

## **SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**

### **A.1. MULTI-DISCIPLINARY ARCHITECT-ENGINEERING SERVICES**

#### **C.1.1. Summary**

The Bureau of Reclamation (Reclamation) provides scientific and technical expertise in all areas of water resource management, development, and protection. The Pacific Northwest (PN) Region performs a wide variety of technical services for other Reclamation offices, other government agencies, and public entities. The purpose of this document is to identify the types of technical services and activities that are to be furnished by an Architect-Engineer (A&E) in support of Reclamation's mission so that the A&E can provide supplemental expertise to Reclamation's technical and resources staff.

Provided in the following sections are the types of services, studies, analyses, designs, structures, features, and projects that are anticipated to be performed under this Indefinite Delivery, Indefinite Quantities (ID/IQ) contract. Reclamation recognizes that the wide variety of technical services possible under this contract may not be able to be adequately performed by one A&E firm and that subcontracting may be required to furnish this full range of services.

The specific requirements for the services to be provided by the A&E will be stated in detail in individual TOs. This will normally include: the data to be furnished by Reclamation and/or the A&E; the standards, codes, or guidelines to be followed by the A&E in the performance of the work; the required products to be furnished to Reclamation to successfully complete the TO; and the schedule required for the delivery of the products.

The A&E is responsible for performing the services and providing the products identified in the individual TOs by the specified schedule. The A&E shall be responsive to the Reclamation-furnished criteria, information, guidance, and reviews of the preliminary work and draft products completed. The A&E shall provide all qualified personnel, facilities, materials, equipment, and transportation necessary to perform the services described. All work shall be performed by personnel having professional skill and experience in the required field. There is no assurance that all skills or even major groups of skills listed in the following sections will be required.

#### **C.1.2. Background and Objective**

The PN Regional Director administers water resource management and other programs which include planning, development, operation and maintenance (O&M), habitat restoration and fish passage activities within the PN Region.

Regional programs are multi-disciplinary activities involving a variety of professional specialists in the engineering as well as economic, environmental, natural, and social sciences. Input may also be required from other agencies, entities, interested individuals and groups, and the public. Each program is unique and the nature and degree of involvement of each specialist is variable, depending on the particular needs of the individual program. Input from all specialists and outside sources must be timely to meet the program schedule. The work is usually sequentially dependent with input from one source frequently being a prerequisite to the work of another. Any delay in one activity could delay the work of those succeeding activities dependent upon it, and if it is on the critical path, could delay completion of the entire program and any programs related to it.

Projects may include work pertaining to dams, hydroelectric powerplants, pumping plants, pump/generating plants, water conveyance facilities and other appurtenant support facilities and systems; waterfowl habitat improvement works; and recreation and other use facilities. Reclamation is also responsible for providing designs and specifications for water resources systems which will primarily include fish passage, propagation, and protective works development and enhancement designs.

The primary purpose of this ID/IQ is to obtain services for the preparation of final plans, specifications and drawings; and related investigations, studies, surveys, and cost estimates and for other related support services required by the PN Region in the accomplishment several ongoing programs and activities (planning, construction, facility O&M, safety of dams) that may require varying levels of support services. TOs may also be offered/awarded in additional areas as needs arise. Other work may include preparation of designs and specifications for construction and maintenance of facilities such as, buildings, roads, canals, bridges, pumping plants, powerplants, recreation areas, and water control structures. Assistance with planning or investigative studies, may also be required.

As part of the current Biological Opinion on Operation and Maintenance of the Federal Columbia River Power System issued by the National Marine Fisheries Service (NMFS), the Reclamation Tributary Habitat Program provides technical assistance in coordination with local partners to implement flow, screen, access, and channel complexity projects in several subbasins tributary to the Columbia River in Washington, Oregon, and Idaho to improve spawning and rearing habitat for salmon and steelhead listed under the Endangered Species Act. The focus of Reclamation's habitat work is to improve flows and remove passage barriers in order to improve fish migration, spawning and rearing conditions as well as habitat improvement activities which foster the naturalization of channels. In order to complete portions of this work, fish facility and geomorphologic designs will be required.

### **C.1.3. Contractor Requirements**

Reclamation will request Contractor assistance in accomplishing the following types of tasks:

#### **a. Engineering**

- (1) Architectural and Engineering Designs and Analyses
- (2) Construction Management Assistance
- (3) Contract Specifications
- (4) Design Data Collection
- (5) Surveying
- (6) Preliminary and Final Designs
- (7) Cost Estimates
- (8) Drafting/Cartography
- (9) Hydraulic Analyses and Designs
- (10) Materials Engineering and Research

(11) Miscellaneous Engineering Support

(12) Structural Analyses and Designs

In general, Reclamation may request Contractor assistance in accomplishing support services related to the following types of tasks:

b. Environmental Resources

(1) Cultural and Archeological Resources

(2) Ecological Studies

(3) Economic and Financial Analyses

(4) Hazardous Materials

(5) Irrigation and Drainage

(6) Miscellaneous Environmental Services

(7) Native American Affairs

(8) Outdoor Recreation Planning

(9) Planning

(10) Public Involvement/Social Analysis

(11) Resource Management

(12) Water Quality and Land Suitability

(13) Water Treatment Engineering and Research

c. Geotechnical

(1) Pre-Design Earth Materials Testing

(2) Engineering Geology

(3) Geotechnical Engineering

(4) Seismotectonics and Geophysics

d. Infrastructure

(1) Electrical Equipment and Electric Power Production Equipment

(2) Electrical Systems

(3) Hydraulic Equipment

(4) Mechanical Equipment

- (5) Operation and Maintenance
- (6) Operation and Structural Safety
- (7) Training

e. Water Resources

- (1) Flood Hydrology and Hydrometeorology
- (2) Groundwater and Drainage
- (3) Hydrology
- (4) River Systems and Meteorology
- (5) Sedimentation and River Hydraulics
- (6) Water Resources Research
- (7) Water Supply, Use, and Conservation
- (8) Geomorphology

f. Other Technical Support

- (1) Assistance in Obtaining Permits
- (2) Computer System Analysis and Engineering
- (3) Quality Assurance
- (4) Report Preparation and Editing
- (5) Technical Communications
- (6) Visual Presentations
- (7) Remote Sensing and Geographical Information Systems
- (8) Cartography
- (9) Project Management

All architect and engineering services shall be performed pursuant to the applicable sections of the FAR, and Department of Interior and Reclamation supplementing regulations or other regulations (e.g. Natural Resources Conservation Service, US Forest Service, and others) as applicable to the service being performed. Any surveying performed by the Contractor shall be performed by or under the direct technical supervision of a licensed surveyor currently registered in the State of Interest.

Reclamation recognizes that the Contractor has the option of using one or more subcontractors to help accomplish portions of this work (see the clause in Section H entitled "Key Personnel" and the clause

in Section I entitled Subcontractors, Outside Consultants and Associates - Architect-Engineer Services).

#### **C.1.4. General Work Requirements**

All work will be performed in accordance with the Reclamation criteria, methods, standards, procedures, quantities, and schedule which will be specified in each TO. The Contractor shall complete the work specified herein and shall be responsible for all necessary services, labor, materials and equipment. Necessary data may be provided by Reclamation or developed and/or collected by the Contractor, as determined by Reclamation. The Contractor will furnish the number of copies of documentation specified in the TO describing the results and studies made, and will furnish Reclamation staff all information, design and analysis data, geospatial data, metadata, maps, drawings, photographs, text, cover, working papers, notes, computations, formulae, computer procedures, GIS databases, and worksheets which Reclamation deems necessary for review and acceptance of assignments. Hard copies and/or digital copies will be required as stated in the individual task orders.

Costs for printing and distribution of DVDs, CD-ROMS, Flash Drives, External Hard Disk Drives, etc. (electronic media), reports, surveys, field notes, maps, drawings, manuscripts, progress reports, calculations and other documents will be borne by the Contractor. Receivers of such publications are limited to Reclamation. One reproducible copy of each type of applicable publication will be required unless otherwise specified in the TO. The Contractor shall be responsible for all costs of copying deliverables and those costs are presumed to be included as a general administrative expense in the loaded hourly rates in Section B.

In general, the Contractor shall become familiar with the study area within the relevant subbasin/geographic areas, pertinent control data related to the study area, and pertinent physical data related to the study area. The Contractor shall work with the COR and others, as needed, to clarify project requirement and finalize the project schedule.

In addition, the Contractor shall take special measures to avoid conflicts with existing land uses, avoid important wildlife/fish habitat areas and the following requirements:

a. *General* - All work will be performed in accordance with applicable Federal, State, and local standards. The Contractor will be responsible for developing and/or collecting any necessary data beyond that provided by Reclamation. Reclamation will review and approve all work prior to acceptance in accordance with subparagraphs b., c., and d. below.

b. *Review of Submitted Designs* - The Government reserves the right to review any level of design. The Contracting Officer may initially forego a thorough review and return the entire submittal for re-checking and correction by the Contractor. Any and all submitted designs or information shall become the property of the Government. The Government reserves the right to use any part of or all of the Contractor's design for purposes outside of the design contract.

c. *Resubmittal* - In the event that any document submitted for review is deemed to be deficient or incomplete, the Contractor will be required to correct the deficiencies and resubmit the corrected document (see the clause in Section F entitled "Inspection of Services" and the clause in Section I entitled "Responsibility of Architect-Engineer Contractor"). The Contractor will be compensated for design modifications which are outside the normal give-and-take between a designer and a client when such changes are initiated by the Government pursuant to the clause in Section I entitled "Changes Fixed Price - Alternate II" (but see the clause in Section I entitled "Authorities and Limitations").

d. *Acceptance* - Final acceptance will not be made until all work under each TO has been delivered, found to be acceptable, and approved. See the clause in Section E entitled “Inspection of Services” and the clause in Section I entitled “Responsibility of the Architect-Engineering Contractor.” Prior to Reclamation approval of final products, no portion of the studies, findings, materials, conclusions, or recommendations shall be released to an outside party or otherwise publicized without prior consent of the Contracting Officer.

e. *Applicable Standards* - All work to be performed hereunder shall be in accordance with applicable Reclamation surveying standards, applicable Federal, state, and local codes, and sound surveying practice. Applicable standards include, but are not restricted to:

(1) Information Management Handbook, Volume III, Drawings Management & Drafting Standards, U.S. Bureau of Reclamation, (IMH Volume III).

(2) Reclamation Safety and Health Standards, U.S. Bureau of Reclamation, 1993 (Reprinted 2000), paragraph 14.11.6, etc. This document may be accessed electronically at <http://www.usbr.gov/ssle/safety/RSHS/rshs.html>

### **C.1.5. Responsiveness and Roles of Contractor Staff**

The A&E is professionally responsible for the services performed under this contract. The Contractor shall be responsive to Reclamation-furnished criteria, information, guidance, and review comments. Designs shall provide for the least adverse environmental impact based upon adopted Environmental Impact Statements and reports unless otherwise directed by the Contracting Officer and the lowest life cycle cost for the anticipated duration of the requirements, including original cost and maintenance cost.

See Section B for a listing of the job titles and expertise the Contractor shall supply under the contract. The listing of personnel is not all inclusive. The Contractor may propose additional disciplines or propose one person for more than one type of work. Qualified personnel being made responsible for multiple roles will be acceptable, but may only have one loaded hourly rate based on their actual salary.

### **C.1.6. Contractor Project Lead**

The Contractor will advise the Contracting Officer of its Key Personnel in accordance with the clause in Section H entitled “Key Personnel Requirements.” See Section B for job titles/positions designated as Key Personnel.

### **C.1.7. Value Engineering**

All designs for projects with estimated construction costs in excess of \$500,000 shall be subject to a value engineering review at the 30% completion level unless otherwise specified in the TO. The Value Engineering Team will include representatives from Reclamation, the Contractor, and other such entities as the Contracting Officer deems appropriate.

### **C.1.8. Participation in Meetings and Events Attended by Third Parties**

The Contractor shall comply with the guidance at FAR 37.114(c) and always identify themselves as Contractor employees working under a contract awarded by Reclamation when attending any meetings or events involving Reclamation projects where it might not be clear to third parties that they aren't employees of the U.S. Government.

## **A.2. GOVERNMENT RESPONSIBILITIES**

### **C.2.1. General**

Reclamation will appoint one or more Contracting Officer's Representatives (CORs) for the contract. The CORs' appointment memorandums will detail their responsibilities. The COR will be the primary contact for TOs, although the Contracting Officer may direct the Contractor to coordinate directly with design and/or Area Office personnel or others on certain technical requirements. See the clause in Section I entitled "Authorities and Limitations."

In order to assure to the greatest extent possible that there is clear understanding between the Contractor and Reclamation regarding the requirements relative to each TO, the Contractor may be required to participate in a post award conference for each TO, pursuant to the clause in Section I entitled "Post Award Conference - Bureau of Reclamation" and participate in regularly scheduled meetings or telephone consultations with the CORs until completion of the respective TO. The Contractor shall maintain frequent telephone/E-mail communication with the CORs to highlight any information gaps and problem areas the Contractor identifies. In addition, any delay in meeting the negotiated schedule for any TO shall be immediately reported to the Contracting Officer.

### **C.2.2. Government Review Responsibilities**

The Government will review and comment on engineering and related services results, notes, drawings, and other deliverables as specified in the Reporting Requirements and Deliverables section and in the individual TOs. Requirements in the TOs Statements of Work will take precedence over this Section. The Government will review all information and materials provided under the TO. Unless otherwise stated in an individual TO or schedule, Reclamation will require 10 days for review of any submittals. If the Government uses time in excess of the specified number of calendar days for review of any submittal or re-submittal, additional time, not to exceed the excess time, will be added to the time allowed the Contractor for completion of the work affected by such excess time, to the extent it is demonstrated that the excess time caused delay. If the Government's review of two or more separate submittals or re-submittals is late and results in concurrent days of excess time, such days will be counted only once in computing an extension of the completion date. Further, if the Contractor fails to make complete approval submittals in the sequence and within the time periods specified in this contract, and thus precludes the Government from approving or considering for approval such submittals within the specified calendar day period, then the Contractor shall not be entitled to reimbursement for any extension of time for completion of the work.

### **C.2.3. Government Furnished Materials and Services**

The Government will provide access to reports, memoranda, photographs, drawings, maps, GIS databases, and any other materials owned by the Government that are pertinent to this contract and which are not otherwise prohibited from release by law, regulation or policy. Reclamation has determined that some documents contain information considered to be "sensitive" and necessary to be appropriately safeguarded. These types of documents will be marked appropriately and will be intended for your use only. These documents, or copies of the documents, are not to be distributed to any other entities, without prior consent and approval by the Reclamation. Additional restrictions regarding sensitive documents may be included in individual Task Orders.

A list of Government furnished materials will be provided in Task Orders that include such materials. Originals of photographs, drawings, and maps shall be lent to the Contractor for the purpose of making reproductions required. The Contractor shall be responsible for all costs of copying Government

furnished materials and for the safe return of the materials. The Government will also provide, as part of each TO, specific issues and/or information concerning the subject study area and schedule.

The Government shall provide its most recent edition of the Autodesk Civil3D drawing template, necessary to produce properly formatted drawings. The Contractor is responsible to ensure they have the most current drawing template available from the Government before production of any drawing files.

### **A.3. PRICING OF TASK ORDERS**

#### **C.3.1. Supplies/Services and Prices/Costs**

Section B contains a listing of job titles/work categories that may be utilized during performance of the contract. The Contractor shall provide loaded hourly rates for each work category under the contract, including subcontractors who are permanent team-members listed on the Contractors SF330 package submitted for the contract. After negotiation and execution of the contract, the Loaded Hourly Rates shall be applicable for all work performed under the contract of each applicable period.

### **A.4. DESCRIPTION OF SERVICES**

The following describes, in general terms, the kinds of tasks which the Contractor may be called upon to provide.

#### **C.4.1. Engineering and Engineering-related**

a. *Architectural Designs and Analyses* - Architectural designs and analyses performed under this contract are anticipated to include: architectural treatment of buildings, seismic retrofits, plants, and other structures; interior layouts and selection of materials and colors; landscape design; site layouts; visual environment considerations; and historic preservation considerations.

b. *Construction Management Assistance (CMA)* - CMA services may be performed to help identify defects or deficiencies in the work of a construction contractor in determining conformance with the designs and specifications prepared by the A&E or Reclamation. These services are anticipated to include: field review of construction to observe and evaluate field conditions and provide recommendations for foundation acceptance for structures; review and comment of contractor-prepared drawings and data; review of contractor-prepared Value Engineering and other proposals; preparation of documents with recommendations on the acceptability of submittals; drawing preparation; and preparation of other construction-related documentation.

The Contractor may be called upon to provide construction management services which may include providing qualified construction inspectors, geologists and geologic exploration equipment, construction materials testing personnel and testing equipment; surveying personnel and equipment; providing reviews of designs for constructability; reviewing contractor-prepared Critical Path Method (CPM) logic diagrams and construction schedules; reviewing and analyzing contractor submittals; assistance with reviewing and analyzing contractor claims and requests for contractor adjustments, preparing written reports of the analyses, assisting in presenting findings to contractors, and providing expert testimony if litigation occurs; and preparing costs estimates for direct costs, affects on other work, and delays using available contractor CPM data when modifications are considered or required.

The Contractor shall provide construction support services relating to construction contract administration and to such post construction activities as may be included in the TOs. These services



include review and recommendations for approval or rejection of shop and other working drawings and other items submitted by the Contractor or its subcontractors, preparation of reports recommending foundation acceptance or rejection, preparation of record drawings showing construction according to the records of the resident engineer and constructor, evaluation to recommend whether or not design assumptions are valid for the field conditions encountered so that modification of the design is not necessary, and preparation of O&M manuals and standard operating procedures, if required.

During the project construction period, the Contractor shall review shop drawings, materials, fixtures, equipment, samples, plant materials, and color schedules submitted by the construction contractor in accordance with the contract plans and specifications and shall recommend action with regard to such items in accordance with the determination of their conformity to the contract plans and specifications. The Contractor shall furnish, during the project construction period, such engineering advice in connection with the design as may be requested by the Contracting Officer.

The Contractor shall review Reclamation-furnished documents and drawings which indicate changes in the construction contract, and determine from said documents and drawings substantial material departures in the project construction based on such documents and drawings from the requirements delineated on the original contract drawings and make recommendations to Reclamation.

The Contractor may be required to prepare a set of record drawings of the project by correcting or revising the original contract drawings to show all changes in construction as per the records of the Resident Engineer and the constructor. Reports, drawings, and other submittals required shall be prepared and submitted in accordance with the TOs.

c. *Contract Specifications* - Services may include preparation of contract specifications.

The Contractor shall prepare complete technical construction specifications as required by the TOs. The specifications shall be of sufficient detail so that when used with applicable drawings and the specifications and standards incorporated by reference, construction bids can be sought by Reclamation, or others, on a full and open competitive basis. The technical specifications shall state precisely what is expected from the construction contractor in clear and concise statements. Materials shall be described, where possible, by reference to standards generally known to the industry, technical, society, Federal, or military specifications and standards. The standard which best represents no more and no less than the Government's minimum needs shall be selected for incorporation into the specification.

The Construction Specifications Institute (CSI), MasterFormat™, 1995 Edition or later shall be used by the Contractor as a guide in preparing technical specifications, unless otherwise required. At times Reclamation prepares designs and specifications for other agencies such as the Natural Resources Conservation Service (NRCS) or the United States Forest Service (USFS). In these cases, specifications in the respective agency's format and language will be required.

The use of trade names, propriety items, and the drafting of specifications by adopting a manufacturer's description of a particular commercial article will not be permitted, unless a "Brand Name or Equal" specification, with appropriate salient characteristics is utilized. The item will otherwise be specified by giving its physical characteristics, chemical composition, laboratory test results, and performance in actual use in such a manner as to allow full and open competition among suppliers.

The technical provisions shall comprise a master technical specification covering all items of work common to all line items under the TO, and shall be prepared with separate sections covering the various trades of work classification. The sequence of materials shall be in the same order as that used in CSI MasterFormat™, or other guides, as specified. Where applicable, technical provisions shall be based upon specifications listed in the TO.

A schedule of construction Contractor's approvals and tests shall be prepared listing all shop drawings, samples, materials, fixtures, equipment, plant materials, and color schedules to be submitted and all tests to be performed by the construction Contractor in accordance with the contract specifications. The Contractor shall limit the number of required contract submittals to the least number of submittals required to protect the Government's interests and to insure the safety and integrity of the constructed works.

d. *Designs and Drawings* - The A&E shall become thoroughly familiar with Reclamation-furnished design data and established project functional requirements. Using this information, the A&E shall develop engineering concepts that will satisfy project requirements at reasonable costs. Each design shall include drawings, a narrative discussion, and the estimated construction costs.

Final drawing guidelines shall be based on approved designs and layouts, shall be developed according to Reclamation's IMH Volume III or later and ANSI standard Y-14, or as specified in TO. This document may be accessed electronically at [www.pn.usbr.gov/contracts](http://www.pn.usbr.gov/contracts). All delivered drawings shall be reproducible.

Generally, any drawings or output data files produced on a Computer Aided Design and Drafting (CADD) system and furnished to Reclamation shall be compatible with the current version of AutoCAD Civil 3D 2012, manufactured by Autodesk, Inc., Sausalito, CA, as used by Reclamation. As specified in the specific TOs, geotechnical engineering and geology drawings may require the use of Intergraph CADD applications and ORACLE database applications. Drawing conversion shall be accomplished by scanning existing engineering drawings and converting them to final drawings. Before submission for final acceptance, all designs and drawings prepared by the A&E shall be signed and dated by the registered professional responsible for the project. The stamp and signature of the registered professional engineer shall appear on all design drawings.

e. *Design Data Collection, Surveying, Preliminary and Final Designs, Cost Estimates* - The Contractor may be called upon to collect data for appraisal, feasibility, final and/or special designs, cost estimates, construction specifications or other suitable documentation for projects and facilities (including appropriate field engineering, surveying, geologic mapping of potential structure sites and potential construction materials sources, foundation core drilling, construction materials sampling and laboratory testing, location of utilities and similar work); prepare construction schedules for facilities; prepare chemical engineering/chemistry studies for water quality investigations and studies; prepare other studies or surveys for facilities or projects; prepare geologic investigations and analyses of sites and construction materials; conduct site and/or aerial surveys.

f. *Drafting/Cartography* - The Contractor may be called upon to prepare maps, drawings, and charts depicting information specified by Reclamation. All materials will be furnished by the Contractor except as otherwise provided in the TO.

g. *Hydraulic Analyses and Designs* - Hydraulic analyses and designs performed under this contract are anticipated to include: sizing of hydraulic structures (including fish passage and protective facilities, , spillways, outlet works, tunnels, pipelines, penstocks, canals, pumping plants, powerplants,

tanks, culverts, and other features); removal of instream barriers; design of energy dissipaters; hydraulic transient analyses; reservoir flood routings; cavitation evaluations; water surface profile studies; river hydraulic analyses; and other open-channel and pressure flow analyses.

h. *Materials Engineering and Research* - Materials engineering and research performed under this contract are anticipated to include investigating and analyzing the prevention, detection, control, and mitigation of corrosion; providing technical expertise and applied research on the proper use of geosynthetics and polymeric materials for engineering uses; providing technical expertise in testing and evaluating concrete, concrete materials, concrete construction methods, and concrete repair methods; and providing technical assistance and applied research on the use and removal of paints and protective coatings.

i. *Miscellaneous Engineering Support* - Engineering support services performed under this contract are anticipated to include: preparation of specifications for construction or construction-related supply items, preparation of cost estimates and cost studies, and the preparation of or participation in Value Engineering studies.

j. *Structural Analyses and Designs* - Structural analyses and designs performed under this contract are anticipated to include: stability analyses; stress analyses; finite element modeling and analyses; analysis of structures subjected to various static, dynamic, and thermal loading conditions; structural sizing; and reinforcement design and detailing.

The types of structures to be analyzed and designed are anticipated to include: instream fish passage and protection facilities; dams (gravity, arch, and buttress dams); power plants; pumping plants; buildings; switchyards and substations; spillways and outlet works; roads and bridges; pipelines, tunnels, canals, and retaining walls; and, visitor facilities. The structures to be analyzed or designed may be composed of variety of materials.

#### **C.4.2. Environmental Resources**

The Contractor may be called upon to: conduct studies in a specialized discipline such as recreation; land-use planning or zoning; air and noise quality; studies related to flora, fauna, lakes, streams, flood plains, water quality analyses; toxicity studies, bioassays, and other appropriate areas or resources. These could include migratory waterfowl and anadromous fish; develop and prepare environmental quality evaluations and material for documents such as Environmental Assessments and Environmental Impact Statements for plans or projects. Prepare environmental chapters for planning reports, environmental plans, environmental quality accounts, appendices, and other similar material. In some instances, the Contractor will be required to conduct all aspects of preparing Environmental Assessments and Environmental Impact Statements with only limited general instructions. A task can include, but not be limited to, developing the scope and plan of study for Environmental Impact Statements, public involvement actions and assistance, special studies, and report preparation.

a. *Cultural and Archeological Resources* - Cultural resources (archeological, traditional cultural property, historical, and historic architectural) support services performed under this contract are for specific projects and/or actions. They might include actions to identify resources (including archival or other records research, tribal consultation, and field survey and site documentation); actions to evaluate the eligibility of resources for inclusion on the National Register of Historic Places, (including archeological test excavation or field trips with tribal elders); monitoring locations during initial ground disturbing actions; and, in rare instances, actions to mitigate adverse impacts when resources cannot be avoided (including archeological data recovery, or historic documentation, perhaps to Historic American Engineering Record (HAER) or Historic American Buildings Survey (HABS)

standards). Reclamation may designate the Contractor or their subcontractor to assist Reclamation with consultations with the State Historic Preservation Office (SHPO), pursuant to 36 CFR 800. Typically, the cultural resources Contractor or Subcontractor may also be asked to assist Reclamation with tribal consultations or information collection actions to determine if Indian Sacred Sites (pursuant to Executive Order 13007) are present. Where paleontological resources might be present, Reclamation may request that the Contractor perform limited investigations for paleontological information. This would typically be limited to including a search for documented fossil sites in readily available informational sources during records research; and noting and collecting a sample of fossil materials identified during archeological surveys.

The Contractor shall furnish documentation of accomplishments using standards defined in task scopes-of-work. Unless otherwise directed by Reclamation, they will use forms or formats required by the SHPO for site documentation; the Secretary of the Interior's Standards and Guidelines for research and field investigations; and the National Park Service for HABS/HAER documentation. For each task, Reclamation may require: progress reports to support billings or to demonstrate accomplishment to meet defined schedules; technical reports documenting research or field investigations; site forms, supported by topographic sheets marked with survey and site boundary data; National Register nomination forms; or HABS/HAER documentation data-sets; or data-recovery plans. Technical reports will include all information necessary to support consultations with the SHPO for site eligibility and to document environmental and scientific evidence. At a minimum this would include: description of methodologies; environmental or other conditions effecting work; environmental setting; historical or cultural overview in a level of detail appropriate to the findings; description of results; supportive data tables, photographs, and maps; conclusions; and recommendations of eligibility or for further work. Reclamation may also ask for preparation of appropriate sections of environmental impact assessment documents associated with future actions.

The actions a Contractor may be called upon to perform will be specified by Reclamation in greater detail in task scopes-of-work. Reclamation requires that all cultural resources investigations performed by persons with appropriate professional credentials for the field of research. Reclamation must approve the use of non-professional personnel, and usually limits such approvals to a portion of the crew who both perform required work and serve as tribal monitors (see [http://www.nps.gov/history/local-law/arch\\_stnds\\_7.htm](http://www.nps.gov/history/local-law/arch_stnds_7.htm)).

b. *Ecological Studies* - Ecological studies support services performed under this contract are anticipated to include: project specific investigations in the areas of aquatic and terrestrial ecology, water quality, fisheries, aquatic plant management, aquatic pest control, wetlands, endangered species, and general wildlife biology; National Environmental Policy Act scoping, alternative formulation, data collection and analyses; development of resource management plans for Reclamation properties; Clean Water Act compliance activities; in-stream flow studies (IFIM and other techniques); Fish and Wildlife Coordination Act compliance activities; Endangered Species Act compliance activities and assistance with consultations; risk assessments; and remedial investigations/feasibility studies in support of hazardous waste project activities.

c. Miscellaneous Environmental Services

(1) *Biochemistry* - The Contractor may be required to: conduct chemical analyses, including specifications of substances occurring in living organisms; identify the biological response to trace elements such as bio-accumulation, synergism, and other conditions; evaluate the relevance of "chemicals of concern" to fish and wildlife resources and public health.

(2) *Chemical Analyses Quality Assurance* - The Contractor may be called upon to: develop and prepare quality-assurance/quality-control program plans to audit laboratories conducting chemical analyses for Reclamation environmental quality assessments; assist Reclamation in establishment of protocol for evaluation of data generated by laboratories conducting chemical analyses for Reclamation programs; conduct assessments and provide evaluations and interpretations of quality-assurance/quality-control data generated; provide statistical expertise to assist with sampling design, data evaluation and interpretation; review and provide comments on reports and documents relating to laboratory quality-control/quality assurance and analytical methodologies; provide assistance in development and/or use of existing microcomputer-assisted software for evaluation and presentation of quality-control/quality-assurance data.

d. *Native Americans* - The Contractor must be knowledgeable of, and sensitive to, effects of Reclamation activities on Native-American tribes, and may be requested to assist in developing plans to enhance the role of Native American tribes in decision-making processes.

e. *Outdoor Recreation* - Outdoor recreation planning support services performed under this contract are for specific projects and/or actions and are anticipated to include recreation research, analyses and conceptual designs and recreation planning and analysis as part of resource management plans.

f. *Paleontological Resources* - Paleontological resources (vertebrate or invertebrate fossil remains) support services performed under this contract are anticipated to include: records research, when work will occur in an area that has been previously documented to be rich in scientifically valuable fossil remains (such as in portions of the John Day Basin); field survey to locate fossils; field investigation to evaluate the scientific significance of reported fossil finds; in rare instances, data recovery actions to mitigate impacts. Reclamation will further specify requirements in task scopes-of-work. Results of contract actions will be documented in technical reports that, at a minimum, document findings, methodology, field conditions affecting the work, and recommendations of resource value and the need for further investigation.

g. *Planning* - Planning activities will be concerned with water resources development and management and related land and resource uses. The work will require a multi-disciplinary approach and may require expertise in engineering and the natural, economic, environmental (including NEPA compliance), and social sciences, with the exact mix to be determined by the specific nature of the TO. The Contractor may be called upon to assist in planning investigations which include all of the parameters discussed in this contract or any portion thereof, and furnish reports thereon. Activities which will be required may include: develop a project framework, project plan, project work plan (including an interactive, Reclamation usable, critical path computer program), quality control plan and other aspects of a project management plan (required for all assignments and must be approved by the Contracting Officer before initiating the planning); assist in establishing and defining needs; identify alternative plans; evaluate alternative plans and make recommendations; recommend and analyze preferred plan; prepare economic and financial analyses of preferred plan; prepare environmental analyses of all plans; prepare social analyses of all plans; prepare and possibly assist in executing a public involvement program; prepare reports to document work accomplished including appendices and material for environmental statements.

h. *Public Involvement/Social Analysis* - The Contractor may be called upon to assist Reclamation in the development and conduct all or portions of a public involvement program. Task items may include the development a public involvement program. The program shall include, but not be limited to, identification of the publics related to the activity, specific steps to keep them informed on Reclamation activities, and specific steps to assure timely public input to the planning process;

assist Reclamation in the conduct of a public involvement program by providing analyses of affected publics and a strategy for working with them; preparation of charts, maps, and other exhibits and other types of informational materials as they may be specified; assist with conducting public meetings; preparation of reports describing the activities and analyses of information obtained; provide social and demographic assessment and impact analysis of proposed actions; describe existing social conditions and relevant demographic characteristics of affected areas; analyze impacts of actions on future social conditions and demographics. Social analyses and public involvement support services performed under this contract are for specific projects and/or actions and are anticipated to include identification of the social issues, problems and affected public; conflict management; social impacts analyses; evaluation of Indian Trust Assets; and preparation, implementation and documentation of public involvement plans. Data collection would be subject to the provisions of the Federal Reports Act.

i. *Resource Management* - Resource Management Plans (RMPs) – Resource management planning services performed under this contract are anticipated to include gathering data and exploring alternatives that will assist Reclamation in planning for the resources under Reclamation's control. This will consist of preparing RMPs for the orderly and coordinated development and management of the land and water resources under Reclamation's jurisdiction. Reclamation's goal is to manage, protect, and enhance fish and wildlife habitat, natural, cultural, and recreational resources, to preserve the aesthetic quality and natural environment and to promote the safe and healthful use of the Reclamation lands and water. The Contractor may be required to (1) develop a process to involve the publics who have an interest in the management of the study area(s), (2) draft an RMP which will provide a multi-year framework for the orderly and coordinated development and management of the land and water resources under Reclamation's jurisdiction, and (3) prepare draft and final Environmental Assessments that will be used by Reclamation to comply with the National Environmental Policy Act.

j. *Land Classifications* - Performing irrigation suitability land classification in accordance with Reclamation policy and guidelines may be required. Performance of such land classifications may require providing a general description of the area (geology and geomorphology, climate, agricultural/irrigation development); description of principal soil series, topographic, and drainage characteristics; description of water supply and quality; and classification of lands according to their productive capacity based upon soil, topographic, and drainage characteristics correlated with economic conditions. The Contractor may be called upon to assist in developing land classification requirements as related to agricultural requirements for project investigations, contract repayment, or land retirement; make preliminary evaluations and interpretations of available soils data as they apply to Reclamation economic land classification and land use; work and assist in the accomplishment of Reclamation land classification, land use, and water requirement phases of planning investigations; perform soil and crop surveys, reconcile with land development costs, trends on farm management practices, and trends to urbanized land use; collaborate as needed with engineers, planning study managers, groundwater specialists, agricultural engineers, drainage specialists, and agricultural economists on matters dealing with land classification; prepare irrigation or other land suitability classification reports, appendices, and studies for project planning requirements, repayment contract negotiations, and small project loan reviews; and to collect, display, overlay, planimeter, analyze, and interpret soils, drainage, crop, and economic data in various combinations in order to ascertain the best land uses, structure locations, projected water needs, locations of excess lands, and plan formulations. Data may be provided in a format suitable for Reclamation's GIS systems.

k. *Water Treatment Engineering and Research* - Water treatment engineering and research support services performed under this contract may include design of water treatment remediation of water containing hazardous chemicals and compounds. Designs and specifications for water treatment

systems for potable water are to meet the requirements of the Safe Drinking Water Act; wastewater treatment designs and specifications are to meet the requirements of the Clean Water Act; designs and specifications for removal of hazardous chemicals and other constituents from contaminated water are to meet the quality requirements for water reuse or for discharge under the Clean Water Act. Other services under this contract may include evaluation and retrofit design and specifications for existing water and wastewater treatment systems to meet current county, State or Federal water quality regulations; design, installation, operation, and testing of membrane technology pretreatment systems; and research studies, design, installation, operation and testing of water treatment and desalting pilot plants, low-grade heat brine disposal systems, solar ponds and solar powered pumping and desalting systems.

### **C.4.3. Geotechnical**

a. *Earth Materials Testing* - The testing of earth materials is anticipated to include the field and laboratory testing and analysis of soil, rock, and foundation materials obtained from samples or performed on in situ deposits. The tests would be performed in accordance with ASTM, Reclamation, or other provided standards or codes and in compliance with Reclamation Quality Assurance Plans. The materials may require petrographic examination, analyses, and classification. Work could also include planning of hazardous waste site remedial actions, remedial investigations, feasibility studies, remedial designs, and assistance with construction oversight. The information obtained would be used to support the designs, analyses, or studies performed in this contract.

b. *Engineering Geology* - Engineering geology services under this contract are anticipated to include the planning and coordination of geologic site characterization activities and evaluating and portraying geologic and geotechnical conditions. This geologic work includes field mapping, interpreting and analyzing subsurface exploration and sampling information including results of Becker-type drilling, and three-dimensional modeling evaluation and presentation of geologic data. Geologic expertise would be required for studies, investigations, and analyses for dams, foundations for structures, excavation support requirements, slope stability and landslides, hazardous waste sites, blasting, grouting, and dewatering systems.

c. *Geotechnical Engineering* - Geotechnical engineering performed under this contract is anticipated to include preparing studies, analyses, designs, and specifications for embankments and concrete dams (for new construction, rehabilitation, and dam safety modifications), foundations for all types of water-resource related structures, underground excavations, natural soil and rock slopes, and hazardous waste sites. This geotechnical work includes the application of expertise in static and dynamic stability analyses of embankments and natural slopes, numerical modeling of structures and foundations, deformation analyses, groundwater, dewatering systems, seepage analyses, foundation remediation and improvements, grouting, hazardous waste remediation techniques, developing and interpreting geotechnical exploration programs, and interpreting laboratory testing data. Services related to hazardous waste work includes providing support or directly conducting remedial investigations/feasibility studies, preparing sampling and analysis plans, quality assurance and quality control plans, health and safety plans, and work plans. Additionally, services would also include conducting on-site sampling and analysis, site investigations and characterizations, risk assessments, and providing field support.

d. *Seismotectonics and Geophysics* - Seismotectonic services under this contract are anticipated to include analyzing current tectonic settings of project sites, conducting assessments of fault activity, estimating potential earthquake magnitudes and ground motions, characterizing historic seismicity, analyzing data from regional earthquake monitoring networks, and identifying the magnitude and frequency of extreme flood events using Quaternary geologic and geomorphic data.

#### **C.4.4. Infrastructure**

a. *Electrical Equipment* - Analysis, design, and services for electrical equipment are anticipated to include selection of components and designs to provide installation, control, startup assistance, and operation of hydroelectric powerplants, pumping plants, dams, water conveyance structures, water treatment facilities, and other structures along with ongoing technical expertise to evaluate and resolve complex electrical equipment or control problems. Electrical equipment is anticipated to include: rotating machinery, bus and switchgear, power cables, transformers, control and distribution equipment, lighting, protective devices, and electrical features of mechanical equipment such as cranes, gates, valves, HVAC, elevators, turbines, governors, and pumps. Specialized areas of analysis, design, and services are anticipated to include: generator analysis and uprate studies, adjustable speed drives, adjustable speed generation, harmonic control, programmable logic controllers, process controllers, and plant computers; technical consultation services on existing plant equipment or controls to diagnose problems including trouble-shooting, problem-solving, and recommendations; assistance with overseeing on-site repairs, providing necessary designs and specifications for repairs, upgrades, or rehabilitation; studies and implementation enhancements for increasing plant efficiency and reliability.

b. *Electrical Systems* - Electrical systems and equipment are anticipated to include: electrical switchyards and substations; substation control systems; plant and multi feature automation or SCADA systems; communications and telemetry systems; high-voltage facilities; and overhead and buried transmission and distribution lines.

Analysis, design, and services may include design of all electrical aspects of diverse water resource facilities on a system-wide or multi-facility basis and the development of electrical engineering specifications paragraphs and/or drawings.

c. *Hydraulic Equipment* - Analysis, design and services for hydraulic equipment are anticipated to include pumps, hydroelectric turbines, pump-turbines, turbine governors, large custom-designed radial gates, bulkhead gates, jet flow gates, clamshell gates, high-pressure gates, sleeve valves and operators, commercial slide gates, hollow jet valves, and butterfly valves, steel penstocks, manifolds, air chambers and steel surge tanks.

d. *Mechanical Equipment* - Analysis and design of mechanical systems are anticipated to include: compressed air systems; plumbing, cooling water, domestic and service water systems; lubricating oil systems; fire suppression systems; heating, ventilating, and air conditioning systems; hydraulic valve operating systems; engine-generators; elevators, cranes, hoists, and cableways; stoplogs, draft tube gates, bulkheads, trashracks and safety racks, trash rakes and conveyors, and traveling water screens; fish and moss screens, fish handling equipment, water temperature control devices and selective withdrawal systems; instrumentation and control systems; and water treatment equipment.

e. *Operation and Structural Safety* - Services related to dam safety are anticipated to include: evaluation of dam safety; evaluation of pertinent engineering and geological data for dam design, construction, operation, maintenance, performance, safety problems and deficiencies compromising dam safety; onsite examination of facilities and preparation of reports documenting findings and conclusions regarding the safety of the dam, recommendations for any corrective actions or further studies, and needed maintenance.

Services related to emergency management activities are anticipated to include: develop, assist in conduct of, and evaluate emergency exercises involving Federal, State, and local agencies who own, operate, and maintain dams; develop, revise, review, and assist in the exercise of Emergency Action



Plans; develop and present emergency management training specific to dam operations for a variety of Federal, State, and local agencies.

f. *Training* - The Contractor may be called upon to provide training services for O&M staff of contractor-designed facilities and/or other contractors and Reclamation staff.

#### **C.4.5. Water Resources**

a. *Flood Hydrology and Hydrometeorology* - Services related to flood hydrology and hydrometeorological investigations are anticipated to include: developing probable maximum floods and inflow design hydrographs for reservoirs; determining probable maximum precipitation and design storms; conducting flood frequency analyses and cross-drainage studies; planning and designing early warning systems; conducting statistical and stochastic hydrologic analyses; developing drought indices; and researching various topics related to hydrometeorology and flood hydrology.

b. *Groundwater and Drainage* - Services related to drainage and groundwater investigations are anticipated to encompass planning, O&M, design, and construction. Typical investigations may include aquifer testing and analysis, wellhead protection, dewatering systems, safe yield of aquifers, aquifer recharge and recovery systems, remediation of contaminated groundwater systems, design of wells and well fields, modeling groundwater flow and contaminant transport, agricultural drainage investigations and subsurface drainage system design, canal seepage tests and analyses, and assistance with construction inspection.

The Contractor may be called upon to provide data, analyses, maps, and reports relating to ground-water usage, basins, and its quantity and quality as well as groundwater surface water interactions.

c. *Hydrology* - The Contractor may be called upon to perform the following studies and prepare reports for design floods, cross drainage, depletions (gains and losses), return flows, reservoir operation, sediment transport, in-stream flows, project water allocation operations, irrigation system re-configuration (e.g. changing and/or consolidating points of diversions) and hydrologic and hydraulic (water) thermal analyses.

d. *River Systems and Meteorology* - Services related to river systems investigations are anticipated to include development of ADSS (advanced decision support systems) for integrated river systems management and reservoir management and operations; hydrologic forecasting; flood control operations; system optimization; resource effects assessments; management of water delivery; stochastic hydrology; collection and dissemination of hydrometeorological data; and training personnel from other agencies in the application of ADSS to water resources management issues. Meteorology investigations may include developing new water supply forecasting tools using existing and emerging nowcast and forecast products including NEXRAD radar measurements of precipitation area, and other hydrometeorological information including precipitation (rain and snow), snowpack accumulation and melt, and evaporation/evapotranspiration.

e. *Sedimentation and River Hydraulics* - Services related to sedimentation and river hydraulics investigations are anticipated to include reservoir surveys, computation of water surface profiles, design of erosion protection works, channel aggradation and degradation analyses, scour studies, sediment movement and deposition analyses, design of dikes, O&M of facilities and reservoirs, fish and wildlife habitat restoration, dam break inundation studies, floodplain delineation, threat-to-life studies, and determination of base safety conditions for Reclamation dams.

f. *Water Resources Research* - Services related to water resources research is anticipated to require the use of physical models, computer models, field investigations, and analytical studies to conduct investigations which may include water conservation, canal automation, water measurement, groundwater and drainage modeling, water management, environmental hydraulics, reservoir selective withdrawal, fish protection and passage, aquatic habitat restoration, water quality, river sediment flushing, reservoir and river sedimentation, erosion control, testing and evaluation of hydraulic systems, emergency spillways, dam overtopping protection, and rock and alluvium scour.

g. *Water Supply, Use, and Conservation* - Services related to water supply, use, and conservation investigations are anticipated to include: quantifying water supplies and project water requirements; analyzing water rights and legal and institutional constraints; improving water management and conservation; conducting flow augmentation analyses, modeling interrelationships between surface and groundwater; collecting and analyzing hydrologic data; developing technical standards and guidelines; providing training in hydrologic techniques; and conducting research into new methodologies for hydrologic analyses.

h. *Geomorphology* - Services related to evaluating geomorphic processes at varying spatial and temporal extent including: evaluating hydrologic, hydraulic, and sediment transport aspects of a river to evaluate existing and proposed conditions. May include skills necessary to understand the watershed conditions and determine potential impacts river processes (e.g., investigating wildfire conditions, resultant landscape, and addressing potential impacts to design). May include understanding channel planform and type as well as associated channel geometry, riffle/pool sequencing, and appropriate modifications to enhance river processes based on that understanding. Understanding of fish habitat improvement project can include floodplain and/or side channel reconnection, installation of large woody debris or channel spanning rock weirs, and channel relocation to historic conditions. Services will also include associated numerical and sediment transport modeling.

#### **C.4.6. Other Technical Support**

a. *Assistance in Obtaining Permits* - The Contractor may be called upon to assist Reclamation with obtaining the necessary permits, licenses, and approvals from appropriate local, State, and Federal authorities as are necessary for the construction of the facilities resulting from the individual TOs issued under this contract.

b. *Computer System Analysis and Engineering* - Computer systems analyses may be required. Such analyses would require state-of-the-art knowledge of computer hardware (mainframes, supermicros, and scientific work stations) and associated operating systems (e.g., UNIX, VMS). The Contractor may be called upon to assist in implementing tracking and management programs or research, and recommend and implement a selected commercial project management program. The Contractor may be called upon to develop interdisciplinary planning models, expert systems, and complex databases. The work will be performed in conjunction with professional disciplines listed in paragraph C.1.3. Knowledge of computer hardware and software used in the development and operation of complex models as well as knowledge and experience in applied uses of integrated systems for planning purposes is required.

c. *Report Preparation and Editing* - The Contractor may be called upon to prepare and to edit technical reports and other publications based on self- or agency-generated information for publication. This may include developing conclusions that are valid and technically supported. It also may include complete graphic packages and public presentation materials. The Contractor is responsible for reviewing any reports it prepares for grammar, sentence structure, and style. Originals (both

camera-ready hard copy and electronic for Reclamation reproduction) and/or multiple hard copies may be required. Quantities of required reports will be specified in the TOs.

d. *Technical Communications* - Technical communications performed under this contract are anticipated to include the preparation of written technical studies, planning documents, environmental impact statements, design and/or construction specifications, narrative discussions for designs and meeting/conference call documentation. Technical communications include the development, writing, editing, review, and production of a variety of publications from document conception to printing. The written documents shall be prepared using the software version specified in the TO. Unless otherwise specified, the A&E shall make a presentation to Reclamation at the PN Regional Office on the work completed and submit the required design reports and other documentation for review by Reclamation upon completion of the TO or at milestones specified in the TO.

e. *Visual Presentations* - Visual presentations performed under this contract are anticipated to include the preparation of conceptual, preliminary, and final designs, drawing scanning/conversion, and all required drawing documentation as well as presentation and publication graphics for any of Reclamation's programs, if needed. Visual presentation materials (excluding specifications and drawings) shall be produced in compliance with Reclamation's Visual Identity Program (see the website at <http://intra.usbr.gov/vip/> - requires a password which can be obtained from the Contracting Officer).

f. *Remote Sensing and Geographical Information Systems* - Remote sensing and GIS support services performed under this contract are anticipated to include design and compilation of tabular and graphic spatial databases and extraction of information from these data using the analytic capabilities of GIS. Data compiled may come from a variety of sources, including: existing maps; aerial photography; airborne videography; satellite imagery; Global Positioning System information; and land survey data (including terrestrial and bathymetric data). Remote sensing and GIS applications may include: resource inventories, resource analysis and resource management planning; lake limnology; endangered fish habitat studies; water spreading analyses; pre- and post-processing and visualization of modeling data; and the detection of environmental change.

g. *Drafting/Cartography* - The Contractor may be called upon to prepare maps, drawings, and charts depicting information specified by Reclamation. All materials will be furnished by the Contractor except as otherwise provided in the TO. \

h. *Project Management* – The Contractor may be required to provide structured project management services to assist Reclamation. Activities which will be required may include: develop a project framework, project plans, project work plans; develop schedules (using software prescribed by Reclamation) quality control plans and other aspects of a project management plans assist in establishing and defining needs; assistance in planning and scheduling Government forces; identify alternative plans; evaluate alternative plans and make recommendations; recommend and analyze preferred plan; prepare economic and financial analyses of preferred plan; prepare environmental analyses; prepare and possibly assist in executing a public involvement program; prepare reports to document work accomplished including appendices and material for potential inclusion in environmental statements; perform project risk analysis; and, develop quality control plans.

The Contractor may be called upon to collect data for appraisal, feasibility, final and/or special designs, budget-level cost estimates, or other suitable documentation and to participate in Value Engineering (VE) studies.

## A.5. DESIGN WORK REQUIREMENTS

The Contractor shall perform all or part of the services required to prepare preliminary and/or final designs and specifications for the items described in the TOs. Design work and reporting requirements will vary and will be outlined per individual TOs.

Design items may include but are not limited to fish passage and irrigation diversion facilities, hydroelectric powerplants, pumping plants, pump/generating plants, miscellaneous buildings, dams, canals, drains, and distribution systems, and the various associated mechanical and electrical features. When required by the TO, the Contractor shall prepare designs and specifications for furnishing and installing equipment such as gates and valves, penstocks, discharge lines, and other features. The Contractor should also be prepared to develop performance-type specifications for equipment such as generators, transformers, turbines, pumps, and various auxiliary and/or appurtenant structures and/or equipment. Work is not limited to the requirements described in this subsection.

The Contractor design and specification services for Reclamation work may consist of one or more of the following: Conceptual Design, Preliminary Design, Final Design, and Construction Contract Support Services. These listed services may be issued as a TO or independently as separate TOs. Under each TO, the Contractor shall perform work set forth in the TO, and unless specifically provided therein, the Contractor shall perform the required services in accordance with the applicable requirements of this section as outlined in the individual TOs. Various documents will be submitted during the design phase as may be requested by the Contracting Officer and set forth in the TO.

In general, the sequence and content of submittals may be as follows:

a. *Concept (30%) Design Report* - When the designs for construction are of sufficient detail to show Reclamation how the technical and functional needs will be met, the designer's approach to the solution to the technical details, alternatives evaluated, compliance with the criteria or justification for noncompliance and a preliminary estimate of the construction cost has been prepared, the Contractor shall submit copies for Government review and comment. The report shall contain preliminary drawings, outline specifications, preliminary design summary, and the preliminary construction cost estimate.

b. *Intermediate (65%), Draft Design Report* - Intermediate designs, consisting of drawings and specifications, at this stage of design, shall present a package conforming to all applicable standards, codes, and engineering practices. The final design shall be accomplished by developing and refining the conceptual designs as modified by Reclamation's review comments. Major changes to the basic design will not be permitted at this time unless the changes are the result of review comments, changes in criteria, changes in the scope of work or unforeseen problems that necessitate a change in the A&E's original design. The report shall contain prints of the draft drawings, draft specifications.

c. *Pre-final (95%) Draft Design Report* - Upon completion of the intermediate review and receipt of Reclamation's review comments, the Contractor shall complete the designs, drawings, specifications, design summary, and construction cost estimate and submit them for final review by the Government. The report shall contain prints of the draft final drawings, draft specifications, design summary, and the construction cost estimates. With this submittal, the Contractor shall return copies of the intermediate design comments annotated to indicate the action taken by the A&E on the review comments.

d. *Final (100%) Design Report* - Upon completion of the final review and receipt of Reclamation's review comments, the Contractor shall complete the drawings, specifications, design

summary, and the engineer's (construction cost) estimate and submit them for acceptance by the Government. With this submittal, the Contractor shall return copies of the final design comments annotated to indicate the action taken by the A&E on the review comments.

If design summaries are required the Contractor shall prepare and furnish design summaries as required by the TOs. The summaries shall be prepared in accordance with all or portions of Reclamation's Design Summary and Designers' Operating Procedures (DOC) Preparation Memorandum DOC-2, dated June 1989 and Reclamation's total Design Process, Memorandum No. DES-1, dated September 1992 as specified by individual TOs. In addition, a Master DOC Outline is available for the Contractor's use, if specified by individual TOs. All of these documents may be accessed electronically at [www.pn.usbr.gov/contracts](http://www.pn.usbr.gov/contracts). The design summaries shall include chapters on designer's operating criteria and construction considerations. Design data shall be included in the appendices of the design summaries. The design summaries shall be prepared as an integral part of the Concept (30%), Design Report Pre-final (95%) Draft Design Report, and Final (100%) Design Report.

Design calculations shall be included in the appendices and consist of a bound assembly of all functional and engineering criteria, design information, and computations to support the design drawings and specifications. The design calculations shall be presented in a clear and legible form, incorporating a title page and a table of contents. Cross referencing shall be clear. The sources of information, formulas, and references shall be identified. Assumptions and conclusions shall be explained. The computations made as a part of the design calculations shall be presented on 8-1/2 x 11-inch paper except that larger sheets may be used when required for graphs or other special calculations forms. Computer printouts shall be reduced to 8-1/2 x 11-inch paper. Computer printouts on thermal paper will not be acceptable. The material may be typewritten, hand lettered, handwritten, or a combination thereof, provided it is legible, clearly expressed, and properly indexed. Copied design calculations shall be reproduced so as to be fully legible. Both side margins shall be 3/4-inch minimum to permit side binding and head-to-head printing. Calculation sheets shall carry the names or initials of the designer and the checker and dates of calculations and checking. No portion of a design analysis shall be computed and checked by the same person.

The Contractor shall furnish the necessary architectural, engineering, geologic, and other services to plan, evaluate, design, and provide support for the construction of the facilities as specifically required in the TOs.

For each TO, Reclamation will furnish to the Contractor, design data, a copy of the available appropriate design standards and standard specifications technical paragraphs. These are not limited to Reclamation design standards and standard specifications technical paragraphs. Reclamation also performs work for agencies such as NRCS and UDFS in which case their design standards and specifications will be used.

All work to be performed shall be in accordance with design standards and applicable codes as specified in the TOs and sound engineering practice. Applicable standards include, but are not restricted to:

- a. The Construction Specifications Institute (CSI), MasterFormat™, 1995 Edition or later.
- b. Reclamation's Information Management IMH Volume III This document will be provided by the Contracting Officer.
- c. Reclamation Safety and Health Standards, U.S. Bureau of Reclamation, (2002). This document may be accessed electronically at or [www.usbr.gov/SSLE/safety/rshs/rshs.html](http://www.usbr.gov/SSLE/safety/rshs/rshs.html). Additionally, the

facilities, systems, and equipment design standards of the Occupational Safety and Health Act, Code of Federal Regulations, Title 29, Chapter XVII, parts 1910 and 1926 as applicable, shall be incorporated by the Contractor into all engineering design and analyses furnished pursuant to the contract. Any problem encountered in incorporating these standards due to conflict with other technical criteria will be promptly submitted to the Contracting Officer for decision.

d. FAR Part 23.2 guidance for use of energy efficient products and materials (see [http://www1.eere.energy.gov/femp/procurement/eep\\_requirements.html](http://www1.eere.energy.gov/femp/procurement/eep_requirements.html)).

e. FAR Part 23.4 guidance for use of bio-based products and materials (see <http://www.biopreferred.gov/Default.aspx>).

f. Americans with Disabilities Act/Architectural Barriers Act Accessibility Guidelines (ADA-ABA AG).

The Contractor shall be responsible for obtaining the necessary permits, licenses, and approvals from the appropriate local, State, and Federal authorities as are necessary for the performance of the Contractor services required by the individual TOs issued under this contract.

The level of detail required for designs, drawings, and other work products, will be as set forth in the TO. Designs, drawings, and other work products shall be confined to the minimum reasonably required to support the level defined.

### **C.5.1. Preliminary Design**

Services involve development of design alternatives, preparation of preliminary plans and cost estimates, and recommendation of an alternative.

The Contractor shall prepare conceptual and preliminary designs based upon the project criteria and instructions. Preliminary designs are required for all features of the project, including the siting of facilities. Except that for facilities involving site adaptation of available plans, preliminary designs are not required for any construction feature that will be incorporated into the project without change from the design shown on the basic plans. For instance, if the plans can be site adapted without changes in the facility superstructure, preliminary designs are not required for the superstructures. If project criteria requires modification to the superstructure, preliminary designs are required for the modification only.

Estimates prepared at this stage of completion shall be prepared in as much detail as possible. The Estimate Summary Sheet shall be fully developed to determine its adequacy even though the full details of some sections or items may not be available at this time.

Preliminary cost estimates shall be realistic, reflecting current prices for work and materials, and shall take into account possible labor shortages or other local conditions that may have some effect on the works. Sufficient supporting data shall be furnished to enable the Government to determine how the estimated costs were established. If required, the preliminary design would be submitted to Reclamation as the Thirty Percent Design Report.

### **C.5.2. Final Design**

Services include preparation and submittal of the design analysis calculations, final plans and drawings, final cost estimates, construction considerations, and specifications unless otherwise specified in the individual TOs.

The Contractor shall accomplish the final design of the project complete with all component parts and appurtenances. The final designs shall be based upon the project criteria and, where furnished or required, upon approved preliminary design and costs estimates furnished in the Thirty Percent Design Report, if required.

For structures involving site adaptation of plans, the final design shall contain all modifications, additions, and appurtenances needed to adapt the design of structures, as shown on the plans, to local site conditions.

If required, the final design will be submitted to Reclamation for final revisions as the draft Ninety-five Percent Design Report. After incorporating Reclamation's comments, it would then be resubmitted as the final One Hundred Percent Design Report.

### **C.5.3. Submittal Requirements**

The Contractor may be required to complete the following tasks:

a. Review available data and investigations furnished by the Government.

(1) The Contractor shall review the existing documentation pertaining to the site and shall visit the site and its immediate vicinity to evaluate existing conditions. It is the responsibility of the Contractor to evaluate existing conditions in the immediate proximity of the project to determine if such conditions may affect, or may be affected by the proposed construction.

(2) The Contractor shall verify that existing conditions have not changed from those identified in prior investigations and are appropriate for the proposed Final Design. In the event that changed site conditions are found, the Contractor shall notify the Contracting Officer in writing. Such changes may necessitate design changes for which a contract modification may be necessary.

b. If required in the TO, as designs are completed, the Contractor will submit the designs to be reviewed at concept (30%), intermediate (65%), pre-final (95%), and final (100%) by the Government.

(1) The conceptual design shall consist of the following deliverables:

(a) Majority of the design data collected and analyzed.

(b) Update drawings of facilities to be moved or demolished on the project site

(c) Alternatives and Recommendations.

(d) An evaluation level engineer's cost estimate computed so as to present viable design alternatives to the Government.

(e) Preliminary drawings that shall be sufficient in detail as to aid in the evaluation of the design alternatives.

(2) The intermediate design shall consist of the following deliverables:

(a) All design data collected and analyzed.

- Government.
- (b) Design of optional components taken to 100% design as requested by the Government.
  - (c) Preliminary draft of the technical specification.
  - (d) Design drawings.
- (3) The pre-final design shall consist of the following deliverables:
- (a) Detailed cost estimate suitable for pre-validation of Government funds.
  - (b) Draft of the technical specification (essentially complete).
  - (c) Design drawings (essentially complete).
  - (d) Design summary to include computations, quantities, design and operating criteria.
- (4) The final design shall consist of the following deliverables:
- (a) Detailed engineer's cost estimate for capital (initial construction) expenditures.
  - (b) Detailed cost estimates of anticipated O&M costs (including staffing and training needs).
  - (c) Complete technical specifications.
  - (d) Complete design drawings including one reproducible copy. (e) Design summary to include computations, identification of construction issues, and design and operating criteria.

The TO will specify the number of sets to be submitted of the conceptual, pre-final and final designs and the number of electronic copy sets on a form of electronic media of the technical specifications and CAD drawings. See subsection C.5. and C.9. for Reclamation drawing requirements.

c. If required in the TO, the Contractor shall submit decision documents for each phase of activity.

## **A.6. SURVEYING**

This section details general technical requirements. TOs will identify specific requirements.

a. *Requirement for Engineering Supervision* - Any surveying performed by the Contractor shall be performed by or under the direct technical supervision of a registered licensed surveyor currently registered in the State of Interest and in accordance with applicable reference manuals (eg. State of Washington's "Reference Manual," 1995, and Bureau of Land Management's "Manual of Instructions for the Survey of Public Lands of the United States," 1973).

b. *Existing and supplemental control* - The Contractor shall secure from the National Geodetic Survey, Reclamation, the Corps of Engineers, and the Geological Survey, locations and descriptions of any horizontal and vertical control points of third-order accuracy or higher in the vicinity of the area(s)



to be surveyed as applicable. These data shall be submitted to the Contracting Officer prior to beginning compilation for maps, cross sections, or profiles. The Contractor shall establish any such supplemental basic horizontal and vertical control points as needed to perform the services specified under this Contract or subsequent TO. Such supplemental basic accuracy as defined in "Classification and Standard of Accuracy of Geodetic Control Survey," dated June 1980, by the Federal Geodetic Control Committee - United States Department of Commerce. Supplemental basic horizontal and vertical control established by the Contractor shall be tied appropriately into the existing horizontal control networks, traverses, and level circuits. If the supplemental basic horizontal control surveys are performed by trilateration, they shall meet the same accuracy standards in regard to position closure as for triangulation and traverse surveys. Economical and efficient use of the Department of Defense Global Positioning System (GPS) to assist in establishing control points may be required.

c. *Reporting Requirements and Deliverables* - Deliverables will typically include the following:

- (1) Type of survey - Site topography, sections, profiles, and structure details.
- (2) Type of coordinate system - State Plane Coordinates NAD 83 (91).
- (3) Measurement type - English
- (4) It shall be the responsibility of the Contractor to submit whatever necessary interim review copies of reports, tables, drawings, maps, notes, and illustrations needed to communicate the progress and direction of the work to Reclamation.

The contours on the maps to be provided shall be true elevations and the Contractor shall describe in writing and/or show on the drawing all survey control used. The Contractor will locate and give nearest monument information. The Contractor shall include this information on appropriate drawings. Survey control shall be on a separate layer than the other information provided. The Contractor shall provide at least two rebar hubs at each site with horizontal and vertical control. The hubs shall be located in an open area protected from traffic and marked by lath or other material so that they can be used later to provide control for construction surveying. The TOs will specify the number of final maps and electronic copies to be submitted.

d. *Electronic Requirements* -

- (1) All electronic data shall be submitted on a form of electronic media.
- (2) Progress reports shall be formatted in accordance with Section C. 5.
- (3) The Contractor shall produce Field Book Data Files and Digital Terrain Models representing true elevations and survey control compatible with AutoCAD Civil 3D 2012 or later and ESRI shapefile or file geodatabase (9.3.1 or later), configured with the PN Region's (PN) standards and using PN's standard operating procedures as provided by the Contracting Officer. All geospatial data shall be submitted with it appurtenant FGDS compliant metadata records in formats specified in the individual task orders.

All geospatial data shall be delivered with a defined spatial reference as shown in the Attachment in Section J, entitled "Projections for Idaho, Oregon and Washington". All geospatial data shall be delivered with appurtenant Federal Geographic Data Committee (FGDC)-compliant metadata records in XML format.

(4) Final maps shall be submitted in electronic format, as appropriate for the information being mapped, and in accordance with Reclamation's IMH Volume III

(5) Paper Copies - Final maps shall be prepared standard drafting weight paper which is an archival quality drafting media. The plot shall be a full-size representation (original D size plot) of the final maps and drawings.

#### **A.7. PREPARATION OF NARRATIVE SPECIFICATIONS FOR INCLUSION IN RECLAMATION-ISSUED CONSTRUCTION SOLICITATIONS**

The Contractor shall prepare complete technical construction specifications as required by the TOs. The specifications shall be of sufficient detail so that when used with applicable drawings and the specifications and standards incorporated by reference, construction bids can be sought by Reclamation on a full and open competitive basis. The technical specifications shall state precisely what is expected from the construction contractor in clear and concise statements. Materials shall be described, where possible, by reference to standards generally known to the industry, technical, society, Federal, or military specifications and standards. The standard which best represents no more and no less than the Government's minimum needs shall be selected for incorporation into the specification. The latest edition of the Construction Specifications Institute (CSI), MasterFormat™ shall be used by the Contractor as a guide in preparing technical specifications, unless otherwise required. The latest edition of Reclamation's "Contents Guide for Construction and Supply Solicitations/Specification" or other guide may be used by the Contractor as a guide in preparing technical specifications, if specified in the TO. Specifications which provide examples of the level of detail required in the preparation of different types specifications can be provided by the Contracting Officer.

The technical provisions shall comprise a master technical specification covering all items of work common to all line items under the TO, and shall be prepared with separate sections covering the various trades of work classification. The sequence of materials shall be in the same order as that used in CSI guide for specifications, or other guides, as specified. Where applicable, technical provisions shall be based upon specifications listed in the TO.

A schedule of construction contractor's approvals and tests shall be prepared listing all shop drawings, samples, materials, fixtures, equipment, plant materials, and color schedules to be submitted and all tests to be performed by the construction contractor in accordance with the contract specifications.

Any narrative technical specifications prepared by the Contractor shall comply with FAR Part 11 "Describing Agency Needs" as well as the Department of Interior and Reclamation supplements to FAR Part 11. Any narrative technical specifications for designs produced under TOs placed against this contract shall also comply with paragraph C.5.4. (Specifications) and the following:

a. *Brand Name or Equal Purchase Descriptions* - If specifications are designed around (or make reference to) a proprietary product, process, or particular make/model of equipment, the specifications shall give full contact information for that item (company name, address, phone, fax, email or website) and shall provide a detailed list of salient design or function characteristics so that potential offerors can offer an "equal" product to the specified "brand name" product (see FAR Part 11).

b. *Reference Standards and Specifications* - Pursuant to WBR 1411.201 entitled "Identification and Availability of Specifications," the Contractor shall be responsible for providing the titles and specific dates of any requirements documents cited in their designs. The Contractor shall verify that documents cited in the narrative specifications or on drawings are readily available from the issuing

entity and that the documents have not been replaced or discontinued. Dates cited in the final design shall be the current date at the time of the submittal of the final design to Reclamation.

c. *Use of Foreign Construction Materials Prohibited* - Any narrative specifications or drawings produced under TOs placed against this contract shall comply with FAR Part 25.2 (Buy American Act - Construction Materials) and shall not contain references to construction materials that do not meet the requirements of the Buy American Act or other Trade Agreements acts.

d. *Development of Bid Schedules* - The Contractor shall prepare/assist in the preparation of bidding schedules for inclusion in Reclamation-issued solicitations that include the Contractor's designs. Such bidding schedules shall use lump sum pricing to the maximum extent practicable and shall only include unit pricing for items such as earthwork and concrete.

#### **A.8. PREPARATIONS OF COST ESTIMATES**

The cost estimates shall be broken down into major items of construction as approved by Reclamation. Each major item shall be further broken down into component units of labor and materials with the quantity and cost of each unit shown. Labor costs shall be estimated using the Davis Bacon Wage rates in effect at the work site at the time the estimate is prepared. When requested in the TO for multi-purpose projects, the breakdown shall be made in a manner which will facilitate a ready determination of the direct costs of single-purpose facilities and joint-use facilities. An allowance for contingencies ranging from 15 percent and not exceeding 25 percent may be added as appropriate. Lump-sum estimates shall only be used for items of relatively small costs, for which preparation of quantity estimates is impractical and would involve an impractical large amount of work.

Cost estimates of designs for construction shall be comparable to estimates prepared by bidding construction contractors taking into consideration the local bidding climate and shall be prepared in as much detail as though the estimator was competing for award.

The cost estimates of designs for construction will be utilized in preparing estimates for evaluating offers and, as such, will become confidential material for official use only. Such material shall not be divulged to other than authorized Reclamation personnel. In the event that the Contractor intends to employ parties other than its own staff in preparing cost estimates, written approval of the Contracting Officer of such parties is required. Reclamation will not grant approval of construction contractors or subcontractors, or any employee of the same, unless assurances are submitted that the contracting firm will keep the cost estimates confidential and will not later submit an offer or serve as a subcontractor to an offeror on the construction contract. Cost estimates shall remain the sole property of Reclamation and shall not be made available to others for any purpose. The sale of take-off quantities and costs to prospective bidders by estimators is prohibited.

#### **A.9. RECLAMATION DRAWING REQUIREMENTS**

All drawings, except reference and standard drawings shall be developed utilizing a CAD system unless otherwise specified by the Contracting Officer. TOs will specify the number of drawings and electronic copies to be submitted. Maps and drawings shall be provided in hard copy as well as in electronic format; AutoCAD Civil 3D 2012 or later, ArcGIS 9.3.1 or later as specified in the TO. Maps will be prepared to fit both a full size (22 -inches by 34 inches) and a half-size format (11 inches by 17 inches) which is foldable to 8½-inch x 11-inch size.

The Contractor shall provide actual data from GIS databases which were used to produce maps, drawings, and any scripts used to produce the composition, giving Reclamation the ability to reproduce

them in order to defend their composition, if challenged. All maps and drawings shall be drawn to scale in electronic format, in US Customary Units, and in accordance with Reclamation's IMH Volume III.

The Contracting Officer will supply Reclamation assigned drawing numbers. In addition to the Contractor's title block, the drawing shall include a Reclamation title block, laid out in accordance with Figure 3 of Reclamation's IMH Volume III. The Contractor shall develop a computer-driven plot-generated drawing, plotted standard drafting weight paper which is an archival quality drafting media. The plot shall be a full-size representation (original D size plot) of the final drawings and shall be developed in black ink. Each plot shall be signed by a registered professional in a discipline directly related to the drawing content. The signature lines on the Reclamation title block shall be left blank. The TO will specify the number of drawings and electronic copies to be submitted.

#### **A.10. STUDIES AND REPORTS**

The studies and reports shall be clear, concise, and complete, and include the rationale and methods used in arriving at the assumptions, parameters, and conclusions so that they can be independently evaluated and checked. Specific requirements for studies and reports will be outlined in detail in the TOs.

The final reports shall be prepared from the draft reports and Reclamation's review comments. Final reports for design services shall be signed and stamped by the registered professional engineer or architect responsible for its preparation. Reports are subject to Reclamation's Visual Identity Program.

#### **A.11. MEETINGS AND PRESENTATIONS**

a. *Meetings* - At any time after notice of award and until all services are completed, meetings with the Contractor's representative or representatives may be requested by the Contracting Officer. The Contractor may also request a meeting at any time. Meeting requests shall be coordinated between the Contractor Project Lead for this contract and the Contracting Officer. The Contractor representatives attending meetings shall be familiar with the aspect of the services being performed.

b. *Presentations* - When required by a TO, the Contractor shall make presentations on the results of services being performed. The presentations shall cover the background of the specific findings, situation, critical or peculiar details, and the specific information required by the TO. The Contractor presenter(s) may be present in person or via phone as agreed to by the Contracting Officer. Presentations may be required on, but are not limited to, the following:

(1) For construction solicitations:

- (a) Concept (30%).
- (b) Intermediate (65%).
- (c) Pre-final (95%).
- (d) Final (100%).

(2) Periodic meetings of the Design Group and/or others.

c. *Location of Meetings and Presentations* - Meetings and presentations will generally occur in Boise, Idaho, but may occur at other locations as needed and approved by the Contracting Officer. Meetings may be conducted via conference call if deemed appropriate and effective by Reclamation.

d. *Postaward Meetings for ID/IQ Contract*- Following the award of the contract, the Contractor shall participate in two meetings with Reclamation: a post award meeting and a technical requirements and standards meeting. At a minimum the project manager and contract administrator shall attend the post award meeting. In addition, primary TO managers and CADD manager shall attend the technical requirements and standards meeting. A primary TO manager is the lead TO manager for each project category (fish passage, facilities, habitat restoration, and other category).

## **A.12. REPORTING REQUIREMENTS AND DELIVERABLES**

### **C.12.1. General**

Deliverables will typically include whatever necessary interim review copies of reports, tables, drawings, maps, notes, and illustrations needed to communicate the progress and direction of the work to Reclamation.

Progress reports shall be submitted on a DVD- or CD-ROM, formatted in Windows based Microsoft Word 2007 or later or in Adobe Acrobat 7.0 or later format. The Contractor may be requested to provide Reclamation one hard copy of documents and drawings in addition to the digital copy.

### **C.12.2. Electronic Submittals**

Electronic submittals shall be provided in the following formats as appropriate:

a. *Word processing* - Microsoft Word 2007 or later.

b. *Spreadsheets* - Microsoft Excel 2007 or later.

c. *Drawings and Surveys* - AutoCAD Civil 3D 2012 or later, or as specified in the TO. The Contractor must demonstrate that the data contains proper point files, point groups, and intelligent Civil 3D object entities such as surfaces, alignments, profiles, cross-sections, as required. ASCII point files must be included, with a point descriptor glossary. All \*.DWG deliverables must be created using Reclamation's standard drawing template file (\*.DWT) and standard support files (to be provided by Reclamation). Deliverables shall be "eTransmitted" from within the Civil 3D application, to package \*.DWG files with all resource files and dependencies including fonts, external references, and images. Before submission for final acceptance, all designs and drawings by the A&E shall be signed and dated by the registered professional responsible for the project. The stamp and signature of the registered professional engineer shall appear on all design drawings.

d. *Schedules* – Microsoft Project 2007 or as directed in specific TOs. Microsoft Project shall not be used for CPM schedules developed for construction projects under this contract. Primavera P6 or later or SureTrak shall be used for CPM schedules related to construction activities.

e. *Acrobat Reader (PDF)* - Adobe Acrobat Writer 7.0 or later.

f. *Mapping* – Arc GIS Version 9.3.1 or later.

g. *Geospatial data* – All geospatial data and digital map documents shall be submitted with appurtenant Federal Geographic Data Committee (FGDC) compliant metadata records in formats specified in the individual task orders.

These standards may be revised by the Contracting Officer during the term of this contract to reflect software upgrades. The Contracting Officer will notify the Contractor in writing prior to any planned software upgrade.

### **C.12.3. Contract Administrative Reports**

a. *Work Plans* – In accordance with the TO the Contractor may be required to submit a work plan and/or schedule to the COR for approval prior to proceeding with any portion of the work.

b. *Progress Reports* - Brief progress reports shall be submitted to the COR in letter form. They shall be submitted on a regular basis (as negotiated per each TO) and will document the Contractor's performance under each TO, outlining the accomplishments of the Contractor during that period. They shall also include information on current or foreseen problems or concerns that will impact performance. The Contractor will also be required estimate their projected monthly earnings and submit the estimates to the COR as requested in order to assist Reclamation in recording accruals in its accounting systems.

c. *Editorial Policy* - The Contractor shall foster an editorial policy of brevity and clarity for all reports, studies, technical specification, and other work products. The Contractor shall use active phrasing whenever possible.

### **C.12.4. Review Procedures**

For documents or sections of documents subject to agency review, three (3) copies of documents shall be submitted to Reclamation. Upon receipt of Reclamation's comments, the Contractor shall address and/or incorporate them into the final document and submit documents to Reclamation within 15 calendar days unless otherwise noted in the schedules included with the TO. Review conferences may be held at appropriate stages during the review process to discuss comments and necessary changes. Review of interim review copies will be worked out between the COR and the Contractor on an informal, but timely basis, so as not to impede the progress of the TO.

### **C.12.5. Typography**

Reports and plans shall be in Times New Roman 12 point font, or other agreed upon font, and produced using Microsoft Word 2007 or later. Documents shall be printed using a laser printer. Reports and documents shall comply with Reclamation's Visual Identity Program (see <http://intra.usbr.gov/vip/> which requires a password that the Contracting Officer will supply).

### **C.12.6. Photographs, Graphics**

Photographs, if required, shall be submitted as separate files that are compatible with Microsoft Word 2007 and PowerPoint 2007 or later versions.

## **A.13. CLAUSES INCORPORATED INTO TASK ORDERS PLACED UNDER CONTRACT**

All TOs for Architect Engineering and Related Services placed against this contract shall include the following FAR clauses:

- 52.236-22 Design Within Funding Limitations
- 52.236-23 Responsibility of the Architect-Engineer Contractor

52.236-24 Work Oversight in Architect-Engineer Contracts

52.236-25 Requirements for Registration of Designer

For any Task Order that requires physical site investigations the following clauses are hereby incorporated by reference:

FAR 52.236-2 Differing Site Conditions

WBR 1452.236-84 Preservation of Cultural Resources – Bureau of Reclamation

WBR 1452.223-81 Safety and Health – Bureau of Reclamation

#### **A.14. TASK ORDER PROPOSAL INSTRUCTIONS**

Task Orders will be awarded using FAR 36.6 (Architect-Engineering) procedures and competed pursuant to FAR 16.505(b). When the Contractor has been selected for award of a Task Order and is issued a Statement of Work (SOW), and a request for a technical or cost proposal for a specific task by a Contracting Officer, the Contractor shall submit:

a. *Technical Proposal* - A narrative proposal that is of sufficient detail to allow the Contracting Officer to evaluate the proposed approach to completing the work.

The narrative proposal's descriptive detail shall be in direct proportion to the complexity of the task. For Task Orders with performance periods less than 90 days the narrative portion of the Task Order proposal should not exceed 10 pages (or as specified in the request for Task Order proposals). For more complex Tasks with performance periods exceeding 90 days the Contractor should strive to provide enough information to allow for meaningful analysis of the proposal without resorting to lengthy discussion of the elements of the project. Although more complex tasks requiring multiple disciplines and schedules will require more lengthy discussion/descriptions, Reclamation *doesn't desire nor require* elaborate proposals that incorporate color photography, sophisticated charts and figures, foldouts, transparencies, maps, or expensive printing and binding procedures. Our preference is for Adobe Acrobat PDF proposals submitted via email. Proposals should use minimal graphics and contain no decorative fonts, colored text, and should print legibly on 8.5" x 11" paper. Milestone schedules or bar charts and spreadsheets may be sized for legal paper or 11" x 17" sheets if necessary for legibility.

The proposal shall: define methods to be applied to accomplish the TO goals; contain a proposed milestone schedule identifying all significant activities and their proposed completion dates; identify key personnel and activities they are responsible for; and provide a detailed breakdown showing the number of hours per discipline (Architect, Engineer, Surveyor, Technicians, Draftsman, and other job titles/positions) for activities related to the administration, design, documentation, field work, and deliverable preparation. The Contractor should address the technical evaluation criteria for the proposals as set out in the request for Task Order proposals.

b. *Cost Proposal* - The Cost Proposal shall contain a breakdown of the number of labor hours per person per task/activity proposed in the Technical Proposal, using the applicable loaded hourly rates from Section B of the Contract, any estimated travel costs, any subcontracted costs (broken out in the same level of detail as the primary work) and the proposed profit/fee. Cost proposals shall be prepared using Microsoft Excel 2007 or later and submitted via email in Adobe Acrobat PDF format or in their native Excel format. The pricing spreadsheet may be sized for legal paper or 11" x 17" sheets if

necessary for legibility. The Contracting Officer will provide a sample/template spreadsheet for the Contractor's use.

If any identified person will be performing work in more than one discipline/service, show the number of hours for which they will perform each discipline/service. A person may perform any work for which they are qualified, and approved for by the Contracting Officer, but they may only work under one loaded hourly rate. Proposed travel costs shall be estimated pursuant to the General Service Administration's (GSA's) Federal Travel Regulations, which are available via the Internet at [www.gsa.gov](http://www.gsa.gov).

*c. Subcontracting by Small Business Contractors* – If the contract was awarded under the Small Business Set-Aside portion of the procurement, the Contractor is subject to the requirements of the FAR clause in Section I entitled “Limitations of Subcontracting” and shall submit a completed “Subcontracting Percentage Worksheet” (see Section J) with their proposal.