National Ambient Air Quality Standards de minimis levels identified in 40 CFR Part 51, Subpart I, § 51.853 (b)(1) for, CO (100 tons/year), NO2 (100 tons/year), SO2 (100 tons/year) and for serious non-attainment rates for NOx (serious NAAs 50 tons/year). The EDMS generates emissions for CO, HC, SOx, and NOx and these pollutants shall be the basis for the emissions comparison.

**B5.5.6.2 Noise Analysis.** If noise analysis criteria identified in Order 5050.4B (or its successor) are exceeded, a quantitative noise analysis shall be conducted. The noise analysis shall include development and analysis of a mathematical computer model to determine the noise levels associated with existing and future aircraft operations at the airport. The noise analysis shall consist of the following work elements:

**B5.5.6.2 .1 Noise Model.** Conduct an on site-visit. Meet with Contracting Agency personnel to discuss study goals and issues. Provide a comprehensive inventory of general aviation aircraft, fleet mix, flight tracks, runway utilization, weather patterns, etc. This data shall become a component of the model input.

**B5.5.6.2.1.1** Complete a computer model of noise levels associated with operations at the airport. The model used shall be the latest version of the FAA Integrated Noise Model (INM). Noise contours shall be developed for existing conditions, a future no action scenario, and for alternatives identified by the Contracting Agency. One model shall be provided for each condition. Additional input parameters shall be included if directed by the Contracting Agency.

**B5.5.6.2.2 Technical Reports.** The Contractor shall prepare a brief technical report summarizing the modeling process and results. The report shall contain a printout of the input parameters and the contours created within the model. The format of the report will be consistent with FAA requirements.

**B5.5.6.2.3 On-Site Noise Monitoring.** Actual monitoring of noise conditions at the site over a short-term basis may be beneficial to community relations if the community has previously expressed concern over noise levels associated with the project. The monitoring serves to provide calibration of the model and documentation of other site noise conditions that may contribute to the overall noise environment of the community.

The monitoring also establishes a historical reference point for future comparison of noise levels from increased operations or change in fleet mix. On-site noise monitoring shall consist of the following activities:

1. Three locations shall be monitored for seventy-two consecutive hours to establish a baseline Ldn for the airport and surrounding community. The measurement sites shall be selected based upon input from the Contracting Agency and shall be approved by the Contracting Agency.
2. The sites shall be manned of 6 of the 24 hours of each day to document events associated with the recorded exeedences. This will allow the Contractor to evaluate contribution by non-aviation events.
3. The data shall be analyzed and compared with the model identified in B5.5.6.2.1.1. The model shall be calibrated by adjusting the standard input to the model, if required, to correspond with the existing condition measured.
4. The Contractor shall author a working paper describing the results of the measurements.

**B5.5.6.2.4 Representation at Community/Village Meetings.** The Contractor shall attend Community/Village Meetings as requested by the Contracting Agency to present conclusions of the noise study and to address questions or concerns raised by local residents. The Contractor shall provide charts and graphics to convey the issues of the study to the public. The meetings shall be accomplished in accordance with Article B4.

**B5.5.6.2.5 Additional Services.** The following additional services may be required at the request of the Contracting Agency:

1. Additional runs of the computer model.
2. Incorporation of noise contours onto base maps.
3. Analysis of noise impacts.
4. Development of mitigation.

**B5.5.6.3 Wildlife Hazard Assessment.** If wildlife attractants as identified in AC 150/5200-33 are determined to be within the setbacks from airports provided in that document, then a Wildlife Hazard Assessment (WHA) shall be accomplished.The Contractor shall prepare a detailed WHA in accordance with FAA Advisory Circular 150/5200-33. The WHA shall include a systematic data collection effort through on-site observations and surveys of the airport and surrounding area. The WHA shall evaluate factors contributing to wildlife hazards likely to exist for the preferred airport development alternative and provide recommendations for habitat modification, management needs, and population management strategies to minimize existing and future wildlife hazards.

A qualified wildlife specialist shall make on-site observations during critical periods of wildlife activity to identify:

1. Wildlife species representing potential conflicts;
2. Associated wildlife population parameters such as abundance, peak use periods, and special hazard zones;
3. Animal food sources;
4. Water sources available to wildlife on and near the airport;
5. Vegetative cover types and composition;
6. Weather conditions that attract wildlife; and
7. Environmental and man-made habitat features that attract wildlife.

The duration of the study will be determined by the Contracting Agency in consultation with the U.S. Department of Agriculture (USDA) and the FAA. A draft of the WHA shall be provided to the Contract Manager within 30 days of the end of the study period for review. The Contract Manager will provide copies of the draft WHA to the USDA Wildlife Hazard Section (Damage Control) and FAA for their review. The Contractor shall revise the WHA as necessary to address review comments.

**B5.5.6.4 Wetlands Analysis.** The Contractor shall utilize methods approved by the Contracting Agency to evaluate impacts of the proposed project on wetlands within the project limits. The wetlands impact analysis shall address the importance of the impacted wetlands and the severity of the impacts, including the number of acres/hectares of wetlands involved and the volume of fill material to be placed in wetlands. In evaluating the importance of the wetlands, the analysis shall consider the primary functions of the wetlands, the relative importance of these functions to the total wetlands resource in the vicinity, and any other pertinent factors, such as uniqueness, that may contribute to the importance of the wetlands. A map identifying wetlands types and subtypes in the project vicinity shall be included in the analysis. If a field delineation is required, then it shall be accomplished in accordance with the U.S. Army Corps of Engineers (COE) 1987 Wetlands Delineation Manual and by a consultant who has been formally trained in this method.

**B5.5.6.5 Phase I Preliminary Site Investigation.** The Contractor shall conduct a Phase I Preliminary Site Investigation of the project area to identify sites which are or could potentially be contaminated with hazardous materials. The project area includes all existing and potential right-of-way and properties abutting the proposed right-of-way required for each project alternative. The Contractor shall prepare a report which summarizes the results of the Phase I Preliminary Site Investigation. It shall include graphics to clarify or supplement the tests. All known or potentially contaminated sites identified during the investigation shall be clearly described including the type and extent of contamination, if known. The report shall include recommendations for further investigation, if appropriate. Appropriate background information such as logs of personal interviews, historical aerial photos, land use records, previous reports, pertinent information from regulatory agency files, etc. will be appended to the report.

**B5.5.6.6 Conceptual Stage Relocation Study.** The Right-of-Way section of the Contracting Agency will provide the Contractor a conceptual stage relocation study if it is determined that any residents must be relocated for each project alternative. This information will be useful to the Contractor as it pertains to the demographics and relocation possibilities for the proposed alternatives. This shall be included in the EA appendices.

**B5.5.6.7 Historical, Archaeological, and Cultural Resources Investigation.**The Contractor shall coordinate with the State Historic Preservation Officer (SHPO) to determine the need for a cultural resources survey. A survey report may be required detailing the possible historic and archaeological properties and determinations of eligibility for nomination to the National Register of Historic Properties.

**B5.5.6.7.1 Identification of Historic Properties.** “Identification" includes identifying properties and determining whether or not they are listed on, or eligible for inclusion in, the National Register of Historic Places. The standard for identification is a reasonable and good faith effort, including (as necessary) background research, consultation, oral history interviews, reconnaissance investigations, and intensive field surveys.

**B5.5.6.7.1.1** All pertinent archeological and historical literature, and the records of the Alaska Heritage Resources Survey (AHRS) will be reviewed to compile information about the project’s defined Area of Potential Effect. This effort will focus on determining if there are any known buildings, structures, and objects in the Area of Potential Effect that are listed in or otherwise eligible for the National Register.

**B5.5.6.7.1.2** Information should also be sought from consulting parties and others likely to have knowledge of, or concerns with, historic properties in the area. Specific attention is to be given to properties and effects of concern to Native tribes and organizations. Federally recognized tribes are to be consulted on a government-to-government basis, recognizing their sovereign status. Attention is to be paid to concerns about properties of religious and cultural significance, regardless of who may own such properties.

**B5.5.6.7.2 Cultural Resource Surveys.** Upon completion of the identification of historic properties, the Contractor shall coordinate with the SHPO to determine the need for a cultural resources survey.

**B5.5.6.7.2.1 Reconnaissance Surveys.** A reconnaissance level survey may be required early in the planning stages of the project to determine if an intensive survey is warranted. As defined by the Secretary of the Interior’s Standards and Guidelines, a reconnaissance survey is an extensive rather than intensive “walk-over” conducted with little or no subsurface testing. A reconnaissance survey is only a sampling which may locate some (but not all) of the properties which could be affected by a project and allow an evaluation of their significance. Therefore, a reconnaissance survey alone cannot normally be used to satisfy all the requirements of Section 106 of the National Historic Preservation Act, since historic properties in a project area may go undiscovered. It must be recognized that “(i)n most cases, areas surveyed in this way will require resurvey if more complete information is needed about specific properties” (Federal Register 48(190):44722).

**B5.5.6.7.2.2 Intensive Field Surveys.** The goal of an intensive field survey is to locate all previously unknown, but potentially eligible properties in the Area of Potential Effect (APE). APE shall be determined in consultation with the Contracting Agency. Intensive surveys should include systematic pedestrian examinations of the ground surface and subsurface testing. Surface collecting and mapping can be used to the establish site boundaries. An intensive survey must include subsurface testing as a major component for field sampling. However, the frequency and nature of the tests shall be determined in consultation with the Contracting Agency.

**B5.5.6.7.3 Determination of Eligibility.** The Contractor shall make recommendations to the Contracting Agency regarding the eligibility of properties. The Contracting Agency will then correspond with the SHPO to make any determinations regarding the properties.

**B5.5.6.7.3.1 Documentation Requirements.** Results of the work shall be assembled in a survey report with graphics as supporting documentation. Reports shall be submitted in two volumes. One volume shall be suitable for release to the public as an appendix to the environmental document and the other shall contain sensitive information such as site specific maps, figures, and text.

**B5.5.6.7.3.2** No formal nominations for the National Register will be required. A Determination of Eligibility (DOE) for the National Register is based on a description and evaluation of the property; a statement of significance; a selected list of sources; and maps, photographs, and other illustrations. This information does not have to be submitted on a National Register nomination form, although it is much the same as that needed for National Register listing. Consideration should be given to both the criteria of significance and integrity of the site. This evaluation should consider the historic context of the property, including its relation to other known historic properties. The question of "how much information is enough" to evaluate a property must be considered in relation to historic contexts. In some cases, research may be necessary to establish contexts. Many properties may not warrant an individual eligibility determination, but may prove to be a contributing element of a larger historic district that does meet the criteria.

**B5.5.6.7.4 Human Remains.** In the event that human remains are discovered, excavations will continue only to the extent necessary to verify that the remains are human. After verification, excavations in the vicinity shall cease and the Contracting Agency shall be notified. The Contracting Agency will notify other parties; SHPO, agencies, Native groups, etc. Further verbal instruction will then be issued (i.e., to refill excavation, or to continue).

**B5.5.6.7.5 Administrive Requirements.** All work shall be done in accordance with 36 CFR Part 800 (http://www.achp.gov/regs.html), the FAA Airport Environmental Handbook — Order 5050.4A (1985) (http://www.faa.gov/arp/app600/5054a/ 5054a1.htm), the Secretary of the Interior’s Standards and Guidelines (1983:44722), and the Advisory Council on Historic Preservation’s general guidelines for identification and testing procedures as set forth in *Treatment of Archaeological Properties, A Handbook*. In addition, the Contractor shall coordinate with the local Tribal Government (i.e. the should be put on the agency scoping letter list and be kept informed) in regard to identifying any historical, archaeological, and cultural sites that might be impacted by the project.

**B5.5.6.7.5.1** Field notes, samples, artifacts and other collected data shall be curated with the University of Alaska Museum in Fairbanks unless otherwise specified by the Contracting Agency. All photos, research notes, and other materials related to this project are the property of the Contracting Agency and shall not be used for scholarly reports, lectures, or talks without the written permission of the Contracting Agency.

**B5.5.6.7.5.2** A post survey meeting or conference telephone call shall take place within one week after the Contractor’s return from the project site to inform the Contracting Agency of field results.

**B5.5.6.7.5.3** An electronic copy of the draft report and one color print of each photo included in the report shall be submitted to the Contracting Agency. The report shall be in Mircosoft Word format (most recent version) saved to a 3.5” floppy disk or CD. The Contracting Agency will be responsible for distribution of the report.

**B5.5.6.7.5.4** The release of any information to the press/media concerning this task shall be the responsibility of the Contracting Agency. The Contractor shall not release information without prior approval of the Contracting Agency.

**B5.5.6.7.5.5** The Contractor is responsible for any archaeological survey permits or permissions necessary to accomplish this work.

**B5.5.7 Draft Application for Section 404 Permit, Coastal Project Questionnaire.** The Contractor shall prepare a draft application for the U.S. Army Corps of Engineers Section 404 Permit, a draft Coastal Project Questionnaire (CPQ), and any other permit applications necessary to complete the project, and append them to the Draft EA. (Note – Once the Draft EA is approved for distribution, the Contractor will be required to submit the final permit application and CPQ to the Corps of Engineers and Division of Governmental Coordination, as defined in B5.8). No duplication of effort is intended as a part of this task.

##### B5.5.8 Review of the Draft EA. Once the Draft EA is completed, the Contractor shall compile and submit the Draft EA and all appendices to the Contracting Agency for review. Once the review is complete, the Contractor shall make all necessary revisions. Successive reviews may be required to ensure the documents are in the proper format and content is appropriate.

**B5.5.8.1 FAA Approval.** Upon acceptance of the Draft EA by the Contracting Agency, the Contracting Agency will submit the document to FAA for review and approval. Should the document require further revisions, the Contractor shall revise the document as directed, and submit the document to the Contracting Agency.

**B5.5.8.2 Public Distribution Approval.** Following FAA approval of the Draft EA, the Contractor shall finalize the document and prepare the original unbound final document in a format ready for double sided printing, the original graphics, and a set of mailing labels. The Contractor shall distribute the draft EA for public and agency review and comment.

**B5.6 Public Hearing.** Following approval of the Draft EA for public distribution by the FAA, the Contracting Agency, with the assistance of the Contractor, may need to conduct a public hearing in the project community or village. The hearing shall be conducted in accordance with Subarticle B4.4, Public/Agency Involvement. In the event that a request to make formal testimony is received the Contractor will provide a recording device, record the testimony, and provide a verbatim written transcript of same as part of the meeting summary. The Contracting Agency will approve all notices before publication and approve the time, date, and location of the meeting. The Public Hearing will be conducted in the open-house format unless otherwise directed. A formal comment period of fifteen (15) or more calendar days shall be provided after the Public Hearing.

##### B5.7 Revisions to Draft EA. After the formal comment period, the Contractor shall meet with the Contracting Agency to discuss the selection of a preferred project alternative and how to respond to comments received regarding the Draft EA. Following this meeting the Contractor shall resolve any outstanding issues as directed by the Contracting Agency and revise the draft EA to address agency and public comments, and to address issues brought forth at the Public Hearing and/or as a result of the review process. The Contractor shall prepare and mail written responses to all public and agency representatives that made formal comment. All written responses will be approved in draft form by the Contracting Agency. Signature authority for the letters will be determined by the Contract Manager. Responses will be included in the Final EA.

**B5.7.1 Document Review and Revision.** The Contractor shall submit the revised EA to the Contracting Agency for review. Once the review is complete, the Contractor shall make any revisions required by the Contracting Agency. Successive reviews may be necessary to adequately address all issues.

**B5.7.2 Finding Of No Significant Impact (FONSI).** If appropriate, the Contractor shall prepare a draft FONSI and submit it with the revised EA to the Contracting Agency. The FONSI format and content shall meet FAA requirements.

**B5.7.3 FAA Approval.** Upon acceptance of the revised EA and FONSI by the Contracting Agency, the Contracting Agency will submit these documents to FAA for review and approval. The Contractor shall again revise the EA and FONSI as required for FAA approval.

**B5.7.4 Final EA.** Following FAA approval of the revised EA, the Contractor shall submit the original unbound final document and original graphics to the Contracting Agency. This task shall be complete (1) when the approved unbound documents are received by the Contracting Agency, (2) when a FONSI is signed by the FAA or when the FAA determines that an EIS is required, and (3) all Contractor acquired permits required in Subarticle B5.8 are received by the Contracting Agency. Note: FAA will not approve the final EA and FONSI until all required permits are received.

**B5.7.5 Product.** The final product shall include one camera ready copy of the Final EA along with the FAA’s decision to either prepare an EIS or issue a FONSI.

**B5.7.6 Completion Dates for Environmental Document.** The EA must be completed in accordance with the Project Schedule contained in Exhibit B-2. Completion is recognized as the date at which the final EA and FONSI are approved by the FAA, or the date at which the FAA indicates that the project requires an EIS.

**B5.7.7 Completion Documentation.** The Contractor shall compile original correspondence and related files in tabbed 3 ring notebooks and transmit them to the Contracting Agency. See Article B13 for additional information.

**B5.8 Permits and National Environmental Policy Act (NEPA) Process.** The Contractor shall acquire all federal, state, and local permits, licenses, certifications, and clearances for project construction as determined by the Contracting Agency. This task shall be accomplished concurrent with preparation of the EA because FAA prefers to have all permits in place prior to its review of the FONSI. The permits, licenses, certifications, and clearances shall include, but not be limited to the following, as necessary for the project:

a. Department of the Army Section 404/10 permit.

b. Section 401 Water Quality Certification.

c. Division of Governmental Coordination Coastal Consistency Determination.

d. Alaska Department of Fish and Game Title 16 Permit.

e. Alaska Department of Fish and Game Special Areas Permit.

f. Local Government Flood Hazard Permits.

1. Local Government Noise Permits.
2. Other applicable local, state, and federal permits.

The Contractor shall merge the NEPA and Section 404 processes as appropriate. There is no formal agreement between FAA, the COE, and the Contracting Agency on the NEPA/404 Merger, consequently, the Contractor will have to coordinate 404/10 permit application requirements with the NEPA document preparation as appropriate. The EA should include the information required by the Section 404 (b) (1) guidelines to the extent possible. As stated above, the Draft EA shall include copies of the draft Section 404 Permit Application, CPQ, and any other required permit applications. Section 404 permit applications may have to be applied for separately from the EA. However, the comment period for distribution of the EA and the Section 404 Public Notice should be coordinated so that they are consistent to the extent possible. The applicant designated on the permit applications shall be the Contracting Agency. The permits will be signed by the Contracting Agency.

**B5.9 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Categorical Exclusion Checklist | B5.1 | 0 | 1 | 0 |
| EA Draft(s) | B5.5.8 | 3 | 0 | 0 |
| EA Appendices | B5.5.8 | 3 | 1 | 0 |
| Permit Applications & Final Permits | B5.5.7, 8 | 0 | 1 | 0 |
| EA for Public Distribution | B5.5.8.2 | 0 | 1 | 0 |
| Public Hearing Presentation Graphics | B5.6 | 0 | 1 | 0 |
| Revised EA (Public Comments) | B5.7 | 0 | 1 | 0 |
| FONSI | B5.7.2 | 0 | 1 | 0 |
| Revised EA & FONSI | B5.7.3 | 0 | 1 | 0 |
| Revised EA (Final) | B5.7.4 | 0 | 1 | 1 |
| Completion Documentation | B5.7.7 | 0 | 1 | 0 |

**B5.10 Provided Items.** The Contracting Agency will provide the following:

a. Draft Scoping Report, August 2003

## ARTICLE B6

SURVEYING AND MAPPING SERVICES

**TASKS 3 AND 4**

**B6.1 INDEX**

**Article Subject**

B6.1 Index

B6.2 General Criteria For Surveying and Mapping Services

B6.3 Surveying and Mapping Services

B6.3.1 Overview

B6.3.2 Surveying for Design

B6.3.3 Surveying for Right-of-Way

B6.3.4 Right-of-Way Mapping

**B6.2 GENERAL CRITERIA FOR SURVEYING AND MAPPING SERVICES**

**B6.2.1** The Contractor shall perform the services to standards called for in the Alaska State Professional Land Surveyors (ASPLS) Standards of Practice, the California Geodetic Control Committee (CGCC) Standards for Band IV surveys, U.S. COE Manual EM-1110-1-10000 for Photogrammetric Mapping, or the DOT&PF Construction Surveying Requirements, as appropriate to the services being performed. California Geodetic Control Committee Standards can be found on the Web at: <http://www.rbf.com/cgcc/>. U.S. COE Manual EM-1110-1-10000 can be found on the Web at: <http://www.usace.army.mil/usace-docs/eng-manuals/em1110-1-1000/toc.htm>.

All studies, reports and services shall be performed in accordance with applicable codes, regulations and standards; professional practice procedures; and commonly recognized surveying and mapping methods. All documents including reports, computer printouts, half size Survey Control Diagrams or Sheets shall be bound and indexed in a three-ring binder, with the job name listed on the spine and cover. No loose-leaf papers will be accepted. The Contractor shall not begin surveying for design, surveying for right-of way, or right-of-way mapping without specific NTP from the Contracting Agency.

**B6.2.2** The Contractor shall consider the location of the project as well as other environmental and site specific constraints when performing services for this project.

**B6.2.3 Registration.** All survey services shall be done by, or under, the direct supervision of a Professional Land Surveyor (PLS) holding current registration in the State of Alaska. This Land Surveyor shall be an active, on-site field supervisor of the survey crew and shall be directly involved in the preparation of the Base Maps, Right-of-Way Maps, and Parcel Plats. Field books, horizontal and vertical control summaries, survey control diagram, adjusted coordinates, TIN certification, survey control sheet(s), final centerline control, and all final maps and plats shall be sealed, signed, and certified by the PLS responsible for the accuracy and completeness of the services.

**B6.2.4 Field books**. The Contractor shall furnish hardbound field books or legible copies thereof of field-recorded survey information and related calculations. The books shall become the property of the Contracting Agency after the survey information has been entered and the contract completed. Each book shall be labeled with the project name and an appropriate title, e.g. Horizontal Control, Vertical Control, etc., and shall have an index and comments page. The index page shall reference the contents by page number.

**B6.2.4.1** Field notes shall be kept in a neat and orderly fashion. All pages shall be consecutively numbered, showing date, weather, and crew names. All abbreviations used shall be described on the comments page. Sketches are to be used frequently and shall be detailed enough to assist in following the progression of the services. Notes and sketches shall be adequately detailed to convey their intent to a person who is not familiar with the project.

**B6.2.4.2** Descriptions of all monuments or other points, recovered or set, are to include the data stamped on the monument and the condition of the monument. The Contractor shall take two digital photos of each point found or set, the first, a close up of the cap, and the second, a general location picture, with some sort of reference like a tripod over the point. Name the photo file according to the point number on the Survey Control Diagram (SCD) or by an identifier that is on the cap. Example: GPS point 551 on the SCD, “VAN DUSEN,” would be 551.jpg or VAN DUSEN.jpg. A list of all corners searched for, but not recovered shall be included in the field notes. The DOT&PF Construction Surveying Requirements details the general note-keeping procedures.

**B6.2.5** U.S. Customary System of Measurement (foot units) shall be used throughout development of the project. Any metric conversions required shall be based upon the U.S. Survey Foot (3937 feet = 1200 meters exactly).

**B6.2.6 Drawings, Plats, and Maps** shall be prepared in electronic format as specified by the Contracting Agency (currently AutoCAD 2004 compatible format).

**B6.2.6.1** Unless otherwise stated, the format and standards for all drawings will be according to the most current Contracting Agency Central Region Design Drafting Manual (currently dated February 2004) which is available upon request or via the ROW Engineering FTP site. The Contracting Agency will specify the plotted scale.

**B6.2.6.2** Drawings shall be produced and provided in English (foot units) format. Distances will be shown in horizontal ground foot units. Areas shall be annotated with “Ac.” for acres, and “sq. ft." for square feet. Metric units shall not be shown on drawings developed for design work, unless requested by the Contracting Agency.

**B6.2.6.3** All linework and lettering must be of professional quality and all line widths and lettering sizes must be of such size that all information can be clearly shown without overlap or confusion. All lettering must be a minimum size of 0.1 inch at a full scale plot. Lettering and linework must be in the appropriate black drafting ink. AutoCAD style names and fonts shall follow the Contracting Agency’s specified standards. See the current Design Drafting Manual (B6.2.6.1)

**B6.2.6.4** Do not break lines at text. Instead, mask the linework using color 155 solids under the text. Place the solids on the same layer as the text that the solid lies under. Do not use AutoCAD’s Express Tools “textmask.”

**B6.2.6.5** Drawings shall be accurate models of the data shown, e.g.; a line labeled N 10°00'00" E 104.35’ shall be electronically drawn exactly as labeled, a line that is shown to terminate at a monument symbol shall be electronically drawn with no distance between the endpoint of the line and the center of the symbol, etc.

**B6.2.6.6 CAD Drawing:** Work within Model Space shall be color by layer. Purge the drawing before submitting it. Zoom to extents and remove any extraneous features. Remove all empty layers. Check to ensure that all symbols are the same scale, which should be the plotted scale of the drawing. Include a standard DOT&PF north arrow, a legend depicting symbols used, a foot unit bar scale, the drawing file name, date of last edit, and Contracting Agency standard border on each sheet within the drawing.Visit our FTP site for an updated English DOT&PF border.

**B6.2.6.7** SubmitPlans, Maps, and Plats electronically and with solid black ink on 22” x 34” original vellum or mylar. **Final drawings** shall be on mylar unless another medium is specifically called for in the Contract. Plot all final drawings so that the ink is on the front surface of the mylar. Do not use Kroy lettering or "sticky back" applications.

**B6.2.6.8 Drawings** not meeting these standards will be rejected. Submit all drawing files electronically to the Contracting Agency’s Survey Manager upon completion for review. The Contractor shall perform an internal review of these products before delivery to verify that Department standards have been followed.

**B6.2.7 TINs.** The format for TINs is Land Development Desktop’s TIN format with fault lines as 3D polylines and the boundary as a polyline at elevation zero. An AutoCAD drawing or DXF file with the TIN as 3-D faces is an acceptable alternative; include the TIN boundary as a closed polyline at elevation zero, and the fault lines as 3D polylines. Check all TINs produced ground based survey methods and by field inspection of contours generated by the TIN.

Submit a TIN certificate signed and sealed by the responsible PLS. The certificate shall contain the following: 1) the methods used to gather data for production of the TIN(s), 2) the accuracy of the TIN(s), and 3) the checks used to substantiate the accuracy of the TIN(s). All ground based TIN(s) shall be field checked before final submittal, and this shall be stated on the TIN(s) certificate. All aerial TIN(s) shall be checked by a Registered Land Surveyor not associated with the production of the TIN(s) using withheld Topographic points randomly collected throughout the TIN(s) area. A minimum of 50 points shall be collected. Provide a spreadsheet showing the elevation differences from the TIN(s). A sample certification of TIN is available from the Contracting Agency’s Survey Section.

**B6.2.8 Coordinate Files** shall be comma-delimited ASCII text files. Data shall be in the sequence Point Number, N, E, Z, and Description. Coordinates shall be given to eight decimals for the Northings and Eastings, and three decimals for elevations. Points of unknown elevation shall have a placeholder of -9999 in the Z position. Descriptors shall be no longer than 30 characters and shall not contain commas, question marks (?), or asterisks (\*). Descriptors are to be case sensitive, e.g.: Rebar5 shall not equal REBAR5.

**B6.2.8.1** The following **Point Numbering Scheme** shall be used:

|  |  |
| --- | --- |
| Range | Use |
| 1-100. | Primary Control Set (main project traverses) |
| 101-300 | Baseline Control (set PIs, PTs, etc.) |
| 301-400 | Aerial Control Panels or Naturals (HV’s) |
| 401-550 | Secondary Control Points |
| 551-600 | Recovered Published Hz. Control (NGS, GPS, etc.) |
| 601-700 | Set or Recovered Vertical Control |
| 701-2000 | Fnd Mons/Prop Cors |
| 2,001-5,000 | Computed/Protracted Points |
| 5,001-20,000 | Topography Survey Points |
| 20,001- | Reserved for use by DOT&PF |

The Surveyor shall ensure that point numbers used in this task do not conflict with point numbers used in other survey tasks on this project.

**B6.2.9 Electronic Data** (drawing files, coordinate files, reports, etc.) shall be submitted on CD.

**B6.2.10 Quality Control** shall be performed by the Contractor prior to all submittals. Three dimensional backsight checks shall be recorded at the beginning and end of all instrument setups. Three dimensional coordinate checks shall be recorded at the beginning and end of an RTK GPS work session for those who are approved to use this technique (see B6.3.2.1.3). These checks shall become part of the submittal, labeled as “Quality Control Checks”. The Contracting Agency will **reject** submittals that do not substantially conform to the requirements of this statement of services.

**B6.2.11 Reviews.** Draft documents required under this agreement shall be submitted to the Contracting Agency Project Manager for review. The Contractor shall allow three weeks for the return of written comments. The Contractor shall address these comments to the satisfaction of the Contracting Agency prior to submitting the final documents. For maps and drawings, the Contractor shall submit a copy of the project coordinate file with point descriptors and the AutoCAD drawing file along with the final survey point plot.

**B6.2.12 Submittal Delivery.** Submit deliverables to the Contracting Agency in accordance with the negotiated schedule.

**B6.3 SURVEYING AND MAPPING SERVICES**

**B6.3.1 OVERVIEW**

**B6.3.1.1** **General.** The Contractor shall research records of surveys applicable to the requirements of the project and perform all field and office survey services necessary to collect surveying data and to reduce the collected data to a form useful for the Contracting Agency’s project engineering design and right-of-way mapping.

**B6.3.1.2 Survey Limits.** The survey limits will be defined during the negotiations. They include, but are not limited to:

1. Merging the ground and airphoto Topographic Surveys into one product.
2. Verifying the accuracy of the airphoto product.
3. Access Road Topographic Survey.
4. Additional property corner ties.
5. Property Plan development.

**B6.3.1.3 Survey Services** shall be performed in the following sequence unless otherwise directed by the Contracting Agency:

1. Research
2. Pre-Work Meeting with Contracting Agency’s Survey Section
3. Control Survey
4. Topographic/Planimetric Survey
5. Right-of-Way Survey
6. Right-of-Way Mapping
7. Monument Centerline (if the current one is not used)

**B6.3.2 SURVEYING FOR DESIGN (TASK 3)**

**B6.3.2.1 Control Surveys** include establishment of horizontal and vertical control points from existing monuments, from survey control points previously established by the Contracting Agency, and/or from points newly established by the Contractor, and also include locating and establishing project coordinates for the existing centerline and any monuments within the project survey limits. The Contractor shall prepare a Survey Control Diagram (SCD) in AutoCAD format showing the results of the control surveys. The Survey Control Diagram will be a recorded document, and as such, will need to meet certain criteria. Prior to submitting any data for design, the Survey Control Diagram shall be submitted, along with supporting documentation, for review and approval. All points used or tied as a part of these control surveys shall be included in the project coordinate file and shown on the SCD. SCD guidelines are available from the DOT&PF Survey Section. Prior to performing field surveys for the project, the Contractor shall meet with the Contracting Agency’s Locations/Survey Manager or designee to get existing Contracting Agency control data and to discuss the control requirements for the project.

**B6.3.2.1.1 Basis of Horizontal Control.** When the primary control traverse is provided by the Contracting Agency, it shall be the basis of control for the project. Any auxiliary control points necessary to augment this control shall be incidental to the task for which it is required. When the primary control traverse is to be performed by the Contractor, the basis of control shall be the NAD83 (CORS EPOCH?) system, and the primary control points to be used shall be decided in discussion with the Contracting Agency’s Survey Section. The NGS OPUS utility shall be used to establish the control coordinates in this case, unless another method has been discussed with the Contracting Agency. Please see B6.3.2.1.5for more information. The local project coordinate system to be used shall be based upon transformation parameters supplied by the Contracting Agency.

**B6.3.2.1.2 Basis of Vertical Control.** When primary vertical control data is provided by the Contracting Agency, it shall be the basis of control for the project. Any auxiliary control points necessary to augment this control shall be incidental to the task for which it is required. When the primary vertical control circuits are to be performed by the Contractor, the vertical datum shall be NAVD 88, as determined by survey ties to existing vertical control points, or in areas with no official control, as directed by the Contracting Agency. Note: A tie to MLLW shall be made for all surveys in or adjoining tidally influenced areas unless specifically directed to do otherwise by the Contracting Agency. The primary control points to be used shall be decided in discussion with the Contracting Agency.

**B6.3.2.1.3 Horizontal Control Standards.** All horizontal control survey measurements shall be recorded in field books. The books shall also be used to record all measurements and references to control points found or set, section monuments, centerline monuments, and all found property corners. Electronic data collection can be used to record control data, but is not acceptable as the sole data source for survey measurements as this data needs to be recorded in field books for control surveys. Distances shall be measured and recorded in both feet (nearest 0.01 foot) and meters (nearest 0.001 meter) as a check. Recorded angle sets, at a minimum, will contain a direct and reverse pointing of both the forward angle right and the horizon closure angle. When the difference between a direct and reverse pointing of an angle pair exceeds six seconds (ten seconds for distances of 150 feet or less), then that angle pair shall be rejected and remeasured. When the sum of the mean angle right and the mean horizon closure angle differs from 360 degrees by more than ten seconds, that angle set shall be rejected and remeasured. The adjusted angle right (the mean angle right corrected by one half of the difference between the sum of the means and 360 degrees) shall be used for all computations. All foresights and backsights shall be of the fixed leg type. Auxiliary control points and/or monuments may be side-tied, providing that (a) the point is tied from two traverse points, or tied with two different backsight points (that are closed traverse points) or (b) The point is tied from one traverse point with only one backsight provided there is a three-dimensional backsight check recorded in the field book. When there is more than one value, the raw coordinate values for these side ties (calculated from the adjusted traverse coordinates) shall be within 0.10 feet. The final coordinate values for side tied points shall be the mean of the two raw coordinate values or proportionally weighted based on the strength of the observations. Auxiliary control points shall be, at minimum, a PK nail (mag nail preferred) in paved areas or a 6-inch spike in unpaved areas.

All traverses performed for this project shall meet or exceed the standards for Third Order Class I, Traverse Surveys as specified in the Alaska Society of Professional Land Surveyor's Standards of Practice. All traverses shall be closed, beginning and ending at known points with an allowable linear error of closure of 1:10,000 or better. In no case shall ground traverses run greater than 2 miles between GPS controlled points. Static GPS work shall meet current California Geodetic Control Committee (CGCC) Standards for Band IV Surveys. All geodetic positions shall be NAD83 based. Traverse and GPS network adjustments shall be by Simultaneous Least Squares Adjustment methods.

All cadastral, property, or right of way corners controlled with GPS shall be done using Static GPS survey methods. These corners are to be considered secondary control and need only to be occupied once, providing there is a minimum of two vectors computed for the corner position that differ by no more than 0.10 feet horizontally.

The use of Post-Processed Kinematic (PPK) or Real-Time-Kinematic (RTK) GPS procedures are not allowed for establishing control, or for controlling cadastral, property, or right of way corners.

**B6.3.2.1.4 Vertical Control Standards.** All vertical control survey measurements shall be recorded in field books, unless an electronic digital level is used and the data is recorded electronically, in which case the Contractor shall provide annotated copies of the raw and reduced data. All vertical survey circuits shall meet or exceed the standards for third order leveling as specified in the latest printing of the Federal Geodetic Control Committee's Standards and Specifications for Geodetic Control Networks. All vertical control points shall be part of a closed level loop; side-shots are not acceptable. Each loop shall be adjusted and this adjusted elevation used for any further loops. Loop closures and loop-adjusted elevations shall be shown in the field books. The books shall also be used to record descriptions and sketches of vertical control points found or set, condition of found points, and for electronically recorded data the loop information (start point, point(s) controlled, end point, etc.) necessary to interpret the data. Primary vertical control points (BMs and TBMs) shall be controlled by differential leveling. Elevations may be established for auxiliary control points by closed trigonometric loops, in which case sight distances shall not exceed 750 feet with foresights and backsights of approximately equal lengths, and the line of sight shall clear obstacles by a minimum of 1.5 feet to avoid the effects of adverse refraction. Measure and record elevation differences to the nearest 0.01 foot.

**B6.3.2.1.5 Primary Horizontal Control.**

The Contractor shall set a minimum of three 9/16” stainless steel deep rod monuments, or, in areas of permafrost, three dig-in stainless steel monuments, near the airport and outside the construction limits. The type of monument is subject to the approval of the Contracting Agency’s Survey Manager. The Contractor shall use these points for project horizontal and vertical control. The Contractor shall set a minimum 4-inch diameter well case of length 2.5 feet around each monument to include a protective cap and marker post. The Contractor shall drive these points to a maximum of 40 feet or refusal, whichever is less. The Contracting Agency will provide the caps for these points. As an acceptable alternative, the Contractor may cement a cap into a solid rock outcropping or bedrock. A tie shall be made to any previous surveys .

The Contractor shall prepare a narrative horizontal control summary detailing the datum, primary control points used, Basis of Bearings, type of adjustment performed and statistics, problems encountered during the survey, equipment used, etc., which shall include annotated copies of control computations and control adjustments, and a horizontal control statement. For GPS control surveys, the Contractor shall also provide a RINEX2 format data file of at least 8 hours of GPS data for at least two control points for at least two different days in the Contractor’s control network. **The Contracting Agency recommends logging as much data on as many different days as possible to account for any solar disturbances or other unanticipated problems that might occur**. These GPS files for the deep rod control points shall be sent to the NGS site and post-processed using the OPUS utility (see the exception below). OPUS will only accept dual frequency data up to 24 hours in length. The length of the observations is directly related to the distance from the CORS stations and shall be discussed with the AKDOT&PF Survey Manager. The OPUS reports shall become part of the horizontal and vertical control summary. A mean horizontal and vertical value for the point with the smallest differences shall be computed and held as control for the network. The other OPUS point shall be used as a check. The most current Geoid model that is available for Alaska shall be used to compute a pseudo NAVD 88 elevation for the held point. Differential levels shall be run from the held control point to the other two so that a good vertical network exists between the three points.

**B6.3.2.1.6 Primary Vertical Control.**

For Airports see B6.3.2.1.5

The Contractor shall describe the primary vertical control points, found or set, in great detail, identifying the particular physical feature used for the elevation point, and shall provide sketches to aid in this effort. Instructions sufficient to enable someone unfamiliar with the project to find these points shall be recorded; these instructions shall include distances and directions from recognizable terrain features such as major intersections, bridges, buildings, etc. All primary vertical control points, found or set, shall be tied to the project horizontal control and shown on the SCD.

The Contractor shall prepare and provide a narrative vertical control summary detailing the datum, primary control points used, vertical network adjustment data, problems encountered during the survey, equipment used, etc., which shall include a benchmark data sheet containing the name, description, final adjusted elevation, and instructions for finding each primary vertical control point, and a vertical control statement.

**B6.3.2.1.7 Monument Ties.** The Contractor shall locate and verify all monuments within the existing Right-of-Way limits and the proposed construction limits. If the Contracting Agency previously performed a field survey tying monumentation, the existence of these monuments shall be field verified. This will insure that the Contracting Agency can comply with the provisions of AS 19.10.260 and AS 34.65.040, and enable an estimate of quantities to be made.

**B6.3.2.1.8 Survey Control Sheet.** The Contractor shall prepare a Survey Control Sheet(s) (SCS) for the project showing the relationship between the final project centerline and survey monuments found in the field. This differs from a Survey Control Diagram (SCD-see section B6.3.2.1) in that the SCD does not show the final project centerline. The SCS shall be part of the construction plan set and its principal users will likely be Land Surveyors staking the project centerline prior to and after construction or replacing corners that have been disturbed, Contracting Agency surveyors checking that work, and the Project Engineer to ensure that existing monumentation does not get disturbed. Other near-term users may include Land Surveyors who are performing boundary work in the vicinity of the project. **The Contractor shall not prepare the SCS** **before the final design centerline is known**, typically after the Pre PS&E Review. SCS guidelines are available from the Contracting Agency’s Survey Section.

**B6.3.2.2** **Photogrammetry.** **NIC**

**B6.3.2.3 Topographic Survey.**  Topographic features shall be surveyed using appropriate data collection methods. The Contractor shall provide complete topographic mapping in a single AutoCAD drawing file along with a single TIN upon completion. All points located in these surveys shall be included in the project coordinate file. The use of Post-Processed Kinematic (PPK) or Real-Time-Kinematic (RTK) GPS procedures are only allowed for **topography** if the Contractor submits an observation plan for quality control to the Contracting Agency’s Locations/Survey Manager, or his designee, and such plan is approved by the Contracting Agency for use on this project. The Contractor shall:

**B6.3.2.3.1** **Define the existing ground surface** by creating a Triangular Irregular Network (TIN). The TIN shall be capable of accurately generating 1 foot contours in all areas. Hard shots (pavement, concrete, etc.) shall have vertical accuracy of less than 0.1 foot. The TIN shall incorporate fault lines (grade breaks, existing centerlines, edges of pavement, curbs [flowline and top back], sidewalks, shoulders and/or tops of bank, toes of slope/fill, ditches and/or drainages, etc.) and additional shots as necessary to insure that the TIN accurately represents the **existing ground surface**. The TIN shall not represent water surfaces. Sufficient data shall be gathered along driveways and side streets to allow grade matching. Provide TIN verification in the form of the Contracting Agency’s TIN Certificate. (B6.2.7)

**B6.3.2.3.2** Locate and map all existing improvements and utilities (above and below ground) and attachments (guy wires, pedestals, stand pipes, load centers, etc.) within the project survey limits. This includes, but is not limited to, power, telephone, fuel lines, water and sewer lines, cable television, edge of pavement, fences, signage, etc., within the survey limits. Wire heights shall be determined where proposed or existing roads, taxiways, or other improvements are located. Include heights of towers, antennas and any other structure that could be considered a hazard to aircraft. Determine location, finish floor elevations, peak roof elevations and a description of all buildings in and within 100 feet of the surveyed area. Locate the first tier of structures lying outside of the proposed airport boundary and within 200 feet of that boundary. Note any historical sites located in this area. The Contractor shall avoid disturbing any historic remnants as they are being located within the survey limits. Locate the tree line and identify the approximate average height of the trees at the edge. Locate the limits of any apparent contaminated soils and waters within the project area. Tie to any Corp of Engineers flood plain datum’s.

**B6.3.2.3.3** Locate and map all **drainage structures** within the survey limits. Record diameter, length, invert elevations, structure type and condition, high water marks, and apparent flow direction.

**B6.3.2.3.4** Locate and map any **other physical feature, natural or man-made**, that could affect the design of the project as directed by the Contracting Agency.

**B6.3.2.3.5** If requested by the Contracting Agency after review of the provided data, **extend the TIN & topographic mapping as specified** by the Contracting Agency for those areas where construction will be beyond the TIN generated earlier.

**B6.3.2.3.6** Locate and tie, both horizontally and vertically, **all proposed and existing geotechnical sample locations.** The Contractor shall stake the baseline or sample locations as directed by the Contracting Agency.

**B6.3.2.4 Bridge Site/Drainage Survey.** The Contractor shall perform drainage surveys in the vicinity of proposed channel crossings or major drainages. All work shall be tied to project horizontal and vertical control. Surveys shall be performed as specified in the Preconstruction Manual unless otherwise directed by the Contracting Agency. The Contractor shall coordinate with the Contracting Agency for site-specific requirements. The data collected for these surveys shall be incorporated into the TIN and topographic files, and all shots taken shall be included in the project coordinate file.

For culverts 36 inches or more in diameter, the Contractor shall survey four (4) cross sections upstream and four (4) cross sections downstream from the inlet and outlet of said culvert. The cross section interval shall be equal to the average width of the existing streambed or 25 feet, whichever is more. Cross sections shall be perpendicular to the existing streambed. Shots shall be taken at: the thalweg, the toe of slope, the edge of existing water, ordinary high water, the top of bank, and one shot past the top of bank. The data collected for these surveys shall be incorporated into the TIN, topographic, and project coordinate files. The Contractor shall perform the drainage survey work as described in the following paragraphs.

**B6.3.2.4.1** For existing or proposed bridge sites, the line of **ordinary high water** shall be located. The Contractor shall search for evidence of extreme high water and locate it at the existing or proposed structure. Such evidence shall be located both horizontally and vertically. The Contractor shall complete the appropriate sections of the Contracting Agency's Bridge Site Survey Form.

**B6.3.2.4.2** Prepare a topographic map of each bridge site at ***1 foot*** contour intervals. Scale shall be at least at 1”=50’ unless otherwise directed by the Contracting Agency. The map shall show the ordinary high water elevation (or mean high water in tidally influenced areas) and indicate the edge of water at the time of the survey. All buildings, dikes, rock outcroppings and other physical features shall be noted on the map.

**B6.3.2.4.3** Additional data collection for the Hydraulic Report may be required after the design has reached the Local Review stage.

**B6.3.2.4.4** Prepare a **Bridge Site Report**, which is a summary in ASCII format noting pertinent information such as horizontal and vertical control basis, date of survey, bridge number, name of water body, ordinary high water coordinate point numbers, extreme high water high water coordinate point numbers, existing structure coordinate point numbers, and note whether body of water is navigable. See the Preconstruction Manual, and/or the Contracting Agency for possible additional information.

**B6.3.2.5 Special Features.** **NIC**

**B6.3.2.6 Deliverable Items.** The deliverables shall be organized on the CD in folders according to the following list. Only submit what is required for your specific project. Do not submit extra information not required by the Department. Folder 1 “Fieldbooks” (if you choose to submit a PDF), Folder 2 “Point File” (item C, descriptor key, can be combined in this folder), Folder 3 “Report Docs”, Folder 4 “LDD\_Project Name” (entire LDD project in the local system containing E, F, I, & L, check to see which are required), Folder 5 “GPS Data”, and Folder 6 “Photos”. All paper submittals shall be bound and tabbed in a three ring binder, with a label on the spine. The Contractor shall submit the following items related to their Survey to the AK DOT&PF Project Manager:

| Deliverable Description | Delivery Date |
| --- | --- |
|  |  |
| A. The original field books or PDF indexed, reduced, stamped and checked. (B6.2.4) |  |
|  |  |
| B. An ASCII coordinate file containing all recovered, computed, and topographic points in the local system (if provided). Electronic and hard copy printout shall be submitted. Elevations that are not valid TIN elevations shall be coded as such in the descriptor. (B6.2.8) |  |
|  |  |
| C. An ASCII file listing all descriptors used and an expanded description of their meanings. Descriptors not used on this project shall not be included in this list. This file shall be submitted with the draft coordinate file. (B6.2.8) |  |
|  |  |
| D. Horizontal and vertical control summaries in ASCII format. The Contractor shall also provide annotated copies of control computations and control adjustments. (B6.3.2.1.5 & B6.3.2.1.6) |  |
|  |  |
| E. Survey Control Diagram. Obtain the Survey Control Diagram Standards from the Contracting Agency’s Survey Section. (B6.3.2.1) |  |
|  |  |
| F. Survey Control Sheet(s) Obtain the Survey Control Sheet Standards from the Contracting Agency’s Survey Section. (B6.3.2.1.8) |  |
|  |  |
| G. For GPS control surveys, the Contractor shall also provide RINEX2 GPS data files of 8 hours length for at least 2 control points, along with the OPUS reports. (B6.3.2.1.5) |  |
|  |  |
| H. Electronic Pictures - A folder with all of the Control and ROW points (B6.2.4.2). |  |
|  |  |
| I. All TIN files with a sealed and signed certificate of accuracy. All Quality Control Check points showing the differences from the true values (B6.2.7). Obtain a sample TIN certificate from the Contracting Agency’s Survey Section. (B6.3.2.3.1) |  |
|  |  |
| J. A complete and edited Civil 3D drawing file of the entire survey limits, containing topographic mapping (in the local system if provided). (B6.3.2.3) |  |
|  |  |

**B6.3.3 SURVEYING FOR RIGHT-OF-WAY (TASK 4a)**

**B6.3.3.1 Right-of-Way Boundary Survey.**  The Contractor shall perform the following services to Third Order, Class I standards, as specified by the ASPLS Standards of Practice, with an allowable error of closure of 1:10,000 or better. The use of Post-Processed Kinematic (PPK) or Real-Time-Kinematic (RTK) GPS procedures are not allowed for surveying Right-of-Way or any other monumentation.

**B6.3.3.1.1** Prior to commencement of the survey, the Contractor shall review any title documents and mapping in the Contracting Agency’s possession which the Contractor considers relevant to the project. The Contractor shall be responsible for researching additional relevant documentation from other sources. These documents may include but are not limited to the following:

Bureau of Land Management (BLM) and Department of Natural Resources (DNR) land status plats, BLM township survey plats, Mineral and U.S. Survey plats and field notes, any records of survey, subdivisions, and relevant engineering control surveys, United States Coast and Geodetic Survey (USC&GS)/ National Geodetic Survey (NGS) control diagrams-descriptions, DOT&PF right-of-way records and other easement or boundary documents of record, DOT&PF engineering as-builts, DNR surveys, and aerial photos.

One legible photocopy of all of the above referenced reports, plats, notes, etc., shall be submitted to the Contracting Agency weekly as they are gathered.

**B6.3.3.1.2** Tie all Public Land Survey System (PLSS) monuments along both sides of the roadwayright-of-way corridor. Tie all existing centerline monumentation for the roadway. Be sure to tie one centerline monument at each end that extends beyond the limits of the project. Additional PLSS monuments shall be recovered to allow section breakdown for property boundary determination as directed by the Contracting Agency. Tie adequate centerline monumentation on side streets to determine side street alignment for the affected portions of side streets. A minimum of one side street centerline monument shall be tied. Include these corners on the SCD.

**B6.3.3.1.3** Tie all subdivision and property corners located along the roadway right-of-way or airport boundary and those corners necessary to control impacted areas. This includes corners both inside and within 50 feet of the right-of-way. The Contractor shall locate sufficient property corners to determine the boundaries of the parent parcels of lands required by the project. Include these corners on the SCD.

**B6.3.3.2 Survey Point Plot.** The Contractor shall provide a Survey Point Plot in AutoCAD format showing all recovered monuments (including those recovered in the Control Surveys) with point numbers for the purpose of point number referencing. The scale shall be adequate to clearly show the relationship of the corners and shall be tailored to the density of the points. Include a Printout of Adjusted Coordinates with descriptions of the corners and the ASCII coordinate file with descriptors with the AutoCAD plot file. An ASCII file and hard copy printout listing all descriptors used and an expanded description of their meanings shall accompany all coordinate file submittals. The survey point plot shall be sealed, signed, and certified by the PLS responsible for the services, currently registered in the state of Alaska. The certification shall state the survey standard that was followed in performing the services.

**B6.3.3.3 Additional Topography for Right-of-Way Acquisition.** The Contractor shall collect all topographic information that may affect the cost and/or schedule of defined right-of-way acquisitions for the project, such as culverts, land service or access roads, improvements, fences and any structures. Septic system, well and building locations are examples of pertinent data, usually outside of the acquisition area, that may affect the value of the right-of-way to be acquired. Structures located on impacted parcels and within the specified distance (200 feet) of the right-of-way centerline shall have dimensions and ties to the centerline shown. The data collected for this survey shall be incorporated into the topographic AutoCAD drawing files, project coordinate file, and where applicable, the TIN (B6.2.6, B6.2.8, B6.3.2.3.1).

**B6.3.3.4 Monument Centerline.** When directed by the Contracting Agency, and upon completion of the design phase of the project, but prior to advertising for construction, the Contractor shall establish and monument the project PC's, PT's, and no-curve PI's. All centerline monuments established shall consist of a minimum 5/8 inch X 30 inch rebar (5/8 inch X 10 inch in pavement) with a 2 inch cap, and stake nearby. Once set, all centerline monuments shall be re-tied to verify their position, and a comparison to the design coordinates shall be presented to the Contracting Agency in spreadsheet format. All monuments identified for referencing on the Right-of-Way Monument Summary table or the Survey Control Sheet, shall be referenced by Static GPS. Static GPS Control points for this task shall be set at approximately two mile intervals, or closer for a small projects, outside of the construction limits, so as to last for the duration of the project. A plan identifying the type of monument to be set for control, and its proposed location, shall be submitted to the Contracting Agency prior to the work being performed. It will be the Contractor’s responsibility to get permission to access any private property. After establishment, the monuments shall be independently re-tied to this same project control as a check, and the coordinates computed for these ties shall be compared with the referenced coordinates for gross errors. This information shall be presented in a final centerline control report.

**B6.3.3.5 Deliverable Items.** The Contractor shall submit the following items related to the Right-of-Way Survey:

| Deliverable Description | Delivery Date | |
| --- | --- | --- |
|  |  |
| The original field books indexed, reduced, stamped and checked, or a readable PDF copy. (B6.2.4) |  | |
|  |  | |
| Research Documents weekly as they are gathered. (B6.3.3.1.1) |  | |
|  |  | |
| An ASCII coordinate file containing all recovered, computed, and topographic points in the local system (if provided). Electronic and hard copy printout shall be submitted. Elevations that are not valid TIN elevations shall be shown as -9999. Draft coordinate files shall be submitted upon completion of note reduction. (B6.2.8) |  | |
|  |  | |
| An ASCII file listing all descriptors used and an expanded description of their meanings. Descriptors not used on this project shall not be included in this list. This file shall be submitted with the draft coordinate file. (B6.2.8) |  | |
|  |  | |
| Survey Control Diagram(s) [only if no surveying for design]. (B6.3.2.1 & B6.3.3.1.2) |  | |
|  |  | |
| Survey Point Plot (B6.3.3.2) |  | |
|  |  | |
| For GPS control surveys, the Contractor shall also provide RINEX2 GPS data files of 8 hours length for at least 2 control points. (B6.3.2.1.5) |  | |
|  |  | |
| 1. Final Centerline Control Report (B6.3.3.4) |  | |

**B6.3.4 RIGHT-OF-WAY MAPPING (TASK 4b)**

**B6.3.4.1 General**. The Contractor shall perform the services necessary to prepare Record of Survey Maps; establish the Existing Right of Way Centerline; and, prepare Base Maps, Right of Way Maps, and Parcel Plats, in accordance with the DOT&PF Right of Way Manual and specific instructions from the Project Manager. Services by the Contractor to modify the PS&E assemblies, as required to accommodate the right of way negotiations, shall be performed as part of the PS & E task.

**B6.3.4.2 Base Maps** will be ink on vellum or mylar and shall show the entire project limits and shall include a Contracting Agency standard Right of Way title sheet, symbol sheet, tract maps, and plan sheets, using Contracting Agency-supplied AutoCAD format at the scale and layout specified by the Project Manager. The plan sheets shall show the following information:

1. Existing property boundaries, including Public Land Survey System survey lines.
2. All subdivisions, including name, plat number, and lot and block designations or aliquot parts description.
3. Existing roadway centerline.
4. Existing rights-of-way
5. Improvements.
6. Other features per the Right of Way Manual and/or the Contracting Agency.

**B6.3.4.2.1** When preparing Base Maps, the Contractor shall (a) thoroughly reread and document existing rights-of-way (b) resolve problems with existing rights-of-way and boundary locations and (c) analyze preliminary engineering information to determine where additional survey ties are required. The Contractor shall provide a written summary of (any significant) Boundary Problems encountered in making specific boundary determinations, including rationale for the solution.

**B6.3.4.2.2 Index Sheets.**  The Contractor shall provide paper Base Map Index Sheets that depict the existing centerline and right of way lines, adjacent property lines including rectangular survey lines, and point numbers of all found and calculated points associated with said lines. The drawings shall be the same scale as the Base Maps.

**B6.3.4.2.3** The Contractor shall not begin preparing Base Maps without prior specific written authorization from the Contracting Agency.

**B6.3.4.3 Right of Way Maps** shall be ink (or other Contracting Agency approved permanent markings) on mylar and shall include a title sheet, standard right of way symbols sheet, tract maps, plan sheets, and monument summary sheets for the entire project. The plan sheets shall show all the information required for the Base Maps plus the following information:

1. Proposed Right of Way.
2. Proposed centerline.
3. Easements.
4. Parcels.
5. Parcel Information Table.
6. Proposed slope limits.
7. Revision block.
8. Other features per the Right of Way Manual and/or the Contracting Agency.
9. For Airport Property Plans (in addition to the above):

1. Plan view showing Tracts and Parcels.

1. Runway Centerline end coordinates in the NAD83 CORS datum.

**B6.3.4.3.1** When preparing Right of Way Maps, the Contractor shall:

1. Resolve survey conflicts with existing right-of-way and boundary locations.
2. Analyze preliminary engineering information to determine where additional survey ties are required.
3. Examine Title Reports and adjust preliminary boundaries as required.
4. Compute the Take and Remain areas of each parcel based on right of way requirements supplied by the Contracting Agency. Provide in a notebook format, inverse information for properties affected by acquisition. Include inverses for the larger parcel, take including easement, net take, and remain areas. Provide a plot of the vicinity showing property lines and associated point numbers.

**B6.3.4.4 Parcel Plats.** The Contractor shall prepare plats for all parcels to be acquired for this project. Note: full takes do not need a parcel plat prepared. Parcel plats shall contain the information required by the Contracting Agency’s Right of Way Manual. The Contractor shall make revisions to the parcel plats as requested by the Contracting Agency. Parcel Plats shall use the Contracting Agency's standard 8-1/2 by 11 inch format on mylar or paper as specified by the Project Manager. Plats shall be at a scale suitable for legibility and clarity of detail using Contracting Agency-supplied AutoCAD format and shall contain information as required by the Contracting Agency’s Right of Way Manual and the parcel plat checklist. A Title block and border drawing file will be supplied by the Contracting Agency.

**B6.3.4.5 Copies.** The Contractor shall provide a hard copy of all draft and final maps and parcel plats and a copy on CDs or with project coordinate file with descriptors and a drawing file in AutoCAD (version as specified by the Contracting Agency).

**B6.3.4.6 Right-of-Way Negotiations.** The Contractor shall provide technical support for right-of-way negotiations. This shall include interpreting documents prepared for the project and explaining project impacts to the Contracting Agency's personnel, property owners, and others. The Contractor shall also attend meetings as required to make presentations and answer questions.

**B6.3.4.7 Presentation.** The Contractor shall make an oral presentation with visual displays of right-of-way requirements to the Contracting Agency near the beginning of the Contracting Agency's right-of-way acquisition activities. The presentation shall include: project overview, proposed project features and impact on adjoining properties. Features shall include side streets, pathways, slope limits, impacts to driveways, and illumination. Property information shall include lot boundaries, buildings, driveways, and any other features that will help the Contracting Agency in negotiations with affected property owners, and others to assess project impacts. Visual displays shall be at a scale to clearly show all features without clutter. Use different colors to differentiate between project features and adjoining property features.

**B6.3.4.8 Reviews and Schedule.** The Contractor shall submit drafts of the Base Maps, Right-of-Way Maps and Parcel Plats for the Contracting Agency's review in accordance with the following: Base Maps shall be submitted with the Plans-In-Hand Review Assembly. Right-of-Way Maps including proposed takes for the project and all required utility relocations shall be submitted within four months of the Plans-In-Hand Review submittal. The Contractor shall submit Right-of-Way Maps with parcels identified for the project with the Pre PS&E Assembly. The Contractor shall submit the Summary of Boundary Problems with the draft Base Maps. The Contracting Agency will have at least four weeks to return written comments. The Contractor shall address comments to the satisfaction of the Contracting Agency prior to submitting final documents. The Contractor shall submit Final Right-of-Way Maps and Parcel Plats according to the schedule called for by the contract.

**B6.3.4.9 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Base Map | B6.3.4.2 |  |  |  |
| *Draft* | B6.3.4.5 | 2 | 0 | 1 CD |
| *Final* | B6.3.4.5 | 4 | 1 | 1 CD |
| Summary of Boundary Problems | B6.3.4.2.1 |  |  |  |
| Index Sheets | B6.3.2.2 | 1 | 1 |  |
| Right of Way Maps | B6.3.4.3 |  |  |  |
| *Draft* | B6.3.4.5 | 2 | 0 | 1 CD |
| *Final* | B6.3.4.5 | 4 | 1 | 1 CD |
| Parcel Plats | B6.3.4.4 |  |  |  |
| *Draft* | B6.3.4.5 | 2 | 0 | 1 CD |
| *Final* | B6.3.4.5 | 4 | 1 | 1 CD |

**B6.3.4.10 Provided Items.** The Contracting Agency will provide the following (item a can be found on the Contracting Agency’s web site. Items b-d can be obtained on its FTP site. Call 269-0680 for site addresses):

1. One copy of the Title and Plans Section from the DOT&PF Right of Way Manual.
2. Samples of final drawings, parcel plats, and title reports.
3. AutoCAD menu file, layering scheme, and symbols library.
4. The Contracting Agency's Standard Right of Way symbols sheet.
5. Original Title reports for each property to be acquired

## ARTICLE B7

## AIRPORT LAYOUT PLAN

**Task 5**

**B7.1 General.** The Airport Layout Plan (ALP) consists of drawings and a narrative which present the existing, proposed and ultimate airport development. Using the information derived in earlier phases of the project and the provided ALP or draft ALP, the Contractor shall provide revised ALPs as directed by the Contracting Agency and dictated by project requirements. The objective of the work described in this Article is to obtain Federal Aviation Administration (FAA) approval of the revised ALP.

##### B7.2 Airport Layout Plan Drawings and Narrative. The Contractor shall provide a series of revisions of the ALP drawings to reflect the proposed physical features, wind data, and location of airfield facilities (runway, taxiway, aprons, structures, navaids, etc.) based upon the requirements of FAA Advisory Circular (AC) 150/5070-6B, Chapter 10 and Appendix F, and the current FAA Alaska Region Airport Layout Plan Checklist. The ALP shall be revised to present the project airport and the proposed ultimate airport based on short, intermediate, and long-term requirements for both the airside and landside requirements. The ALP drawings shall conform to the guidelines of *State of Alaska, Department of Transportation and Public Facilities, Central Region, Revised Drafting Manual*, Chapter 6, Aviation Design, except as noted herein. Current ALP borders are available from the Contracting Agency.

**B7.2.1** **Airport Property Map.** A copy of the Airport Property Plan of Article B6 may be modified as necessary to become the Airport Property Map of the ALP OR the Airport Property Map may be drawn independently of the Airport Property Plan and conformed to the Airport Property Plan as it develops. The Airport Property *Map* does not require the level of detail typically shown on the Airport Property *Plan*. If the Contractor elects to digitally create the Airport Property Map from the Airport Property Plan, the Contractor shall delete all extraneous details, not merely turn off or otherwise hide them, and shall purge the drawing. The Property Map shall conform to AC 150/5100-17, Change 6, Figure 1-2, “Exhibit ‘A’ Property Inventory Map.”

##### B7.2.2 Narrative Report. If the Contractor-revised ALP will differ significantly from the existing Airport Master Plan, the Contractor shall produce an ALP narrative describing important features of the revised ALP and the reasoning behind them. Items to be included in the narrative are described in FAA AC150/5070-6B, Chapter 2, 202c, and in the FAA Alaska Region Airport Layout Plan Checklist.

**B7.3 Submittals.** The Contractor shall submit a half-size, initial revised draft ALP to the Contracting Agency for review. If requested by the Contracting Agency, the Contractor shall again revise the documents prior to their submittal to FAA for preliminary review. After the FAA preliminary review is completed, the Contractor shall further revise the documents to incorporate FAA’s comments and any further Contracting Agency comments. Depending upon FAA final review comments, one last revision may be required. Four drafts (initial draft, revised draft, final draft and FAA final) may be required under the Contract. Each submittal shall be accompanied by a completed FAA ALP Checklist.

**B7.4 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Initial Draft ALP | B7.4 | 1 | 0 | 0 |
| Revised Draft ALP | B7.4 | 3 | 0 | 1 |
| Final Draft ALP | B7.4 | 3 | 0 | 1 |
| Final ALP | B7.4 | 3 | 1 | 1 |

**B7.5 Provided Items**. The Contracting Agency will provide the following:

1. Existing ALP or draft ALP and sample ALP borders and/or drawings on paper and digitally (samples only) as necessary.
2. Contracting Agency ALP Guidelines

**ARTICLE B8**

GEOTECHNICAL INVESTIGATIONS

**(6, NIC)**

**B8.1 Geotechnical Investigation.** The Contracting Agency’s Materials Section will provide all geotechnical information needed for the project including the gathering of data as required. The Contractor shall meet with the Contracting Agency to determine what data is available.

**B8.2 Provided Items**. The Contracting Agency will provide the following:

a. Geotechnical Report with Boring Logs

1. Pavement and other structural recommendations
2. Material Site recommendations

**ARTICLE B9**

**CONFLICTS WITH EXISTING UTILITIES/STORM DRAINS**

Task 7

**B9.1 General.** There may be utilities in the project area, particularly in the proposed airport access road right-of-way near town, including, but not necessarily limited to, underground and overhead telephone, electric, communication lines, and underground water, sanitary sewer, and storm drains. The Contractor shall prepare a Utility/Storm Drain Conflict Report and a set of cross sections of areas where planned excavation, embankment or other work may affect existing utilities and storm drains. Each cross section shall include the existing ground and the finish grade template as well as identification of the structure and station for which it is applicable. The Contracting Agency will be responsible for requesting locates from affected utility companies. The purpose of the Utility/Storm Drain Conflict Report is to record:

1. Existing utilities and storm drains within the project limits.
2. Existing utility conflicts with the proposed work.
3. The impact of conflicts with utilities and storm drains including:
4. Cost to relocate.
5. Additional right-of-way needs and cost.
6. Construction impacts.
7. Recommendations, based on project development timing, cost of additional right-of-way, and cost of modifications for resolution of the utility and storm drain conflicts. The recommendations shall be the basis of the utility and storm drain relocation cost estimate prepared for the development of total project costs.

**B9.2 Utility/Storm Drain Conflict Report (UCR).** The UCR shall compare the proposed design of project improvements and appurtenances against existing and proposed utilities/storm drains, and to identify any conflicts. The UCR shall propose solution(s) to all conflicts and recommend a preferred solution if more than one is proposed. The following information shall be included:

a. Existing and proposed grade lines.

b. Proposed improvements and appurtenances, including the pavement, typical section layers, and foundations.

c. Existing and proposed utilities, and storm drains.

d. Proposed right-of-way line.

e. Structures that may be affected by construction of the project.

**B9.2.1** **Cross-Sections.** If requested by the Contracting Agency, the Contractor shall include with the UCR a set of cross sections derived from the Plans-In-Hand (PIH) review plan set in progress which show existing ground, proposed finished template, side slopes, and any attached or detached natural or man made features. Proposed storm drains shall be depicted on the cross sections. To these cross sections the Contractor shall add the existing overhead and underground utilities based on field topographic surveys, as-built drawings, or system maps. If elevations of shallow utilities are not available, the elevations shall be estimated from utility permit depth requirements, based upon utility company standard installation practices (“Estimated”) or based upon local knowledge report (“Reported”). Each cross section shall include the original ground and the finish grade template with the project component and station for which it is applicable. The cross-sections shall be depicted at equal horizontal and vertical scales and in one or two columns per sheet. The cross sections shall be submitted on bond or vellum sheets, size 22 by 34 inches.

**B9.3 Utility/Storm Drain Design.** During preparation of the UCR, it is anticipated that the Contractor may participate in meetings with appropriate utility personnel to discuss potential utility conflicts and relocation options. The Contractor shall be aware that any participation by the utility (except for supplying system as-builts) is purely voluntary until the utility is authorized to begin preliminary engineering design by the Contracting Agency. It is the intent of this Contract that the UCR represent an analysis by the Contractor. The Contracting Agency will be responsible for negotiation and finalization of all utility protection/relocation agreements. The Contracting Agency will make the UCR, cross sections, other reports, and the PIH assemblies produced for this project available to those designing the necessary utility relocations. The Contractor shall provide assistance interpreting these documents and shall share other pertinent information about this project to those designing the utility relocations. The Contractor shall modify design assemblies as required to eliminate conflicts with utilities and storm drains as requested by the Contracting Agency. The Contractor shall be responsible for the design of all required storm drains and culverts.

**B9.4 Reviews and Schedule**. The Draft UCR and appropriate cross sections shall be submitted with the PIH Review Assembly for use by the Contracting Agency in developing utility relocation plans and agreements with the utility companies involved. The Final UCR shall be prepared after the PIH review comments are addressed and any plan alignment or grade changes are made. The final report shall be submitted prior to the plan and specification assembly for the Pre-PS&E (B10.6) review.

**B9.5 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Draft UCR & Cross-Sections | B9.1 | 1 | 0 | 0 |
| Final UCR & Cross-Sections | B9.1 | 0 | 1 | 1 |

**B9.6 Provided Items**. The Contracting Agency will provide the following:

1. Utility Locates
2. Negotiated Utility Agreements

## ARTICLE B10

## DESIGN ENGINEERING

Task 8

**B10.1 General.**  The objective of this phase of the project is to assemble bid-ready documents for construction of the proposed airport and related improvements. The Contractor shall provide a Plans, Specifications, and Estimate (PS&E) assembly suitable for project bidding and construction. The PS&E assembly shall present the design that best accommodates available information. The design and specifications shall be in accordance with the list of Current FAA Advisory Circulars for AIP/PFC Projects attached as Exhibit B-3. This phase will be complete when the Contracting Agency accepts the Final PS&E assembly and receives Authority-to-Advertise from the FAA. The project design and associated plan sheets shall be organized into separate construction bid packages as directed by the Contracting Agency.

**B10.1.1 Cost Effective Design.** The Contractor shall evaluate alternatives for each major design element to determine the most cost effective design. Recommended alternatives shall be justified in a written report. The Contractor shall evaluate each alternative considering minimum versus desirable design criteria, ease of construction, and the impact of each alternative on the following:

a. Right-of-Way requirements.

1. Utilities.
2. Environmental concerns including, but not limited to, hazardous substances and wetlands.
3. Drainage
4. The traveling public, both during and after construction.
5. Ease of aircraft operations.
6. Design Schedule.
7. Design and construction budgets.
8. Potential maintenance savings.
9. Other issues as appropriate.

**B10.2 Plan Set Composition.** The Contractor shall include in thefinal plans the sheets, assembled in the order listed in *State of Alaska, Department of Transportation and Public Facilities, Central Region, Revised Drafting Manual*, Chapter 6, Aviation Design, Plan Set Preparation, Provision 6. Not all sheets may be required; conversely, additional sheets may be required. Standard drawings contained in the latest *State of Alaska, Department of Transportation and Public Facilities, Standard Drawings Manual* shall be appended where applicable. Note that if a Contracting Agency Standard Drawing is modified, the existing seal shall be removed or obliterated and the Contractor’s Engineer’s seal applied in the appropriate plan sheet location.

**B10.3 Specifications.** The Contractor shall prepare all specifications in accordance with the current revision of the *State of Alaska, Department of Transportation and Public Facilities, Standard Specifications for Airport Construction* and the most current Federal Aviation Administration Advisory Circulars. If the Project requires materials not listed in these documents, the Contractor shall prepare the required special provisions for review and concurrence by the Contracting Agency. The Contractor shall prepare any project-specific special provisions, such as Best Management Practices (BMPs) and other provisions required by the FONSI acquired for this project. Performance specifications rather than method specifications shall be used whenever possible. No brand name material shall be specified unless three are named, and if "or equivalent" is used, the criteria for judging the equivalence shall be specified. **The Contractor shall not specify sole source material unless a sole source procurement authorization is obtained.** The specifications package shall be a combination of all the items listed above and shall be prepared in the Contracting Agency standard specification format.

**B10.3.1 Modifications to Standards.** The Contracting Agency will provide a Modifications to Standards Table in MS Word format to the Contractor for documenting changes to FAA-approved State specifications that are modifications of the provisions of AC 150/5370-10B or of any mandatory design AC provisions. The Contractor shall submit the table with the specifications at the Pre-PS&E review and with the Final PS&E documents.

**B10.4 Local Review Documents (Task 8a).**  The Contractor shall provide a preliminary review package with design approximately 35% complete summarizing general project scope and layout, including proposed survey limits. The package shall include plan and profile sheets, typical sections, a Draft Engineer’s Design Report (draft EDR), and a short report addressing scope and adequacy of the existing FONSI in regard to the project (See 5.1.1 above). See “Outline for Design Report,” available from the Contracting Agency, which describes the topics to be addressed in the draft EDR.

##### B10.4.1 Review Meeting. The Contracting Agency will host a review meeting to discuss the Draft Engineer’s Design Report, preliminary plans and preliminary estimate. The Contractor shall revise the report and plans to incorporate Contracting Agency comments and shall submit a Final Engineer’s Design Report at the PIH review. The Contractor shall produce a memo to the Contracting Agency listing the comments and action taken within four weeks after the Local Review meeting.

**B10.4.2 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Draft Engineer’s Design Report | B10.4 | 1 | 0 | 0 |
| Preliminary Plans | B10.4 | 1 | 0 | 0 |
| Preliminary Estimate | B10.4 | 1 | 0 | 1 |
| FONSI Evaluation Report | B5.1.1 | 0 | 1 | 1 |

##### B10.5 Plans-In-Hand (PIH) Review Documents (Task 8b). After receiving Local Review comments from the Contracting Agency, the Contractor shall prepare preliminary plans, specifications, special provisions and road, taxiway and runway cross-sections at 100-foot intervals (incorporating the cross-sections of Article 9) for review by the Contracting Agency. The cross-sections shall be prepared as described in Article 9 and shall not be part of the plan set but will be made available to the Construction Contract bidders. The Contractor shall develop a draft Erosion and Sediment Control Plan (ESCP) for submission at this time. The Contractor shall develop and submit drafts of any necessary documentation concerning modifications to permits or other requirements of the existing FONSI. The Final Engineer’s Design Report is due with the PIH review documents.

**B10.5.1** **Partial Completion.** The plans and specifications distributed for the PIH Review shall be 65% to 70% complete so that the reviewers have enough information to make reasonable comments. The specifications shall include project-specific information such as the Special Provisions and Bid Schedule.

**B10.5.2** **Review Meeting.** After PIH review written comments have been received by the Contracting Agency’s Project Manager, the Contracting Agency will host a review meeting with the Contractor to discuss the PIH review comments. Personnel responsible for peer review shall attend this meeting. The Contractor shall revise the plans and specifications to incorporate or otherwise resolve Contracting Agency comments for the Pre-Plans, Specifications, and Estimate review. The Contractor shall produce a PIH review response memo to the Contracting Agency listing the comments and their resolutions within four weeks after the PIH Review meeting.

**B10.5.3 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| PIH Review Documents | B10.5 | 1 | 0 | 0 |
| Draft ESCP | B10.5 | 1 | 0 | 0 |
| Draft UCR | B9.4 | 1 | 0 | 0 |
| Final Engineer’s Design Report | B10.4.1 | 0 | 1 | 1 |

##### B10.6 Pre-Plans, Specifications and Estimate (Pre-PS&E) Review Documents (Task 8c). Based upon the comments from the PIH Review, the Contractor shall revise the design package for Pre-PS&E Review transmittal. The plans and specifications distributed for the Pre-PS&E review should be essentially (95%-98%) complete. The package shall include the following:

1. A recommended number of calendar days for the construction contract or a recommended construction contract completion date.
2. A brief report documenting significant changes made to the documents after the PIH review meeting that were not discussed at that meeting.
3. A brief paragraph describing of the work required to construct this project.
4. A Completion Report on forms provided by the Contracting Agency.
5. One unbound and two stapled ½-size sets of plans.
6. Specifications and Special Provisions, including the Special Notice to Bidders.
7. One unbound and two stapled ½-size sets of cross-sections.
8. Bid Schedule
9. Engineer's estimate.
10. Erosion and Sediment Control Plan (ESCP).
11. The PIH review response memo from the Contractor to the Contracting Agency that lists all the comments made at the PIH review and a response to each (Due within four weeks after PIH review meeting per B10.5.2).
12. Modifications to Standards Table.
13. Final permits and documentation for any amendment of existing FONSI.

**B10.6.1** **Adjudication Meeting.** After the review by the Contracting Agency and after written comments have been received, the Contracting Agency’s Project Manager will conduct an adjudication meeting to address comments received during the Pre-PS&E Review. The Contractor shall attend the Pre-PS&E Adjudication Meeting and shall provide written responses to all comments received. Personnel responsible for peer review shall also attend this meeting.

**B10.6.2 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Pre-PS&E Review Documents | B10.6 | 2 (1/2-size plans) | 0 | 1 |

**B10.7 Final Plans, Specifications and Estimate (PS&E) Documents (Task 8d).** The Contractor shall finalize the design PS&E package based upon comments from the Pre-PS&E review to transmit for advertising for construction bids. Documents that include inadequate responses to previous comments and documents with errors or omissions will not be accepted until such problems are corrected. The documents shall be ready foradvertising for construction bidsand shallconsist of the following:

1. A brief paragraph describing the work required for construction of the project.
2. A brief report of significant changes made to the documents after the Pre-PS&E Review meeting but which were not discussed at that meeting.
3. An original, signed, half-size plan set plus the number of half size copies stated in the list of Deliverable Items.
4. Specifications, including Special Provisions and Special Notice to Bidders.
5. Full-size sheet cross-sections on bond or vellum.
6. Engineer's Estimate.
7. Completed checklist for each plan sheet on the Aviation design Checklist.
8. A letter from the Contractor to the Contracting Agency that lists all the comments made on the Pre-PS&E Review assembly and a response to each.
9. The Modifications to Standards Table.
10. Completion Documents of Article B11.

**B10.7.1** **Peer Review.** The Contractor shall, subject to approval by the Contracting Agency, arrange for a peer review of the plans, specifications and estimate prior to submittal to the Contracting Agency. All estimated quantities shall also be reviewed and checked. The documents shall include computed and checked stamps initialed by the designer and the reviewer respectively. It is highly recommended that the Contractor arrange for on-going peer-review rather than waiting until just prior to Pre-PS&E or PS&E submittal. Peer review personnel shall attend the Plans-in-Hand and Pre-PS&E review/adjudication meetings. Original documents and mark-ups generated during peer review shall be included in the Completion Documentation of Article B11.

**B10.7.2 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| PS&E Package Documents | B10.7 | 2 (1/2-size Plans) | 1 (Half-size, signed Plans) | 1 |

**B10.8 Safety Plan.** The Contractor shall coordinate with Contracting Agency operational personnel and local maintenance personnel to establish safety requirements for the construction contractor’s operations and to ensure that the safety requirements are in harmony with and minimize interference with aircraft operations and community activities in the area. Based upon information provided by the Contracting Agency, the Contractor shall prepare a Safety Plan in accordance with “Safety Plan Guidance” available from the Contracting Agency. The Safety Plan shall also address impacts of the construction contractor’s haulage on the public road system and the trail system in the vicinity of the project and any material sites. The Contracting Agency will review the Draft Safety Plan, provide written comments, and meet with the Contractor to discuss the comments. The Contractor shall revise the Draft Safety Plan to incorporate Contracting Agency comments, and submit a Final Safety Plan within two weeks after receiving said comments.

**B10.8.1 Deliverable Items.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Document | ¶ | Copies | Original | Digital |
|  |  |  |  |  |
| Draft Safety Plan | B10.8 | 2 | 0 | 0 |
| Final Safety Plan | B10.8 | 2 | 1 | 1 |

ARTICLE B11

COMPLETION DOCUMENTATION

Task 9

**B11.1** **Originals.** The originals of all documents prepared by the Contractor during project development, including those generated under Peer Review, shall be submitted with the Final PS&E documents. These development documents include all notes, sketches, maps, photographs, survey data, computations (cost computations shall be under separate cover), cross sections, digital terrain model, and other materials that were created to develop, record, or justify services provided for the project. These documents shall identify all assumptions made. The Contractor shall keep a copy of all the development documents until construction is complete.

**B11.2**  **Survey Data.** Survey data shall be submitted both on paper and digitally as specified in Articles B2 and B6.

**B11.3** **Pay Items.** Documents created to determine pay item quantities shall contain sufficient information to allow the quantity for each pay item to be checked by starting from the source document. They shall be referenced to the applicable pay items.

**B11.4** **Binders.** Documents shall be submitted in loose-leaf, three ring binders. The binders shall be labeled on the spine with the project name, “Completion Documents”, and the binder number. The front of the binders shall also be labeled with this information, the State and Federal project numbers and a brief description of what documents are contained in the binder. The binders shall have dividers that sort the documents by pay item number, report, or other logical category. The binders shall be numbered and each binder shall include in front a table of contents for all binders.

**B11.5 Digital Files.** The last revision of computerized task items shall be submitted both on paper (to be placed in the binders described above) and on CD(s) in files fully compatible with Microsoft Office Suite, AutoCAD and common Windows OS raster viewing and editing files as appropriate. The files shall be arranged on the CD(s) in an orderly and logical system of folders. All xref files and other subsidiary files necessary to produce a main file shall work as desired as placed on the CD(s).

**ARTICLE B12**

**ASSISTANCE DURING BIDDING**

Task 10

##### B12.1 General. The Contractor shall assist the Contracting Agency as requested during project advertising and bidding. Contractor personnel who were in responsible charge during project development, engineering, land surveying, and other personnel as necessary and appropriate, shall be made available to interpret and clarify documents and to assist the Contracting Agency with preparing any necessary addenda to the bid documents. The Contractor shall not communicate directly about this project with any potential bidder.

**B12.2** **Original Documents.** Within a month after the bid opening, the Contractor shall submit to the Contracting Agency the original of all documents prepared or modified during bidding. The Contractor shall keep a copy of these documents until construction is complete.

ARTICLE B13

ASSISTANCE DURING CONSTRUCTION

Task 11

**B13.1 General**. The Contractor shall assist the Contracting Agency as requested during project construction. Contractor personnel who were in responsible charge for engineering and land surveying, and other personnel as necessary and appropriate, shall be available to interpret and clarify documents prepared during project development and bidding; to review and approve shop drawings, electrical materials/catalog cut submittals, retaining wall forming plans, trench stability designs, and landscaping materials and procedures; and to assist the Contracting Agency with preparing any necessary Change Order documents. The Contractor shall not communicate directly about this project with the successful bidder. All communication shall be through the Contracting Agency. This task may be deleted and the Contractor engaged to provide complete Construction Engineering and Inspection Services in its place. See the following article.

**B13.2 Documents.** Within a month after the Contracting Agency accepts the constructed project, the Contractor shall submit to the Contracting Agency the original of all documents prepared or modified when performing the services under this Article.

**B13.3 "As-built" Drawings**. The Contractor shall revise the original, full-sized plans on drafting film to show significant changes to the project made during construction based on the marked-up prints, drawings and other data prepared by the construction contractor, its subcontractors and the Project Engineer to be furnished by the Contracting Agency. See *State of Alaska, Department of Transportation and Public Facilities, Central Region, Revised Drafting Manual*, Chapter 6, Aviation Design, for guidance. Also included in this task is draft updating of the Airport Layout Plan to reflect as-built information. Final as-built ALP will be completed by the Contracting Agency.

**ARTICLE B14**

**CONSTRUCTION ENGINEERING AND INSPECTION SERVICES**

(Task 12 - NIC)

**(The Contracting Agency reserves the right to negotiate and add services in this Article by amendment to this Contract, however, the Contracting Agency is under no obligation to do so and reserves the right to accomplish these services by any other means.)**

**B13.1** **General.** The Contracting Agency retains the option of engaging the services of the Contractor by Contract Amendment to provide full Construction Engineering and Inspection Services for this project. If retained for such services, the Contractor shall provide all the services described in Article B13 as well as construction administration, engineering, inspection, and materials testing services, the scope and details of which will be determined in negotiations.

**EXHIBIT B-1**

**PROJECT LOCATION MAP**

(NEXT PAGE)

**EXHIBIT B-2**

**PROJECT SCHEDULE**

(NEXT PAGE)