BUREAU OF RECLAMATION

Speelyi Beach Shoreline Final Specification

Cle Elum Dam and Reservoir, Yakima Project, Washington

Solicitation Number: 140R1026B0002

U.S. Department of the Interior
Bureau of Reclamation
Columbia Pacific Northwest Interior Region 9
Boise, Idaho

SPECIFICATIONS
March 2026

This solicitation issued by
Contracting Officer
Pacific Northwest Region
Bureau of Reclamation
1150 North Curtis Road, Suite 100
Boise ID 83706-1234

SPEELYI BEACH SHORELINE PROTECTION

YAKIMA RIVER BASIN WATER ENHANCEMENT PROJECT - INTEGRATED PLAN
YAKIMA PROJECT - WASHINGTON

FOREWORD

Work is located on Cle Elum Reservoir, approximately 8 miles northwest of Cle Elum, Washington, in Kittitas County. Work is located near the Speelyi Beach Day Use Area. Work is constructing shoreline protection along the edge of the reservoir. Principal components of the work include earthwork, clearing and grubbing, removal and hauling of trees, construction of a temporary access road, trench excavation, installation of geotextile fabric, culvert installation, site grading, riprap placement, selective demolition of structures, in-kind replacement of a fence, and removal of the temporary access road upon completion.

SITE VISIT: SEE SECTION L FOR SITE VISIT INFORMATION. OFFERORS ARE STRONGLY URGED TO PARTICIPATE IN THE SITE VISIT. FAILURE BY OFFERORS TO INSPECT THE SITE WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF PROPERLY ESTIMATING THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS AND WITHIN THE ALLOWED TIME. ATTENDEES ARE TO PROVIDE AND WEAR SAFETY GLASSES, BOOTS, HARD HATS, SAFETY VESTS.

FOR PROPOSAL DELIVERY INFORMATION, SEE "SOLICITATION, OFFER, AND AWARD," STANDARD FORM 1442.

FOR INFORMATION REGARDING BUREAU OF RECLAMATION'S PUBLICATION "RECLAMATION SAFETY AND HEALTH STANDARDS" INCLUDING REVISIONS AT https://www.usbr.gov/safety/rshs/index.html **WHICH IS APPLICABLE TO WORK UNDER THIS CONTRACT, SEE CLAUSE AT "WBR 1452.223-81 SAFETY AND HEALTH."**

END OF SECTION

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CONTINUATION OF

SECTION B – SUPPLIES OR SERVICES AND PRICES

CLE ELUM DAM AND RESERVOIR

SPEELYI BEACH SHORELINE STABILIZATION

YAKIMA PROJECT, WASHINGTON

B.1 PRICE SCHEDULE

(a) Bids will be considered for award on the following Price Schedule, but no bid will be considered for award on only a part of the Price Schedule.

(b) Bids are subject to the terms and conditions of this solicitation.

(c) Quantities in the Price Schedule are estimated quantities for comparison of bids only.

(d) See the contract clause at WBR 1452.232-81, Payment for Mobilization and Preparatory Work, for CLIN 1.

(e) Definitions:

(1) CLIN – Contract Line Item Number

PRICE SCHEDULE

CLIN	Section	Supplies or Services	Quantity and Unit	Unit Price	Amount
1	WBR 1452.232 -81	Mobilization and Preparatory Work	For the lump sum of		$
2	02 41 13	Selective Demolition	For the lump sum of		$
3	13 00 10	Log Structures	For the lump sum of		$
4	31 11 00	Clearing and Grubbing	For the lump sum of		$
5	31 23 11	Earthwork	For the lump sum of		$
6	31 37 00	Riprap	For the lump sum of		$
7	32 14 40	Stone Paths	For the lump sum of		$
8	32 92 20	Seeding and Soil Supplements	For the lump sum of		$

PRICE SCHEDULE

CLIN	Section	Supplies or Services	Quantity and Unit	Unit Price	Amount
9	33 42 30	CMP Culvert	For the lump sum of		

TOTAL FOR PRICE SCHEDULE $_____

B.2 OPTIONAL PRICE SCHEDULE A

(a) The Government reserves the right to award or not award Optional Price Schedule A.

(b) The Optional Price Schedule A items are for work as shown on the Drawings within the boundary marking “Optional Site A” site work.

(c) Quantities in the Price Schedule are estimated quantities for comparison of bids only.

(d) See the contract clause at WBR 1452.232-81, Payment for Mobilization and Preparatory Work, for CLIN 1.

(e) The Optional Price Schedule A may be exercised at any point during the Contract period of performance.

OPTIONAL PRICE SCHEDULE A

CLIN	Section	Supplies or Services	Quantity and Unit	Unit Price	Amount
1A	02 41 13	Selective Demolition	For the lump sum of		$
2A	31 11 00	Clearing and Grubbing	For the lump sum of		$
3A	31 23 11	Earthwork	For the lump sum of		$
4A	31 37 00	Riprap	For the lump sum of		$
5A	32 31 29	Wood Fence	60 LF	$	$
6A	32 92 20	Seeding and Soil Supplements	For the lump sum of		$
7A	33 42 30	CMP Culvert	For the lump sum of		$

TOTAL FOR OPTIONAL PRICE SCHEDULE A $_____

GRAND TOTAL FOR PRICE SCHEDULE AND OPTIONAL PRICE SCHEDULE A
$_____

END OF SUPPLIES OR SERVICES AND PRICES

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BUREAU OF RECLAMATION

COLUMBIA-CASCADES AREA OFFICE

WRITTEN SPECIFICATIONS SIGNATURE SHEET

Specifications No: 140R1026B0002

Specifications Title: SPEELYI BEACH SHORELINE PROTECTION

Project Title: CLE ELUM POOL RAISE: SPEELYI BEACH SHORELINE PROTECTION

Region: COLUMBIA PACIFIC NORTHWEST INTERIOR REGION 9

Prepared: STACEY CARLSON Digitally signed by STACEY CARLSON Date: 2026.02.10 10:40:30 -07'00'

Technical Approval: MATTHEW DEAMICO Digitally signed by MATTHEW DEAMICO Date: 2026.02.24 15:14:34 -08'00' P.E.

AMD/MOD No.	Technical Approval Signature:	Prepared By Signature:	Revised Specifications

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DIVISION 01 - GENERAL REQUIREMENTS

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SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION

A. Work is located on Cle Elum Reservoir, approximately 8 miles northwest of Cle Elum, Washington, in Kittitas County.

B. Work is located near the Speelyi Beach Day Use Area.

1.02 WORK HOURS

A. Allowable work hours: 7:00 am and 6:30 pm Monday through Friday, excluding Federal holidays, unless otherwise noted.

B. Work hours are subject to Industrial Fire Precaution Levels (IFPL). More information can be found at https://www.dnr.wa.gov/ifpl

C. Work outside of allowable work hours and/or holidays shall be approved by the COR in writing a minimum of 72-hours in advance.

D. Material deliveries 7 a.m. to 6:30 p.m, Monday through Friday. Material deliveries outside of allowable hours shall be approved by the COR in writing a minimum of 72-hours in advance.

1.03 PRINCIPAL COMPONENTS OF WORK

A. The work to be performed consists of the following:

1. Water for Dust Control.
2. Construction Access Road. Temporary Erosion Control.
3. Selective Demolition (As shown in the Price Schedule's).
4. Stone Paths (As shown in the Price Schedule).
5. Clearing and Grubbing for staging areas and slopes to receive riprap (As shown in the Price Schedule's).
6. Tree Removal.
7. Excavation and reshaping hillside. Common Fill.
8. Beach Fill.
9. Toe Armor.
10. Geotextile.

11. Riprap (As shown in the Price Schedule's).
12. Bedding Layer, CMP Culvert culvert installation and site grading (As shown in the Price Schedule's).
13. Wood Fence (Optional Price Schedule A).
14. Seeding and Soil Supplements (As shown in the Price Schedule's).
15. Log Structures (Price Schedule).
16. Removal of the Construction Access Road upon completion (Price Schedule).

1.04 SPECIFICATIONS REQUIREMENTS

A. Requirements in Division 1, General Requirements, apply to Divisions 2 through 52.

B. Imperative statements in these specifications are Contractor requirements, unless otherwise stated.

C. Where specifications are written in streamlined form, words "shall be" are included by inference where a colon (:) is used within sentence or phrase.

1.05 DEFINITIONS

A. When specifications use a word or term defined in Federal Acquisition Regulations (FAR), definition of the word or term shall be in accordance with FAR sections in effect at the time solicitation was issued.

1.06 ACRONYMS

A. The following acronyms apply to specifications Divisions 1 through 52:

1. CO: Contracting Officer.
2. COR: Contracting Officer's Representative.

1.07 SEQUENCE OF THE WORK

A. Portions of the work require construction below the high-water line. Perform all work in the dry. Refer to Section 51 10 20 – Historic Water Elevations for data on the water level fluctuations of Cle Elum Reservoir.

1.08 SITE MEASUREMENTS

A. All measurements provided in this Scope of Work are approximate and for reference only. The Contractor shall be responsible for verifying all measurements before starting work, and providing all materials required to meet the shoreline protection extent shown in the Drawings.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01 14 10
USE OF SITE

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	Cleaning Manual	Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species 2021 Edition Available online at: http://www.usbr.gov/mussels/prevention

1.03 SUBMITTALS

A. Submit in accordance with Section 01 33 00 - Submittals.

B. RSN 01 14 10-1, Land Use and Landscape Rehabilitation Plan:

1. For each Contractor use site on Government land.

a. Show use location and extent of impact. Uses include but are not limited to the following:

1) Buildings and service areas including offices, shops, warehouses, storage areas, fuel and oil storage areas, and fabrication yards.

2) Parking areas, temporary roads, and haul routes.

3) Utilities including air, power, and water lines; fire hydrants; and compressor station.

4) First-aid and medical facilities.

5) Aggregate processing. Show sizes, rated capacities, and general features of aggregate processing plant including transporting, storing, screening, and washing facilities; and concrete conveying, placing, and cooling plants.

6) Areas for processing, storing, and disposing of waste materials from construction operations.

7) Temporary fences.

b. Describe methods to preserve, protect, and repair, vegetation (such as trees, shrubs, and grass) and other landscape features on or adjacent to jobsite and contractor use areas, which are not to be removed and which do not interfere with work required under this contract. Include methods to mark work area limits, protect disturbed areas, and prevent erosion.

c. Describe methods to preserve and protect infrastructure within the contractor use areas that cannot be removed or altered.

d. Describe methods to protect, and repair if damaged, existing improvements and utilities at or near jobsite.

e. Describe methods for removing temporary structures and facilities, cleanup, and rehabilitating site after completion of construction activities.

2. Submit revised drawings of changes in use of Government land made during design and erection stages or after use of Government land is in operation.

3. Do not use the existing concrete boat ramp for vehicle access to the work site unless approved by the COR.

a. Construct temporary culverts/stream crossing structures at stream crossings or cross-drainage channels to allow for unimpeded surface drainage.

b. The concrete boat ramp may be used as approved by the COR for initial mobilization of equipment to start construction of the temporary access road, and for final demobilization once the temporary access road is removed.

c. The Contractor shall construct an access road starting adjacent to the boat ramp as shown on the Drawings, without disturbing existing log revetments that are constructed near the north end of the boat ramp.

d. Existing riprap at the boat ramp area shall be stockpiled and replaced at the end of construction, with the site returned to its pre-construction condition.

C. RSN 01 14 10-2, Private Property Access Request:

1. Shall notify the COR a minimum of two weeks in advance for access to private property.

a. Type of work to be performed:

1) Culvert work and grading.

1.04 PROJECT CONDITIONS

A. All Contractor Use Areas are on Government land as shown on drawings and may be used for required construction facilities except where noted otherwise.

B. No additional trees cutting or clearing and grubbing shall occur outside of the disturbed area as shown in drawings.

C. The Government will have written permissions obtained for use of private land for construction facilities or other construction purposes as shown on the Drawings, which will be shared with the Contractor as necessary.

D. Location, construction, operation, maintenance, and removal of construction facilities on Government land will be subject to approval of COR.

E. Do not interfere with work of other contractors or the Government in vicinity, or with reservations made by the Government for use of such land.

F. Housing for construction personnel will not be permitted on Government land, except housing for guards or watchmen as may be approved by COR.

G. All work shall be performed when the reservoir pool elevation is consistently at or below Elevation 2220, a condition that typically occurs from September 1 through April 1.

H. The boat ramp and day use area will be open to the public during construction.

I. The Contractor shall make a written request to the US Forest Service Cle Elum Ranger District to close the site for public safety if necessary. The request shall be approved by the US Forest Service Cle Elum Ranger District in writing a minimum of 72 hours in advance.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CLEANING

A. Construction equipment:

1. Before bringing on site, clean construction equipment to remove dirt, vegetation, and other organic material to prevent introduction of noxious weeds, and invasive plant and animal species.
2. Contractor cleaning procedures shall result in equipment being cleaned as well or better than the procedures described in Cleaning Manual.
3. COR will inspect construction equipment following procedures described in Cleaning Manual before allowing equipment onsite.

3.02 RESTORATION

A. Upon completion of the work, the Contractor shall restore all areas used for construction activities to pre-construction condition, including temporary access roads, haul routes, and staging areas.

B. Restore temporary construction roads to original contours and make impassable to vehicular traffic when no longer required

C. After completion of work, regrade and scarify Government land used for construction purposes and not required for completed installation so that surfaces blend with natural terrain and are in a condition that will facilitate revegetation, provide proper drainage, and prevent erosion.

1. Restore any borrow pits after use. All ruts and depressions within the borrow pit shall be filled and slopes within the borrow area shall be no steeper than 5:1 and shall slope towards the reservoir.

D. Seed disturbed areas of Government land used for construction purposes and not required for completed installation in accordance with Section 32 92 20 - Seeding and Soil Supplements. with species of native plants, or other approved perennial species, as recommended by an experienced local horticulturist.

3.03 TEMPORARY ROADWAYS AND PARKING AREAS

A. Between February 28 to July 16 in any calendar year, temporary road crossings shall consist of a steel plate, log corduroy, or similar structure placed to fully span the wetted perimeter of the stream channel.

B. Between July 16 and February 28, in any calendar year, temporary road crossing culverts may be installed and shall be of sufficient size to pass flow and debris occurring during the project and allow crossing to be isolated from the flowing stream..

END OF SECTION

SECTION 01 31 19
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 SUBMITTALS

A. Submit in accordance with Section 01 33 00 - Submittals.

B. RSN 01 31 19-1, Progress Review Meeting Agenda and Minutes:

1. Includes the following:

a. Meeting shall be held weekly at the work site project office.

b. Prepare agenda and distribute 24 hours before the meeting.

c. Prepare and distribute meeting minutes within 24 hours of each meeting.

d. Attendees: Responsible representatives who have been fully informed of specifications with respect to technical requirements, and coordination necessary to complete construction. Representatives shall be determined on an as needed basis and typically should include:

1) Project Manager from Contractor.

2) Field Superintendent from Contractor.

3) COR and other Representatives from Bureau of Reclamation.

4) United States Fish and Wildlife Service staff and others identified by the COR.

5) Representatives may attend by telephone and / or video conference.

e. Purpose:

1) Review, schedule, construction progress, and coordination.

a) Review submittals register, submittals currently in review and approval, and meeting submittals due dates or delivery time frames.

b) Review safety, security, environmental, schedule, project issues and concerns, submittals, contractor Requests for Information (RFI), Invitation for Bid (IFB), pending Contract Modifications, and other project related items.

c) Provide 3 week look-ahead schedule at least 2 hours before start of meeting.

d) Review as-built drawings.

e) Provide meeting minutes from the previous weekly meeting.

1.03 PROJECT COORDINATION

A. The following meetings are considered significant, but do not relieve the Contractor fromthe responsibility of other meetings required by the specifications.

1. Progress Review Meetings:

a. Meeting shall be held weekly at the work site project office. Prepareagenda and distribute 24 hours before the meeting.

b. Contractor to provide virtual call-in option via Microsoft Teams.

c. Prepare and distribute meeting minutes.

d. Attendees: Responsible representatives who have been fully informed ofspecifications with respect to technical requirements, and coordinationnecessary to complete construction. Representatives shall be determinedon an as needed basis and typically should include:

1) Project Manager from Contractor.

2) Field Superintendent from Contractor.

3) COR and other Representatives from Bureau of Reclamation.

4) Representatives may attend by telephone and / or videoconference.

e. Purpose:

1) Review, schedule, construction progress, and coordination.

a) Review submittals register, submittals currently in reviewand approval, and meeting submittals due dates or deliverytime frames.

b) Review safety, security, environmental, schedule, projectissues and concerns, submittals, contractor Requests forInformation (RFI), Invitations for Bid (IFB), pendingContract Modifications, and other project related items.

c) Provide 3 week look-ahead schedule at least 2 hours beforestart of meeting.

d) Review as-built drawings.

e) Provide meeting minutes from the previous weeklymeeting.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01 31 30
CONTRACT DOCUMENT MANAGEMENT SYSTEM

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include cost of Contract Document Management System in the lump sum price offered in the Price Schedule for Mobilization and Preparatory Work.

1.02 DEFINITIONS

A. CDMS: Contract Document Management System.

1. Contract Documents include, but are not limited to:

a. Submittals.

b. DIRs: Daily Inspection Reports

c. RFCs: Request for Change (Contractor generated document).

d. RFIs: Request for Information (Contractor generated document).

e. Bureau of Reclamation (Reclamation) Inspection Reports.

f. Contract Schedules.

g. Meeting Agendas and Meeting Minutes.

h. Letters and Memos.

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 – Submittals.

B. RSN 01 31 30-1, Approval Data:

1. Documentation of system capabilities.

2. Instructions for system use.

C. RSN 01 31 30-2, Final Data:

1. DVD or CD of documents uploaded to CDMS.

1.04 QUALIFICATIONS

A. System provider: At least 5-years successful performance in providing required services.

1.05 CDMS REQUIREMENTS

A. CDMS shall be capable of generating, storing, tracking, categorizing, and managing Contract Documents.

B. Access:

1. Web-based:

a. Contract Documents are stored and accessed by authorized individuals via an internet site.

b. Compatible with web browsers Microsoft Edge, Apple Safari, Mozilla Firefox, and Google Chrome.

2. Ability to upload Contract Documents and make available for user download in supported file formats, minimum:

a. Portable Document Format (.pdf).

b. MS Word.

c. MS Excel.

d. MS Project.

e. Oracle Primavera P6 Project Manager.

f. Drawing (.dwg).

g. Contract Manager.

3. Allow Contract Documents to be prepared by Contractor or by Government.

a. Preparing organization will control access of documents. See Document Security and Backup paragraph below.

4. Contractor and Government shall each have a project manager for CDMS:

a. Each project manager shall have capabilities to assign users within their organization and assign user rights that control access to documents based on user class and document type.

b. Each organization shall be capable of defining its access hierarchy.

c. Inclusion of users will be prerogative of organizational project manager.

d. Government shall be able to create and modify project properties (i.e., Contractor, project location, description, bid amount, project directory, etc.).

5. Email notifications shall be automatically sent to selectable users when new documents are submitted and available for viewing or alerts are generated. Examples:

a. Updates to project information (e.g., entry of a new submittal);

b. Changes to project information (e.g., approval of a submittal);

c. Alerts (e.g., submittal under review for >15 days without action).

6. Ability to link files; examples:

a. Submittal linked to a Specification or Drawing.

C. Reports:

1. CDMS shall generate reports that list and sort documents by status; examples:

a. Submittals that have been approved.

b. Invoices paid to date.

c. RFIs under review.

2. Generate alerts when documents requiring action approach or exceed allowable time.

3. Generate customizable summary reports; examples include:

a. Submittal Turn-around.

b. RFI Turn-Around.

c. CM Processing Turn-Around.

d. Total CM costs.

e. Total CM Request Exposure.

4. Printable, exportable as searchable .pdf or printer -friendly HTML, and exportable to Excel, XML, or CSV.

5. Ability to link from an item in a report directly to the item by clicking on it:

a. For example: in a submittal report, clicking on a submittal that is 15-days old takes you directly to information on that submittal.

6. Capable of producing a complete and logically organized set of documents within CDMS in both .pdf and .xml format.

D. Document Security and Backup:

1. SSL encryption for secured data exchange between browser and server (Secure access to documents and information).

2. Allow document access security until authoring party chooses to share it with others:

a. Show parties that have access to a document.

b. Extent of document sharing shall be determined by authoring party.

c. Once documents are shared, track documents so that changes cannot occur without a record of changes.

3. Backup/Archiving to FTP site of documents to which an organization has access on a regular (minimum monthly) basis.

4. Documents shall be downloadable to FTP sites where Government and other organizations can each access their own data confidentially.

E. General Tracking and Control:

1. Documents shall be grouped into categories (Submittals, RFI, Daily Inspection Reports, and Meeting Minutes).

2. CDMS shall track:

a. When documents were received or returned, as well as status of documents (e.g., Under Review; or Returned, Approved or Rejected, etc.).

b. Document changes, including who entered or changed document and date change was made.

c. When a reviewer has opened an item.

F. Submittal Tracking and Control:

1. Ability to create master list of submittals ("Schedule of Submittals".)

2. Customizable standard submittal form for entering information:

a. Required information includes:

1) Required submittal number (RSN), title, description, and specification section.

b. Upload submittal data in electronic format.

3. Track date received, date response due, date returned, and status:

a. Status designations may be modified to fit Government standard designations – Approved, approved subject to identified changes, or not approved.

4. Supply Submittal Tracking form for Government to enter review comments and action taken. Allow customizing of submittal tracking form:

a. Allow for Government to route submittal to third parties (e.g., consultant, internal design or operations and maintenance groups, etc.) by generating design-review transmittals with each submittal package item, to track status of individual sub-items within submittal package, and to route each sub-item to the appropriate reviewers.

5. Ability to generate automatic notification after specified days without response.

G. RFI Tracking and Control:

1. Supply standard RFI form to enter information.

2. Ability to create or attach documents to the RFI form or links to other documents within CDMS.

3. Ability for Government to route RFI to appropriate reviewers and for reviewers to enter comments into standard response form.

H. Inspection Reports Tracking and Control:

1. Ability to attach Reclamation standard inspection and report forms into CDMS and ability to create customizable inspection forms in CDMS. Typical forms:

   a. Daily Inspection Report (DIR).

   b. Survey requests.

   c. Plant inspection reports.

   d. Testing reports.

2. Ability to link or attach photos to forms and link forms to other documents within CDMS.

I. Cost Tracking and Payment Request Management:

1. Ability to import payment bid items cost from MS Excel spreadsheets.

2. Ability to edit percent complete and payment amount each month. Format to be spreadsheet, e.g. items available for editing at once, rather than needing to edit one item at a time, save, open next item and edit that, etc.

J. Correspondence:

1. Ability to generate letters and memos:

   a. Ability to attach documents to letters and memos, and to reference other documents within CDMS.

   b. Ability to automatically assign sequential numbers to letters and memos.

2. Ability to generate responses to letters and memos:

   a. System automatically generates memo suffixes; e.g., 1st response to Memo 32 to be 32.1, 2nd response to be 32.2, etc.

3. Official correspondence from Reclamation to Contractor shall contain Reclamation's official letterhead and corresponding logos.

4. Ability to generate meeting agendas and meeting minutes and to attach documents to the minutes:

   a. CDMS shall automatically assign sequential meeting numbers.

K. Miscellaneous Tracking and Controls:

1. Ability to generate logs tracking RFIs, CORs, COs, Submittals, Memos, DIRs, survey requests, plant inspection reports, and testing reports.

2. Ability to filter logs based on criteria, e.g., for Submittals: Specification Section, Days Out, Status (approved, partially approved, approved subject to identified changes and resubmit, or not approved.); for RFI's: Days out, Status (Open/Closed), Specification Section/Dwg No., and Responsibility/Ball-In-Court.

3. Ability to sort logs based on a criterion, e.g., for Submittal, Specification Section, Days Out, Status, or other criteria determined by COR.

4. Ability to provide forms to match Reclamation's CM Form and Progress Payment Form or other forms when needed.
5. Ability to track Cost Exposure with links to RFI and CM requests.
6. Ability to measure productivity benchmarks on a project, such as computing average review days for RFIs and submittals, categorize CMs, and track total CM percentages by category.
7. Ability for keyword search of documents in database.
8. Ability to allow online Payment Requests (electronic invoicing) by Contractor.

PART 2 PRODUCTS

A. Commercially available products having essential characteristics of Parts 1 and 3.

PART 3 EXECUTION

3.01 IMPLEMENTATION

A. CDMS shall be in place and operating before Contractor transmits any Contract Documents, to Government, except RSN 01 31 30-1, Approval Data:

1. CDMS operation includes COR, or other authorized Government representative, having program control to assign users and user rights to Government personnel to access appropriate areas of the system.

B. Contractor shall input entries to the Schedule of Submittals before making submittals. Include:

1. RSNs listed in Table 01 33 00A – List of Submittals.
2. Scheduled submittal date.

C. Contractor shall provide a report of submittal status monthly or as requested by COR. Submittal status report shall be in a table format and include:

1. Required Submittal Number (RSN).
2. Section Title.
3. Submittal Title.
4. Date Submitted.
5. Date of Response.
6. Approval Status (approved, partially approved, approved subject to identified changes and resubmit, or not approved.)
7. Days in Review.
8. Due Date.

D. CDMS shall be operational until final project closeout.

END OF SECTION

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SECTION 01 32 10
CONSTRUCTION PROGRAM

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Costs:

1. Developing Baseline Schedule: Include in lump sum price offered in the Price Schedule for Mobilization and Preparatory Work.

2. Updating and Using Construction Program: Include as part of Contractor's overhead.

1.02 DEFINITIONS

A. Schedule: The Critical Path Method (CPM) of planning and scheduling a construction project where activities are arranged based on activity relationships and network calculations determine when activities can be performed and the critical path of the project.

B. Project Calendar(s): Cross reference of numerical work days with calendar days. Project calendars serve as the basis for day/date conversion and assign work days and non-workdays.

C. Resources: Equipment, labor or crews, materials, subcontractors, fabricators, manufacturers, and consultants.

D. Out of Sequence Work: An activity that starts before its predecessor activities are completed.

1.03 REFERENCE STANDARDS

A. Associated General Contractors of America (AGC)

1.	AGC Manual	Construction Planning and Scheduling Manual, 2015

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

1. Furnish database files in format compatible with Oracle Primavera P6 Professional Project Management.

2. Upon request, provide information and data used to develop and maintain the Construction Program to the CO.

B. RSN 01 32 10-1, Representative Information:

1. Designation of authorized representative to develop and maintain Construction Program. Include resume with experience and training certificates meeting qualifications.

C. RSN 01 32 10-2, Baseline Schedule:

1. Include:

a. Construction Program/Schedule database.

b. Definition of project calendars.

c. Primavera layout file (.plf).

d. Primavera file extension (.xer)

e. Gantt chart (Bar chart) for project on 11 by 17-inch print(s) and in portable document format (.pdf).

f. Activity report including logic constraints consisting of predecessors, successors, and constraint dates.

g. Tabular listings of resources and resource limitations used to produce baseline schedule. Correlate resources with schedule assumptions and offered price. Resource listings may be independent of schedule database.

h. Narrative explanation of project schedule development. Include impacts of resource limitations and weather conditions on project schedule development. Include planned number of work hours per day and hours per day for subcontractors.

D. RSN 01 32 10-3, Updated Schedule Reports:

1. This submittal is required for a proper invoice for progress payments in accordance with the clauses at FAR 52.232-27 - Prompt Payment for Construction Contracts. In accordance with subparagraph (a)(i)(A) of the clause at FAR 52.232-27 - Prompt Payment for Construction Contracts, Government disapproval of this submittal will be considered failure of the Contractor to comply with contract requirements and payment due date may be delayed until 14 days after submittal contents are approved.

2. Include:

a. Construction Program database with updated activity and milestone data.

b. Definition of project calendars if revised from baseline calendars.

c. Primavera layout file (.plf).

d. Primavera file extension (.xer)

e. Gantt chart for project on 11 by 17-inch print(s) and in portable document format (.pdf).

f. Narrative report specifically stating status of project.

1) When negative float exists, cite specific actions and conditions which caused "behind schedule" condition and provide proposed course of action to complete the project within the specified delivery time. When float changed from previous month's updated schedule, explain reason for change.

2) List of Contractor-initiated changes to current schedule stating reason for action taken and unresolved issues relating to the Construction Program. Government reserves the right to reject Contractor-initiated changes to current schedule which negatively impact Government action which was initiated on the basis of current schedule.

3) Discuss contract milestones and significant activities that were started, continued, or completed during the update period or scheduled during the next update period.

g. Submittal Register:

1) List submittals as listed in Table 01 33 00A.

2) Update Submittal Register monthly to include submittals and revised submittals. Register fields shall include RSN name and number, date submitted, date of response, status (e.g., approved, not approved, resubmittal required).

3) This register document is separate from scheduling database.

E. RSN 01 32 10-4, Time Impact Analysis:

1. Include:

a. Construction Program database with proposed revised activity and milestone data.

b. Proposed revised schedule due to change or delay. Highlight or list added, changed, or deleted activities.

c. Primavera layout file (.plf).

d. Primavera file extension (.xer)

e. Gantt chart for project on 11 by 17-inch print(s) and in portable document format (.pdf).

f. Narrative report explaining results and conclusions.

1.05 QUALIFICATIONS

A. Representative: Experienced in developing and maintaining construction schedules and knowledgeable of activities and progress on-site to develop and maintain accurate and reliable schedules. Experience shall include scheduling for at least two other projects of comparable complexity and Primavera P6 training offered by certified instructors.

1.06 GENERAL

A. Develop, maintain, and use Construction Program to plan, monitor, evaluate, and report accomplishment of work.

1.07 SCHEDULES

A. Prepare construction schedules using Critical Path Method outlined in AGC Manual. Use a computer software program to perform mathematical analysis of scheduling data.

1. Prepare schedule based on required sequence and interdependence of activities. Logically sequence activities.
2. Prepare detailed activity network for accomplishing required work organized by Work Breakdown Structure (WBS). Utilize WBS in lieu of activity codes for organization of schedule. If activity codes are utilized in addition to WBS, use unique activity code names assigned as project codes rather than global codes.
3. Activities except "Award" shall have predecessor activities and activities except "Contract Complete" shall have successor activities.
4. Meet contract requirements; milestone(s) in accordance with the clause at FAR 52.211-10, Commencement, Prosecution, and Completion of Work; and relevant clauses and specification sections. Include interim milestone dates, Government interface dates, contract completion date, and other time or seasonal constraints specified in contract documents.
5. Include work of subcontractors, Government interfaces, and contract milestones.
6. Schedule activities to occur as early as possible without unwarranted constraints.
7. Adjust Construction Program/schedule for seasonal weather conditions. Provide a narrative explaining the expected weather and plan for incorporation in schedule. Consider work influenced by high or low ambient temperatures or precipitation. Utilize Primavera P6 calendars to depict historical weather days that impact work. Assign weather calendars to work impacted by weather.
8. Reference activities to contract line item number (CLIN) and specification section identified in the Schedule using user-defined fields.
9. Define activities to level of detail resulting in their durations being no greater than 20 workdays.
    a. Durations for administrative activities (e.g., submittals and reviews) fabrication, manufacturing, and typical level of effort activities (e.g., dewatering, storm water management) shall not be subject to workday duration limitation.
10. Include separate activities for submittal preparation and submittal reviews when submittal addresses work that involves significant quantities, long lead times, is on the critical path or near critical path, or as requested by the COR. Assign Government submittal review activities to a seven-day calendar with durations as

specified in Section 01 33 00 - Submittals. Include Required Submittal Number (RSN) in activity description.

11. Include separate activities for fabrication or manufacturing when work involves significant quantities, long lead times, is on the critical path or near critical path, or as requested by the COR

12. Include contract title, contract number, and Contractor's name on transmittal cover sheet and each sheet of Gantt chart.

13. For each activity on Gantt chart, display activity identification number, activity description, planned or original duration, start date, finish date, total float, and calendar identification. Do not display early start and late start fields.

14. Include table of abbreviations used in the schedule, listed and defined alphabetically.

15. Use finish to start logic relationships between activities. Do not utilize start to start, finish to finish, or start to finish logic relationships. Start to start logic may be utilized on start milestones and finish to finish logic may be utilized on finish milestones only. Do not use positive or negative lead or lag times.

16. Use durations in units of whole workdays.

17. Provide best estimate of time required to complete activity considering quantity of work, work conditions, location of work, and planned resources for activity.

18. Equate durations of Government reviews and other identified actions to maximum number of calendar days specified in their respective paragraphs.

19. Establish workday calendar(s) and use these in the schedule to translate activity's workday duration into calendar dates. Use unique calendar names; do not use software default calendar names. Save calendars as project calendars, not global calendars.

B. Baseline Schedule:

1. Represents Contractor's as-planned approach to accomplishing the work. Do not include actual start dates, percent completes, or actual finish dates.

C. Updated Schedule:

1. Meet monthly with COR at Government's project office, by remote meeting, or at a location approved by the COR, to review progress made to end date of progress payment period. Establish dates that activities were started and completed and remaining duration for each activity started but not completed during the period.

   a. Discuss and mutually agree upon changes to the schedule.

   b. Out-of-sequence activities are not allowed. Revise logic to reflect change in work plan.

   c. Finalize updated Construction Program database with mutually agreed upon changes.

2. Following receipt of executed contract modification, incorporate activity data stipulated in modification into current schedule for inclusion in next scheduled progress update. Provide appropriate logic relationships for revised activities.

3. Assign a unique project file name for each schedule update.

1.08 TIME IMPACT ANALYSIS

A. Provide time impact analysis for contract changes (e.g., change order, proposed modification, or value engineering change proposal) to support a claim or request for equitable adjustment to the contract due to delay or accelerated schedule.

B. The CO may use time impact analysis to determine if time extension or reduction to contract milestone dates is justified.

1. Time impact analysis is required for contract changes whether the Contractor's current schedule milestone dates are the same as, earlier than, or later than, those required under the contract.

2. Changes, additions, or deletions to activities; activity durations; activity time frames; or activity predecessors and successors shall not automatically determine that extension or reduction of contract time is warranted or due the Contractor.

3. Time extensions for performance will be considered only to the extent that the Contractor's current scheduled milestone dates exceed contract milestone dates.

C. Float is not for exclusive use by or benefit of either the Government or the Contractor.

D. Prepare a single time impact analysis for modifications issued after Notice to Proceed (NTP) and prior to approval update.

E. Perform time impact analyses using data in most recent approved schedule update prior to change or delay event.

1. Prepare proposed revised schedule and narrative description describing and highlighting changes or delays.

2. Prepare summary comparing results of two schedule analyses: One using current schedule data from last approved updated schedule prior to event requiring analysis, and one using proposed schedule data incorporating changes or delays.

a. Show contract milestones and activities whose periods of performance have shifted as result of change which affects production and manufacture schedules, material orders, construction seasons, and labor and equipment utilization.

b. For activities directly affected by change or delay, include the current and proposed items:

1) Activity description.

2) Types and quantities of major pieces of equipment, principal manpower, and pacing materials (materials that affect activity start, duration, or finish).

3) Activity duration.

4) Narrative containing rationale used in developing the proposed logic relationships and activity data.

c. Data date for impacted schedule used in comparison shall be the same as approved updated schedule data date.

d. Base schedule comparisons on status of work and available float at time the CO directs or proposes change to the work, the Contractor submits a value engineering change proposal, or when a delay occurs as shown in approved updated schedule.

1.09 REVIEW AND EVALUATION

A. Baseline Schedule:

1. Within 21 calendar days after receipt of baseline schedule:

a. COR will approve or not approve proposed baseline schedule.

b. Upon request from the CO, meet with COR for a joint review of proposed baseline schedule.

c. If schedule is not approved, revise and resubmit within 7 calendar days following date of rejection letter.

2. Do not proceed with onsite work, except mobilization and surveying, until baseline schedule has been approved by the Government.

B. Updated schedules:

1. Submit updated Construction Program schedule monthly.

2. Submit updated schedule at least seven days prior to the submission of each invoice request for progress payment.

3. If updated schedule is not approved, revise and resubmit updated schedule within 7 calendar days following date of rejection letter.

4. The COR will schedule pre-submittal meeting with the Contractor's representative each month to review draft updated schedule prior to the Contractor submitting RSN 01 32 10-3, Updated Schedule.

C. Failure to include elements of the work in schedules will not release Contractor from completing required work under the contract.

D. Performance will be evaluated by the Government using approved CPM schedules.

1.10 FAILURE TO COMPLY

A. Failure to comply with requirements of this Section shall be grounds for determination by the CO that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within specified time.

B. The CO may terminate the Contractor's right to proceed with the work, or separable part of it, in accordance with default terms of this contract.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 33 00
SUBMITTALS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 DEFINITIONS

A. Days: Calendar days.

B. Required Submittal Number (RSN): Identifies items to be submitted together as a complete submittal.

C. Submittal Types, as listed in Table 01 33 00A - List of Submittals:

1. A - Approval:

   a. Government will respond as to adequacy of submittal.

   b. Approval Submittals: Considered "shop drawings" within the terms of the clause at FAR 52.236-21, Specifications and Drawings for Construction.

2. I - Informational:

   a. The Government will acknowledge receipt of Informational submittals.

   b. The Government may reject an Informational submittal when the submittal does not comply with the contract. The Contractor shall correct mistakes or deficiencies in rejected Informational submittals and resubmit as an Approval type submittal for Government approval.

   c. Informational Submittals: Considered "shop drawings" within the terms of the clause at FAR 52.236-21, Specifications and Drawings for Construction, except that approval by the Government is not required.

D. Drawings: As used in this Section, means 'shop drawings' as defined in Clause FAR 52.236-21, Specifications and Drawings for Construction, excluding incidental device or component drawings intended as, or a part of, the manufacturer's technical catalog data.

E. CDMS: Construction Document Management System.

1.03 REFERENCE STANDARDS

A. American Society of Mechanical Engineers (ASME)

1.	ASME Y14.1-12	Decimal-inch Drawing Sheet Size and Format

B. National Institute of Building Sciences (NIBS)

1.	NIBS NCS-14	United States National CAD Standards, Version 6

1.04 SUBMITTAL REQUIREMENTS

A. In case of conflict between requirements of this section and requirements included elsewhere in these specifications, requirements included elsewhere take precedence.

B. General:

1. Prepare in English.
2. Label with contract number and title, and RSN.
3. Measurement Units: US Customary Units.
4. Provide a unique transmittal number for each submittal.

C. Drawings:

1. Minimum Identification in Title Block:
   a. Contract number and title.
   b. Contractor or supplier's title and drawing number.
   c. Date.
2. Reserve 3-inch by 3-inch space next to title block for review stamps.
3. Print Size: D size (22 inches by 34 inches) as defined by ASME Y14.1.
4. Draw to scale using computer drafting or drafting equipment, unless otherwise specified.
   a. Computer drafted drawings:
      1) In accordance with NIBS NCS.
   b. Electronic file format: Compatible with AUTOCAD, Version 2018 or better, or as approved by the COR. Compile using "eTransmit" utility in AUTOCAD.Drawing prepared with drafting equipment, when allowed: Lettering shall be neat.
5. Final Drawings:
   a. Computer drafted.
   b. Government will provide an electronic AutoCAD format template.
   c. Show as-built changes, including revision dates, made during installation. Indicate changes by clouding.

d. Electronic files: On CD or DVD discs.

D. Product Data:

1. Mark manufacturer's data for commercial products or equipment, such as catalog cut sheets.
   a. Identify manufacturer's name, type, model, size, and characteristics.
   b. Illustrate that product or equipment meets requirements of specifications.
   c. Mark items to be furnished in a manner that will photocopy (no highlighter).
   d. Strike through items that do not apply.

E. Certifications:

1. Certifications by a Registered Professional: Signed and sealed by registered professional.
2. Manufacturer’s Certifications: Signed by authorized representative of manufacturer.

F. Manuals:

1. Copies:
   a. Printed copies: Bound and indexed.
   b. Electronic copies: Adobe pdf on CD or DVD discs.
      1) Bookmark longer files to assist in navigating files.
2. Contents:
   a. Parts identification lists, lists of special tools, and accessories.
   b. Schematics and wiring diagrams.
   c. Detailed instructions for installing, operating, lubricating, and maintaining equipment.
   d. Schematics and wiring diagrams.
   e. Detailed instructions for installing, operating, lubricating, and maintaining equipment.
   f. As-built drawings, photographs, and test records or reports if required by the specifications.

G. Photographs:

1. When requested.
2. Each COR requested view.
   a. Include contract number, name of equipment and view title.

3. Format:

   a. Digital Photographs on CD, DVD, or SDHC card in jpeg format. Ten Megapixels minimum. With accompanied prints if requested and of a size requested by the COR.

   b. Prints only: Only if specifically requested.

      1) Professional quality 8-inch by 10-inch color for each listed view.

      2) Identify with adhesive labels on back.

         a) Include contract number, name of equipment and view title.

         b) Do not type directly on back of photograph.

H. Samples Submittals:

1. Label with complete manufacturer's product identification.

2. Include type and quantity of materials specified in the referenced section in each "set" of samples.

3. Samples: Representative of product to be installed.

4. Label each sample with contract number and title

1.05 SUBMITTALS PROCEDURES

A. Submit only checked submittals. Submittals without evidence of Contractor's approval will be returned for resubmission.

B. Submit complete sets of required materials for each RSN as specified in "Submittals Required" column in Table 01 33 00A - List of Submittals. A complete set includes all listed items for RSNs with multiple parts.

C. Submit sets specified in "Sets to be sent:" column in Table 01 33 00A – List of Submittals.

1. Submittals identified with "CDMS" in the "Sets to be sent" column shall be submitted electronically in accordance with Section 01 31 30 – Contract Document Management System.

D. Include the following information in transmittal letters:

1. Contract number and title.

2. RSN for each attached submittal.

3. Responsible code.

4. Number of sets for each RSN.

5. Identify submittal as initial or resubmittal.

E. Resubmittal of submittals not approved:

1. Mark changes such that they are readily identifiable and show revision date.
2. Describe reasons for significant changes in transmittal letter.
3. Resubmit returned submittals within 28 days after receiving the comments, unless otherwise directed.
4. Requirements for initial submittals apply to resubmittals.

1.06 REVIEW OF SUBMITTALS

A. Time Required:

1. Submittal review will require 28 days for review of each submittal or resubmittal, unless otherwise specified.

B. Time in Excess of Specified:

1. CO may extend contract completion date to allow additional time for completing work affected by excess review time.
    a. Time extension will be to extent that excess review time caused delay to contract completion date.
    b. Time extension will not exceed time used in excess of specified number of days for review of submittals or resubmittals.
    c. Concurrent days of excess review time resulting from review of 2 or more separate submittals or resubmittals will be counted only once in extending contract completion date.
2. No time extension will be allowed if Contractor fails to make complete approval submittals in sequence and within time periods specified.
3. Adjustment for delay will be made only to the extent that:
    a. Approval was required under the contract, and,
    b. Requests for approval were properly and timely submitted and were approved.

C. Return of Submittals:

1. Return of submittals will be by email response or hard copy, as applicable.
2. Approval Submittals: Will be returned either approved, approved with comments or not approved.
    a. Revise and resubmit submittals not approved.
    b. Do not change designs without approval of CO after drawings, documentation, and technical data have been approved.
3. Informational Submittals: Government will acknowledge Informational submittals.

a. Informational submittals will not be returned when they satisfy contract requirements.

b. Informational submittals that do not satisfy contract requirements may be returned for resubmittal or additional information may be requested.

D. Provide the CO with a copy of all correspondence and related documents, pertaining to this contract that it addresses to representatives of the Government. This does not pertain to the Submittal Requirements as they are outlined herein.

E. Each submittal shall be submitted separately.

F. The Government, at the discretion of the COR, may require the Contractor to resubmit as hardcopy any transmittals which appear unclear or illegible in their electronic format.

G. Time required for review of each submittal or resubmittal begins on the next business day after transmittal of a complete set and ends the day the response is transmitted.

H. Submittals required by the specifications, but not listed in Table 01 33 00A - List of Submittals:

1. Submit in accordance with this section.

2. Submit to COR, unless otherwise specified.

1.07 ELECTRONIC TRANSMITTALS

A. Except as noted, transmit electronically via email. Contact Information will be provided to the Contractor after award.

B. Each submittal shall be submitted separately.

C. Electronic file size shall not exceed 40 Megabytes (MB). Electronic files in excess of 40 MB must be transmitted as hard copy transmittals on suitable storage medium, CD ROM or other.

D. Submit data in required format; e.g., survey data ASCII, electronic drawings AutoCAD.dwg.

E. Where format is not specified, preferred format is searchable portable document format(.pdf).

F. The Government, at the discretion of the COR, may require the Contractor to resubmit as hardcopy any transmittals which appear unclear or illegible in their electronic format.

G. Time required for review of each submittal or resubmittal begins on the next business day after transmittal of a complete set and ends the day the response is transmitted.

H. CDMS submittals will be responded to through CDMS.

I. Submittals required by the specifications, but not listed in Table 01 33 00A - List of Submittals:

1. Submit in accordance with this section.
2. Submit to COR, unless otherwise specified.

1.08 HARD COPY TRANSMITTALS

A. Transmit hard copies of transmittals when required by Table 01 33 00A - List of Submittals or these specifications. If there is a conflict between these specifications and Table 01 33 00A - List of Submittals, Table 01 33 00A - List of Submittals shall govern.

B. Addresses for codes listed in Table 01 33 00A - List of Submittals:

1. Contracting Officer (CO), Bureau of Reclamation, Attn.: PN-7300, Pacific Northwest Regional Office, 1150 N. Curtis Road, Suite 100, Boise, ID 83706-1234.
2. Contracting Officer Representative (COR), Bureau of Reclamation, PN-3500, 1150 N. Curtis Rd., Boise, ID 83706-1234.

C. Send original transmittal letter with appropriate number of sets to office listed in "Responsible Code" column in Table 01 33 00A - List of Submittals.

D. Send copy of transmittal letter with appropriate number of sets to offices that are not the responsible code, but show "Sets to be sent" in Table 01 33 00A - List of Submittals.

E. When "Sets to be sent" is 0, send a copy of transmittal letter to that office.

F. Time required for review of each submittal or resubmittal begins when complete sets of materials required for a particular RSN are received and extends through return mailing postmark date.

G. Hard copies of the following are required:

1. Original signed copies of bonds and insurance.
2. Paint samples or color chips.
3. Physical samples.
4. Project Record Documents.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information
** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program
*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
1	Release of claims (1452.204-70)	Release of claims (DI-137) against United States	After completion of work and prior to final payment	I		COR	1	0
2	Payroll and Basic Records (52.222-8)	Certified payrolls	Weekly for each week any contract work is performed onsite	I		COR	CDMS	
3	Labor standards data (52.222-11)	(1) List of subcontractors (2) Statement and Acknowledgment Form (SF-1413) for each subcontract	Within 14 days after award of contract, and within 14 days after award of any subcontract	I		COR	CDMS	
4	Equal opportunity (52.222-26)	Information required by Executive Order 11246 (SF-100)	Within 30 days following award	I		COR	CDMS	
5	Bonds (52.228-15)	Performance and payment bonds	Within 10 calendar days after award	A		CO	1	0
6	Estimate of Percentage of Recovered Material Content of EPA-Designated Items (52.223-9)	Estimate the percentage of the total recovered material content for EPA designated item(s) delivered and/or used in contract performance	On completion of the contract (no later than with submittal of final voucher)	I		COR	CDMS	
7	Security Requirements (WBR 1452.237-80)	Security Program	Submitted and approved before mobilization	A		COR	CDMS	
8	Security Requirements (WBR 1452.237-80)	List of Onsite Employees	At least 14 days before employee arrival	I		COR	CDMS	
9	Liability Insurance (WBR 1452.228-70)	Acceptable evidence showing that insurance has been obtained	Within 10 calendar days after award	A		CO		
01 14 10-1	Use of Site	Land Use and Landscape Rehabilitation Plan	At least 28 days before use of Government land	A		COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information
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*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
01 14 10-2	Use of Site	Private Property Access Request	Submitted and approved at least 14 days prior to accessing private property	A		COR	CDMS	
01 31 19-1	Project Management and Coordination	Progress Review Meeting Agenda and Minutes	Meeting Agenda: Submitted 24 hours prior to meeting and Meeting Minutes: Submitted within 24 hours of each meeting	I		COR	CDMS	
01 31 30-1	Contract Document Management System	Approval Data	Within 10 days after receipt of Notice to Proceed (NTP)	A		COR	CDMS	
01 31 30-2	Contract Document Management System	Final Data	Within 14 days after completion of work	I		COR	CDMS	
01 32 10-1	Construction Program	Representative Information	Within 14 days after receipt of Notice to Proceed (NTP)	A		COR	CDMS	
01 32 10-2	Construction Program	Baseline Schedule	Within 21 days after receipt of Notice to Proceed (NTP)	A	Y	COR	CDMS	
01 32 10-3	Construction Program	Updated Schedule Reports	Monthly When invoice for progress payments will be submitted, submit at least 7 days before invoice.	A		COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information
** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program
*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
01 32 10-4	Construction Program	Time Impact Analysis	Within 28 days after a schedule impact resulting from a CO directed contract change, or request proposal for a future modification, with value engineering proposal, or other schedule impact resulting in a request for equitable adjustment	A		COR	CDMS	
01 35 10-1	Safety Data Sheets	Complete LHM And SDS	Submitted and approved at least 28 days prior to mobilization	I		COR	CDMS	
01 35 10-2	Safety Data Sheets	Updated LHM And SDS	Submitted and approved at least 28 days prior to mobilization	I		COR	CDMS	
01 35 20-1	Safety and Health	Safety Program	Submitted and approved 28 days prior to mobilization.	A	Y	COR	CDMS	
01 35 20-2	Safety and Health	Job Hazard Analysis List	Submitted and approved 28 days prior to mobilization.	I		COR	CDMS	
01 35 20-3	Safety and Health	Monthly Accident Summary Report	Monthly	I		COR	CDMS	
01 35 30-1	Contractor's Onsite Safety and Health Personnel	Qualifications	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
01 35 30-2	Contractor's Onsite Safety and Health Personnel	Safety Inspection Reports	Weekly	I		COR	CDMS	
01 46 00-1	Quality Procedures	Contractor Quality Control Plan (QCP)	Submitted and approved at least 28 days prior to mobilization	A	Y	COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information

** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program

*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
01 46 00-2	Quality Procedures	Contractor's Daily Report	Weekly when onsite	A		COR	CDMS	
01 46 00-3	Quality Procedures	Summary of Monthly Test Results	Monthly	A		COR	CDMS	
01 46 20-1	Testing Agency Services	Testing Agency Services Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
01 51 00-1	Temporary Utilities	Informational Data	Within 7 days of completing work	I		COR	CDMS	
01 51 00-2	Temporary Utilities	Intake Screen Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
01 55 00-1	Vehicular Access and Parking	Initial Digital Recording	Within 2 days of completing video	I		COR	0	1
01 55 00-2	Vehicular Access and Parking	Post Construction Digital Recording	Within 2 days of completing video	I		COR	0	1
01 55 00-3	Vehicular Access and Parking	Post Repair Digital Recording	Within 2 days of completing video	I		COR	0	1
01 55 00-4	Vehicular Access and Parking	Temporary Access Road Plan	At least 28 days before beginning onsite work	A		COR	CDMS	
01 55 20-1	Traffic Control	Traffic Control Plan	Submitted and approved at least 28 days prior to mobilization	A	Y	COR	CDMS	
01 56 15-1	Protection of Existing Utilities	Utility Owner Acknowledgement	At least 28 days before beginning onsite work	I	Y	COR	CDMS	
01 57 30-1	Water Pollution Control	Pollution Prevention Plan	Submitted and approved at least 28 days prior to mobilization	A	Y	COR	CDMS	
01 57 30-2	Water Pollution Control	Spill Prevention, Control, and Countermeasure (SPCC) Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information
** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program
*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
01 57 30-3	Water Pollution Control	Water Pollution Control Product Data	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
01 57 90-1	Preservation of Historical and Archeological Data	Additional Use Areas	At least 90 days before beginning onsite work on areas not previously designated for use	A		COR	CDMS	
01 71 20-1	Surveying	Surveying Plan	Submitted and approved at least 28 days prior to mobilization	A	Y	COR	CDMS	
01 71 20-2	Surveying	Resumes	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
01 71 20-3	Surveying	Accuracy Check Results	At least 28 days before beginning surveying work	I		COR	CDMS	
01 71 20-4	Surveying	Completed And Reduced Survey Notes	Within 2 days of completing	I		COR	CDMS	
01 71 20-5	Surveying	Quantity Survey Notes and Computations	Within 2 days of completing	I		COR	CDMS	
01 71 20-6	Surveying	Workday’s survey notes	Within 2 days of completing	I		COR	CDMS	
01 74 00-1	Cleaning and Waste Management	Waste Production and Disposal Plan	At least 28 days before starting onsite work	A		COR	CDMS	
01 74 00-2	Cleaning and Waste Management	Waste Production and Disposal Records	Within 7 days of waste disposal	I		COR	CDMS	
01 74 00-3	Cleaning and Waste Management	Environmental Consultant Resume	At least 35 days before beginning environmental assessment	A		COR	CDMS	
01 74 00-4	Cleaning and Waste Management	Environmental Site Assessment	Within 14 days of completion of work	A		COR	CDMS	
01 78 30-1	Project Record Documents	Electronic Media Release Form	At Preconstruction conference	I		COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information

** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program

*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
01 78 30-2	Project Record Documents	Progress As-Built Drawings	Submitted Monthly	I		COR	CDMS	
01 78 30-3	Project Record Documents	Draft As-built Drawings	Within 28 days of completion of work	A	Y	COR	CDMS	
01 78 30-4	Project Record Documents	Final Drawings	Within 28 days of approval of 01 78 30-4	I		COR	CDMS	
13 00 10-1	Fish Habitat Log Structures	Log Structure Construction Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
31 23 02-1	Compacting Earth Materials	Test Results	Due within 72 hours of each test	I		COR	CDMS	
31 23 39-1	Disposal of Excavated Materials	Material Disposal Plan	At least 28 days before removing excavated material	A		COR	CDMS	
31 32 32-1	Geotextile	Manufacturer's certification	At least 28 days before starting onsite work	A		COR	CDMS	
31 32 32-2	Geotextile	Geotextile Samples	At least 28 days before beginning installation	A		COR	CDMS	
31 32 32-3	Geotextile	Geotextile Protection Method	At least 28 days before beginning installation	I		COR	CDMS	
31 37 00-1	Riprap	Approval Data	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
31 37 00-2	Riprap	Placement Plan	At least 28 days before beginning onsite work	A		COR	CDMS	
32 14 40-1	Stone Paths	Stone Path Construction Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
32 31 29-1	Wood Fence	Fence Materials	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
32 92 20-1	Seeding and Soil Supplements	Shredded Mulch Plan	At least 28 days before beginning onsite work	A		COR	CDMS	

Table 01 33 00A. - List of Submittals

* Submittal Types: A - Approval, I – Information

** Y indicates Yes, the submittal is required to be shown on the Construction Schedule - see Section 01 32 10 - Construction Program

*** CO indicates Contracting Officer, COR indicates Contracting Officer Representative. CDMS indicates Contract Document Management System.

RSN	Clause or Section Title	Submittals required	Due date or delivery time	Type *	CP **	Respon-sible code	Sets to be sent: ***	
							CO	COR
33 42 30-1	Corrugated Metal Pipe Culverts	Material Approval	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	
33 42 30-2	Corrugated Metal Pipe Culverts	Installation Plan	Submitted and approved at least 28 days prior to mobilization	A		COR	CDMS	

END OF SECTION

SECTION 01 35 10
SAFETY DATA SHEETS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 DEFINITIONS

A. LHM: List of Hazardous Materials.

B. SDS: Safety Data Sheet.

1. Referred to as Material Safety Data Sheets in the clause at 52.223-3, Hazardous Material Identifications and Material Safety Data - Alternate 1.

1.03 APPLICATION

A. For the purposes of this contract, “delivered under this contract” in paragraph (b) of the clause at FAR 52.223-3, Hazardous Material Identification and Material Safety Data - Alternate 1, includes:

1. Materials delivered to Government.
2. Materials incorporated into work.
3. Materials used by the Contractor during contract performance at the jobsite.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 35 10-1, Complete LHM and SDS.

C. RSN 01 35 10-2, Updated LHM and SDS:

1. Comply with paragraph (e) of clause at FAR 52.223-3, Hazardous Material Identification and Material Safety Data - Alternate 1.

1.05 DELIVERY

A. Do not deliver hazardous materials to jobsite which are not included on original or previously updated LHM and SDS before receipt of updated LHM and SDS by COR.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 35 20
SAFETY AND HEALTH

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in the prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	RSHS	Reclamation Safety and Health Standards including revisions posted at https://www.usbr.gov/safety/rshs/index.html
2.	FIST 1-1	Hazardous Energy Control Program available at: www.usbr.gov/power/data/fist_pub.html

B. Code of Federal Regulations (CFR)

1.	29 CFR 1926	OSHA Safety and Health Regulations for Construction

C. Applicable State Safety and Health Regulations for Construction

1. WAC Washington Administrative Code (WAC), current edition

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 35 20-1, Safety Program:

1. Written site-specific safety program in accordance with RSHS Section 1.3.
2. Cover aspects of on site and applicable off-site operations and activities associated with this contract.
3. Follow the outline in Appendix B of RSHS.
4. Will not be accepted for review by the COR unless it addresses, in order, lettered and numbered per Appendix B, a narrative for each applicable item in the outline. For items in the outline that do not apply to this contract write “Not applicable to Contract” next to the number/letter.
5. A generic company safety program is not acceptable. Safety Program shall be site specific for this contract.

6. Submitted and accepted prior to commencing onsite work, including mobilization.

C. RSN 01 35 20-2, Job Hazard Analysis List:

1. Provide a list of JHA's that shall be submitted throughout the project.

D. RSN 01 35 20-3, Monthly Accident Summary Report:

1. In accordance of RSHS.

1.04 DOCUMENTATION AND RECORDS

A. Prepare and retain all safety plans, programs, training content, and training records that are applicable to the scope of the work and make them available to the COR unless they are already included in the written safety program.

1.05 SAFETY AND HEALTH

A. Provide and maintain a work environment and procedures that:

1. Safeguard the public and Government's personnel, and Contractor employees exposed to Contractor operations and activities.
2. Avoid interruptions of site operations and delays in project completion dates.
3. Control costs in contract performance.

B. Do not begin on site work, including mobilization, until the COR accepts the Safety Program.

C. Participate in Contractor Safety Program Review meeting prior to mobilization.

D. Minimum work crew shall consist of no less than two (2) people per work site, unless approved by COR.

E. Develop Job Hazard Analyses for each distinct phase of work under the contract.

1. Do not begin a phase of work until a JHA is approved by COR and shared with construction employees.
2. Activities involving hazardous materials shall have the appropriate Safety Data Sheet(s) attached to the JHA.

F. Comply with RSHS.

1. One copy of RSHS in digital format will be provided at no charge for use in connection with the specifications.
2. Construction Safety and Health Standards promulgated by the Secretary of Labor may be obtained from any regional or area office of the Occupational Safety and Health Administration of the U.S. Department of Labor.

G. Correct safety and health violations identified by the CO or the COR.

H. When the Contractor fails or refuses to correct a compliance directive, the CO may issue an order to stop all or part of the work.

1. When satisfactory corrective action is taken, an order to resume work will be issued.

2. The Contractor shall not be entitled to extension of time or to claim for damage or to additional compensation by reason of either the directive or stop order.

3. Failure of the CO to order discontinuance of the Contractor's operations shall not relieve the Contractor of the responsibility for the safety of personnel and property.

I. Maintain accurate record of and report to the CO and COR the following occurrences during performance of this contract:

1. Death.

2. Occupational disease.

3. Traumatic injury to employees or the public.

4. Property damage in excess of $2,500.

J. The rights and remedies of the Government provided in this section are in addition to any other rights and remedies provided by law or under this contract.

1. In the event there is a conflict between requirements contained in RSHS, specification paragraphs, Contractor's approved Safety Program, referenced safety and health codes, and standards, or the U.S. Department of Labor Construction Safety and Health Standards, promulgated under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327 et seq.), as amended, the more stringent requirement shall prevail.

K. Provide appropriate safety barricades, signs, and warnings.

L. The Contractor shall be responsible for providing medical and emergency assistance in a timely manner consistent with recognized emergency protocols.

M. In instances where local emergency responders are not readily available, the responsibility to provide emergency services shall default back to the Contractor.

N. Perform all training as required by federal, state, and local regulations prior to any activity that requires it.

1. Training records shall be submitted to the COR upon request.

2. In no case shall an employee perform work until all required training is complete.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 35 30
CONTRACTOR'S ONSITE SAFETY PERSONNEL

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	RSHS	Reclamation Safety and Health Standards, including revisions posted at https://www.usbr.gov/safety/rshs/index.html

B. Code of Federal Regulations (CFR)

1.	29 CFR Part 1926.32	Definitions

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 35 30-1, Qualifications:

1. Contractor's Onsite Safety Representative.

C. RSN 01 35 30-2, Safety Inspection Reports:

1. Prepare detailed monthly safety inspection reports listing noted deficiencies, digital photos, abatement dates and follow-up action for all jobsite activities.
2. Inspection report shall include findings of jobsite walk-through with Government representative.
3. Detailed monthly summary report for any hazardous agents related to work activities.
    a. Summary of exposure monitoring results and sampling activities and interpretation of the data to confirm the work is being performed in accordance with the submitted approval plans.
4. Include noted deficiencies, digital photos, abatement dates and follow-up action.
5. Submit written report to COR within 7 days of the inspection.

1.04 QUALIFICATIONS

A. Contractor's Onsite Safety Representative:

1. Competent supervisory employee with current safety and health related training, experience and duties on at least three projects of similar nature, size, complexity, and work to be performed as the current project
2. OSHA Construction 30-Hour Training Course including applicable elective subjects to be relevant to this project, for example Excavations; Materials Handling, Storage, Use and Disposal; Motor Vehicles, Mechanized Equipment and Marine Operations; and Signs; Signals and Barricades; Powered Industrial Vehicles; Safety and Health Programs; Tools - Hand and Power. Current first aid CPR certification.
3. Include resume with current telephone numbers of references, description of safety representative responsibilities, and copies of training certifications.

1.05 APPLICATION

A. Designate an employee as the Contractor's Onsite Safety Representative prior to start of construction and employ Safety Professional for part-time on the job.

1. Safety Representative requirements may be met by retaining appropriate level of services of an acceptable safety consultant.

B. Designate an employee as the Contractor's Onsite Safety Representative prior to start of construction, and employ Safety Professional for full-time on the job.

1. Safety Representative requirements may be met by retaining appropriate level of services of an acceptable safety consultant.

C. Contractor's Onsite Safety Representative Authorities, Duties, and Responsibilities:

1. Responsible for effectively implementing the Contractor's Safety Program.
2. The Safety Representative shall coordinate all emergency response activities.
3. Recommend controls for observed hazards or predicted hazards.
4. Full authorization to correct unsafe acts on the spot, including the authority to stop work to correct safety and health problems.
5. Lead weekly safety meetings at the jobsite.
6. Onsite, during any and all construction activities.
7. Assemble, review, and sign each Job Hazard Analysis (JHA).
    a. Review of JHA with employees.
8. Verify the correct use of respiratory protection and personal protective equipment.
9. Conduct and Prepare detailed weekly and activity specific, when necessary, safety inspection reports listing noted deficiencies, digital photos, abatement dates and follow-up action for jobsite activities.

10. Provide direct oversight and assemble a detailed report of all incident reviews, near-misses, accidents, and emergency response or rescue actions.

11. The Onsite Safety Representative may have other non-safety duties.

1.06 QUALITY ASSURANCE

A. Contractor's Onsite Safety Representative:

1. The effectiveness of the Contractor's Onsite Safety Representative in prosecuting the safety program will be subject to continued review by the COR.

2. Should the Contractor's onsite safety representative's effort be deemed insufficient the Contractor may be required to provide the services of a qualified, full-time safety and health representative at no additional cost to the Government.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

END OF SECTION

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SECTION 01 42 10
REFERENCE STANDARDS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Referenced editions of standard specifications, codes, and manuals form a part of this specification to the extent referenced.

B. These specifications take precedence when conflicting requirements occur between specifications and referenced standard.

1.03 JOBSITE REFERENCE STANDARDS

A. Maintain at fabrication site, access to referenced standard specifications, codes, and manuals required for work in progress at fabrication site. Make available for use by the Government.

B. Maintain onsite, access to referenced standard specifications, codes, and manuals required for onsite work in progress. Make available for use by the Government.

1.04 AVAILABILITY

A. Code of Federal Regulations (CFR): Available online at

1. https://www.ecfr.gov/, authorized by the National Archives and Records Administration (NARA).

B. Bureau of Reclamation Documents:

1. Reclamation Safety and Health Standards (RSHS) may be downloaded at https://www.usbr.gov/safety/rshs/index.html.

2. Bureau of Reclamation manuals and other publications including significant scientific, technical, and engineering works are available upon request of the CO.

C. Industrial and Governmental Documents:

1. When a reference has a joint designation (e.g., ANSI/IEEE) these specifications generally cite the proponent organization (e.g., IEEE).

2. Addresses for obtaining industrial and governmental (other than Federal and Bureau of Reclamation specifications and standards) specifications, standards,

and codes are listed in Table 01 42 10A – Addresses for Specifications, Standards, and Codes.

Table 01 42 10A – Addresses for Specifications, Standards, and Codes

Acronym	Name and Address	Telephone
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, NW., Suite 249 Washington, DC 20001 www.aashto.org	202-624-5800 800-231-3475
ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 https://www.concrete.org/home.aspx"	248-848-3700
AEIC	Association of Edison Illuminating Companies PO Box 2641 Birmingham, AL 35291-0992 http://aeic.org/	205-257-3839
AGC	Associated General Contractors of America 333 John Carlyle Street, Suite 200 Alexandria, VA 22314 www.agc.org	703-548-3118
AISC	American Institute of Steel Construction One East Wacker Drive, Suite 3100 Chicago, IL 60601-2001 www.aisc.org	312-670-2400
AMPP	Association of Materials Protection and Performance 15835 Park Ten Place Houston, TX 77084 www.ampp.org	1-800-797-6223
ANSI	American National Standards Institute 1819 L. Street, NW. Washington, DC 20036 www.ansi.org	202-293-8020
APA/EWA	APA-The Engineered Wood Association P.O. Box 11700 Tacoma, WA 98411-0700 www.apawood.org	253-565-6600

Table 01 42 10A – Addresses for Specifications, Standards, and Codes

Acronym	Name and Address	Telephone
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329 https://www.ashrae.org/	800-527-4723
ASME	American Society of Mechanical Engineers 3 Park Avenue New York, NY 10016-5990 www.asme.org	800-843-2763
ASTM	ASTM International P.O. Box C700 100 Barr Harbor Drive West Conshohocken, PA 19428-2959 www.astm.org	610-832-9585
AWS	American Welding Society 550 NW LeJeune Road Miami, FL 33126 www.amweld.org	800-443-9353 305-443-9353
ICEA	Insulated Cable Engineers Association P.O. Box 2694 Alpharetta, GA 30023 http://www.icea.net/	
ICRI	International Concrete Repair Institute 1000 Westgate Drive, Suite 252 | St. Paul, Minnesota 55114 http://www.icri.org/	651-366-6095
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue,17th Floor New York, NY 10016-5997 www.ieee.org	212-419-7900
NEMA	National Electrical Manufacturers Association 1300 N 17th Street, Suite 1847 Rosslyn, VA 22209 www.nema.org	703-841-3200
NETA	International Electrical Testing Association Inc. 3050 Old Centre Ave., Suite 102 Portage, MI 49024 http://www.netaworld.org/	269-488-6382

Table 01 42 10A – Addresses for Specifications, Standards, and Codes

Acronym	Name and Address	Telephone
NFPA	National Fire Protection Association One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 www.nfpa.org	800-344-3555 617-770-3000
NIBS	National Institute of Building Sciences 1090 Vermont Avenue, NW., Suite 700 Washington, DC 20005-4905 www.nibs.org	202-289-7800
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance 2500 Wilson Boulevard, Suite 300 Arlington, VA 22201 www.tiaonline.org	703-907-7700
UL	Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847-272-8800

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 46 00
QUALITY PROCEDURES

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 DEFINITIONS

A. Quality Assurance: Inspection and tests performed by Government to ensure compliance with terms of contract.

B. Quality Control: Activities performed by Contractor to ensure work conforms to contract requirements.

1. The clause at FAR 52.246-12 - Inspection of Construction, requires Contractor to establish an inspection system to ensure quality.
2. Quality Control includes activities in addition to specified Contractor Quality Testing to ensure work conforms to contract requirements.

C. Contractor Quality Testing: Specified tests performed by Contractor.

1. Government may use test results for Quality Assurance.
2. Contractor may use test results as part of Contractor's Quality Control.
    a. Government anticipates tests will be part of Contractor's Quality Control Program.
    b. Tests do not relieve Contractor of providing adequate quality control measures in accordance with the clause at FAR 52.246-12 - Inspection of Construction.

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 – Submittals.

B. RSN 01 46 00-1, Contractor Quality Control Plan (QCP):

1. Outline Contractors Quality Control Program. As a minimum, cover construction operations, both onsite and offsite, work by subcontractors, fabricators, suppliers, and purchasing agents. Include:
    a. Description of quality control organization. Include chart showing lines of authority and acknowledgement that Quality Control Supervisor (QCS)

staff shall implement the three-phase control system for all aspects of work specified.

b. Identify staff including a QCS who reports to project manager.

1) QCS Resume: Include designation of authorized individual as QCS to develop and manage quality control processes.

2) An alternate QCS with equal authority to act on behalf of the primary QCS should they not be present on the project site.

3) Names, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.

c. Letter to QCS, signed by an authorized official of the firm.

1) Describe responsibilities and delegates sufficient authorities to adequately perform the functions of the QCS.

2) Including authority to stop work not in compliance with the contract.

d. QCS shall issue letters of direction to other quality control representatives outlining duties, authorities, and responsibilities. Furnish Letters to Government.

e. Procedures for:

1) Scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.

2) Control, verification, and acceptance testing procedures for each specific test to include:

a) Test name.

b) Specification paragraph requiring test.

c) Feature of work to be tested.

d) Test frequency.

e) Person responsible for each test.

3) Tracking:

a) Preparatory.

b) Initial.

c) Follow-up control phases and control.

d) Verification and acceptance tests including documentation.

e) Construction deficiencies from identification through acceptable corrective action. Establish procedures to verify correction of identified deficiencies.

4) Reporting procedures, including proposed reporting formats.

f. A list of Definable Features of Work. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section.

1) A list will be agreed upon between COR & Contractor during a coordination meeting prior to start of construction.

2. Detail implementation of Quality Control Plan listed Paragraph 3.01 below.

3. Include Quality Testing Plan that address methods, procedures, frequencies, and scheduling for performing quality testing as required in other specification sections.

C. RSN 01 46 00-2, Contractor's Daily Report:

1. Submit daily reports on a weekly basis.

2. As a minimum, Contractor's Daily Report shall include:

a. Record of all Contractor's activities throughout shift regardless of how minor or complex.

b. Started at beginning of shift, written during shift, and completed at the end of shift.

c. Prepare finished report in such detail that a person not familiar with the day's work could determine what was done and calculate Contractor's direct cost for that day.

d. Include temperature (maximum/minimum), wind conditions, estimated humidity, sunshine, and precipitation (type and intensity), if necessary, for the type of work being performed.

e. Note Name of contractor's representative on site during the shift and hours on site.

f. Document subcontractor activity.

g. Identify specific safety incidents noted during shift including action(s) taken, including:

1) Names of people involved.

2) Correction taken, including personnel involved.

h. Document significant discussions held between Reclamation and Contractor personnel or other parties involved with project.

i. Main body of report:

1) Locations and a detailed description of all work, including:

a) Sketches or photographs where appropriate to assist in description.

b) Description shall reflect what, where, when, why, who, and how work was being performed.

c) Provide:

i. Record of quantities installed.

ii. Specific stations or location of work.

iii. Description by CPM program activity (if applicable).

iv. Show labor classification, work labor force and equipment actually used during shift.

v. Equipment that is idle or being repaired shall be noted.

j. List of materials and equipment delivered to job site

1) Materials installed during shift.

2) Materials refused or wasted during shift.

3) Include:

a) Changes in site conditions.

b) Modifications in design and installation.

c) Photographs taken.

d) Environmental compliance or noncompliance.

e) Hazardous waste and material concerns.

f) Landowner contacts.

g) Worker complaints.

i. Potential problems observed.

D. RSN 01 46 00-3, Summary of Monthly Test Results.

1.04 QUALIFICATIONS

A. Contractor shall designate employee as Quality Control Supervisor (QCS).

B. Quality Control Supervisor (QCS):

1. Experienced QCS with minimum of 2 years' experience in charge of quality control for construction similar in nature to that required by this contract.

2. Both QCS and alternate shall have the authority to stop work if necessary.

1.05 TESTING ACCEPTANCE

A. Material acceptance based on passing of both quality control testing and quality assurance testing.

B. Government quality assurance testing results will prevail in the event of a discrepancy between Contractor's test results and Government test results.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 QUALITY CONTROL PLAN

A. Base program upon definable features of work listed above. Include three phases for each feature:

1. Preparatory Phase:

a. Performed prior to beginning of work:

1) Notify COR, in writing, 7-days in advance for beginning required actions of preparatory phase.

2) Review approved submittals and identify missing information or required submittals.

3) Review of each paragraph of applicable specifications and references.

4) Review of contract plans or shop drawings.

5) Verify materials and/or equipment have been tested, submitted, and approved.

6) Verify provisions in place to provide required inspection and testing.

7) Examine work area to verify required preliminary work has been completed.

8) Physical examination of required materials, equipment, and sample work to assure:

a) Materials are on hand and conform to approved shop drawings or submitted data

b) Have been properly stored.

9) Review of appropriate job hazard analyses.

10) Discussion of procedures for constructing work, including review of repetitive deficiencies.

11) Arrange quality control testing if required.

b. Preparatory Meeting:

1) Conducted by QCS. Attended by the superintendent, other quality control personnel, foreman responsible for definable feature, and Government.

2) Discuss results of preparatory phase actions. Document by separate minutes prepared by QCS, attached to daily Contractor's Quality Control Report.

2. Initial Phase:

a. Accomplished at beginning of a definable feature of work.

b. Verify that control for feature of work developed in Preparatory Meeting is implemented and feature of work is performed to the level of workmanship required.

c. Perform as detailed below:

1) Review minutes of Preparatory Meeting.

2) Check preliminary work.

3) Verify adequacy of controls to ensure full contract compliance.

4) Establish levels of workmanship.

5) Resolve all differences.

6) Check safety to include compliance with safety plan and Job Hazard Analysis (JHA).

a) Review JHA with workers.

d. Notify the COR, in writing, 7 days in advance of beginning any of the required actions of the initial phase.

e. Initial Phase Meeting: Conducted by QCS. Attended by superintendent, other quality control personnel, foreman responsible for definable feature and Government.

1) Results of initial phase actions shall be discussed in Initial Phase Meeting. Documented by separate minutes prepared by QCS, attached to daily Contractor's Quality Control Report.

3. Follow-Up Phase:

a. Perform daily checks to assure continuing compliance with contract requirements, including safety and control testing until completion of particular feature of work.

b. Make checks a matter of record in Contractor's Quality Control documentation.

c. Conduct final follow-up checks and confirm all deficiencies are corrected prior to start of additional features of work.

d. Quality control personnel shall continually refer to standards set in Preparatory Meeting and Initial Phases.

3.02 QUALITY ASSURANCE

A. During course of work, Government may perform quality assurance tests. Tests performed by Government will be used to ensure compliance with contract requirements and not as a replacement for specified Contractor quality testing.

1. Upon request, make measuring and testing devises available for use by Government for verification tests.

B. Contractor's QCS:

1. At project site during work activities and shall have complete understanding of all aspects of the work being performed.
2. The effectiveness of the QCS in prosecuting the QC Program will be subject to continued review and approval by the CO.
3. Should the QCS's efforts be deemed insufficient Contractor may be required to replace the QCS at no additional cost to Government.

C. The effectiveness of Contractor's QC Program will be subject to continued review and approval by the CO.

END OF SECTION

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SECTION 01 46 20
TESTING AGENCY SERVICES

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for items of work requiring applicable testing agency services.

B. Progress Payments: If test reports are not submitted in a timely manner, the Contractor will be considered to be in non-compliance and delaying that phase of the work to which the testing applies. The CO may retain appropriate amounts of applicable progress payments.

1.02 REFERENCE STANDARDS

A. ASTM International (ASTM)

1.	ASTM C1077-16a	Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
2.	ASTM D3666-16	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
3.	ASTM D3740-12a	Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
4.	ASTM E329-14a	Agencies Engaged in Construction Inspection, Testing, or Special Inspection
5.	ASTM E543-15	Agencies Performing Nondestructive Testing

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 46 20-1, Testing Agency Services Plan:

1. Include:

a. Names of agencies to perform sampling and testing.

b. Agency accreditation to perform specified testing or agency qualifications to perform specified testing.

c. Resumes of personnel performing tests.

d. Samples of report forms.

2. No change in the approved plan may be made without written concurrence by the COR.

1.04 QUALIFICATIONS

A. Testing agency organization:

1. Agencies testing construction materials: Meet requirements of ASTM E329.

2. Agencies testing concrete and concrete aggregates: Meet requirements of ASTM C1077.

3. Agencies testing soil and rock: Meet requirements of ASTM D3740.

4. Agencies testing bituminous paving materials: Meet requirements of ASTM D3666.

5. Agencies engaged in nondestructive testing: Meet requirements of ASTM E543.]

B. Equipment:

1. Calibrate measuring devices, laboratory equipment, and instruments at established intervals.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CONTRACTOR QUALITY TESTING

A. Employ accredited independent agency to perform sampling, testing, and reporting as required in the following Sections:

1. 31 23 02 Compacting Earth Materials

3.02 GOVERNMENT CONTRACT QUALITY ASSURANCE

A. During the course of the work, the Government may perform quality assurance tests. Tests performed by the Government will be used to ensure compliance with contract requirements and not as replacement for specified Contractor quality testing.

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 SUBMITTALS

A. Submit the following:

B. RSN 01 51 00-1, Informational Data:

1. Total load count of temporary water taken from the reservoir for construction use. Report quantity in gallons, and in accordance with requirements of the Mitigated Temporary Water Use Permit No. S4-33348 for Dust Abatement, issued by the Department of Ecology on July 9, 2025.

C. RSN 01 51 00-2, Intake Screen Plan

1. Shall comply with the Temporary Water Use Permit and meet the requirements listed in section 01 51 00 - Temporary Utilities.

2. Include:

a. The location of where the water will be taken from.

b. Product information for the required water measuring device. Required details regarding the devise are shown on FORM 1-Measuring Device Information, which is included with the attached permit.

1.03 WATER FOR DUST CONTROL (TEMPORARY WATER)

A. The Contractor may use water from the reservoir for dust control and compaction at the rate and quantity identified in the Mitigated Temporary Water Use Permit No. S4-33348 for Dust Abatement, issued by the Department of Ecology on July 9, 2025.

1. The approval period for water use under Temporary Water Use Permit No. S4-33348 is listed as September 1, 2025 through December 1, 2025; and August 1, 2026 through December 31, 2026.

a. Rate: 0.084 cubic feet per second (CFS)

b. Amount: 3.81 acre-feet per year.

B. Fill trucks at a location as approved by the Contracting Officer's Representative.

C. The Contractor shall submit recorded water use data to the appropriate Department of Ecology Regional Office via the internet or via mail. The Water Use Data Collection Reporting Form is included with the attached permit.

D. Follow all regulatory requirements and specification requirements of section 01 57 20 Environmental Controls and all requirements listed in the Mitigated Temporary Water Use Permit No. S4-33348 for any water sourced from the reservoir.

1.04 SANITARY FACILITIES

A. Restroom facilities will not be available to Contractor personnel.

B. Contractor shall provide sanitary facilities.

PART 2 PRODUCTS

1. Any water pumps set below el. 2240 for filling a water truck shall be placed in secondary containment and be equipped with a NMFS-compliant intake screen.
    a. NMFS Requirements for screened intake:
        1) Circular Screen Openings: Circular screen face openings shall not exceed 3/32 inch in diameter. Perforated plate shall be smooth to the touch with openings punched through in the direction of approaching flow.
        2) Slotted or Rectangular Screen Openings: Slotted or rectangular screen face openings shall not exceed 1.75 mm (approximately 1/16 inch) in the narrow direction.
        3) Square Screen Openings: Square screen face openings shall not exceed 3/32 inch on a side.
2. An approved measuring device shall be installed and maintained for water withdrawn from the reservoir.
    a. The measuring device shall meet all requirements listed on the Instructions for Form 1 – Meter Information sheet that is included with the attached permit, including:
        1) Flow type (open channel or pressurized flow).
        2) If the device measures more than once source.
        3) If the meter is located within 100 feet of the diversion point.
        4) The device type (flume, weir, etc.).
        5) Brand name and model.
        6) Units of measure.

7) Date installed or calibrated.

8) Verification that a fish screen is installed.

9) Device roll over number, the point where the meter starts back at zero.

10) Location of measuring device.

PART 3 EXECUTION

3.01 REMOVAL

A. Remove temporary equipment and facilities upon completion of work under this contract.

B. Use spray bar to apply water evenly.

END OF SECTION

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SECTION 01 55 00
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REGULATORY REQUIREMENTS

A. Meet requirements established by jurisdictional authority for use of existing roadways and haul routes; including seasonal or other limitations or restrictions, payment of excess size and weight fees, and posting of bonds conditioned upon repair of damage.

B. Comply with applicable regulations for haul routes over public highways, roads, or bridges.

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 55 00-1, Initial Digital Recording.

C. RSN 01 55 00-2, Post Construction Digital Recording.

D. RSN 01 55 00-3, Post Repair Digital Recording.

E. RSN 01 55 00-4, Temporary Access Road Plan

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials removed or to construct, maintain, and repair temporary roadways, parking areas, and haul routes as shown in the Drawings.

1. Shall meet the requirements for material placed under the ordinary high water mark.

PART 3 EXECUTION

3.01 EXAMINATION

A. Investigate condition of available public or private roads for clearances, restrictions, bridge-load limits, bond requirements, and other limitations that affect or may affect access and transportation operations to and from jobsite.

3.02 RECORDS

A. Make preconstruction, post construction and post repair digital recordings of the Speelyi Day Use Area parking lot and boat ramp.

1. DVD format with a minimum 720p resolution.
2. Label:
    1. Contract number and title.
    2. Contractor’s name.
    3. Date recording is made.
    4. Preface video with this information.

B. Government representative will be present during recording. Notify COR at least 3 days prior to recording.

3.03 ESTABLISHED ROADWAYS AND PARKING AREAS

A. Established roadways and parking areas are available for Contractor's use subject to existing restrictions and approval of the COR.

B. Do not allow heavy vehicles or construction equipment in established parking areas.

3.04 TEMPORARY ROADWAYS AND PARKING AREAS

A. Roadways:

1. Construct temporary roadways for access from public thoroughfares to serve construction area, of a width and load-bearing capacity to provide unimpeded traffic for construction purposes.
2. Construct temporary culverts/stream crossing structures at stream crossings or cross-drainage channels to allow for unimpeded surface drainage
    a. Crossing structures shall effectively isolate the temporary road from the stream and prevent discharge of earth, sediment, and harmful materials to the flowing stream.
    b. The in-water work window for Mill Creek, which runs through the Speelyi site, is July 16 to February 28 of any given year.

1) Between February 28 to July 16 in any calendar year, temporary road crossings shall consist of a steel plate, log corduroy, or similar structure placed to fully span the wetted perimeter of the stream channel.

2) Between July 16 and February 28, in any calendar year, temporary road crossing culverts may be installed and shall be of sufficient size to pass flow and debris occurring during the project and allow crossing to be isolated from the flowing stream.

c. Prior to installing the culvert, active streamflow shall be bypassed around the work area. A diversion dam of sandbags, bulk bags, ecology blocks, and plastic sheeting or equivalent clean material shall be installed at the upstream extent of the work area to divert the entire flow through the bypass. A similar structure shall be installed at the downstream end of the bypass as necessary to prevent water from entering the work area.

d. The diversion of flow into the temporary bypass shall be done incrementally to allow for the capture and safe removal of the fish from the work area.

1) Reclamation will conduct fish salvage.

a) Notify Reclamation seven days in advance of when fish salvage would be needed.

e. When the culvert installation is completed, flow of water shall be returned to the stream channel.

f. Culverts at temporary road crossings shall be removed during extended periods when work stops to allow fish passage when the reservoir level is el. 2230 or higher.

g. Upon removal of temporary crossing structures, the disturbed streambed and streambanks shall be restored to a natural-like condition.

h. Upon completion of the project, temporary crossings, including construction materials (other than washed gravel) shall be removed from the site.

B. Parking Areas:

1. Construct temporary parking areas to accommodate use of construction personnel.

2. Shall meet the requirements for material placed under the ordinary high water mark.

3. Provide additional offsite parking when site space is not adequate.

4. Locate as approved by the CO and in coordination with the Columbia Cascades Area Office (CCAO) Archaeologist.

3.05 HAUL ROUTES

A. Perform work on rights-of-way established by Government as necessary to construct and maintain any roads, bridges, or drainage structures required for establishment and use of haul routes for construction operations.

B. Shall meet the requirements for material placed under the ordinary high water mark.

C. Use existing available public highways, roads, or bridges as haul routes subject to applicable local regulations.

D. Minimize interference with or congestion of local traffic.

E. Provide barricades, flaggers, and other necessary precautions for safety of public where haul routes cross public highways or roads.

3.06 MAINTENANCE

A. Maintain roadways, parking areas, and haul routes in a sound, smooth condition.

B. Maintain roadbed, side slopes, structures, and surfacing of roads and parking areas until completion and acceptance of all work under this contract. As approved by COR, defer until latest practicable date within specified completion period, placement of surfacing on roads or parking areas subject to heavy and deteriorating use by Contractor's construction operations or equipment.

C. Maintain surfacing of gravel-surfaced roads and parking areas in a smooth condition until completion and acceptance of work under this contract.

D. Snow removal for convenience of Contractor or to facilitate work operations of Contractor is considered to be normal required maintenance.

3.07 REPAIR

A. Promptly repair ruts, broken pavement, potholes, low areas with standing water, and other deficiencies to maintain road surfacing and drainage in original or specified condition.

B. Damage to the parking lot asphalt or boat ramp due to construction shall be repaired at the Contractor’s expense.

1. Damage due to construction observed by the Contractor on the boat ramp or in the parking lot shall be immediately reported to the COR and documented with photographs.
2. Damage due to construction observed by the Government on the boat ramp or in the parking lot shall be immediately reported to the Contractor and documented with photographs.

3.08 REMOVAL

A. Remove any imported materials used to construct temporary roadways, parking areas, and haul routes prior to contract completion. Material added to the temporary access road may be graded into the final grade only if it was sourced from an approved borrow area from within the work site.

B. Shall meet the requirements for material placed under the ordinary high water mark.

C. Any areas compacted as part of the construction of the temporary access road shall be decompacted as part of removal.

END OF SECTION

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SECTION 01 55 20
TRAFFIC CONTROL

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Traffic Control:

1. Include in prices offered in the Price Schedule for other items of work, except as specified.

1.02 REFERENCE STANDARDS

A. Federal Highway Administration, Department of Transportation

1.	MUTCD, Part 6	Part 6, Temporary Traffic Control, Manual on Uniform Traffic Control Devices, 2009 Edition with Revisions 1 and 2, (http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm)

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 55 20-1, Traffic Control Plan.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 TRAFFIC CONTROL

A. Meet requirements of MUTCD, Part 6.

B. Provide cones, delineators, concrete safety barriers, barricades, flasher lights, danger signals, signs, and other temporary traffic control devices as required to protect work and public safety.

C. Provide flaggers and guards as required to prevent accidents and damage or injury to passing traffic.

D. Do not begin work along public or private roads until proper traffic control devices for warning, channeling, and protecting motorists are in place in accordance with approved traffic control plan.

E. Maintain traffic flow and conduct construction operations to minimize obstruction and inconvenience to public traffic.

F. Provide unobstructed, smooth, and dustless passageway for one lane of traffic through construction operations.

G. Construct temporary connections for one lane of traffic between existing roadway and new construction.

H. Maintain convenient access to driveways, houses, and buildings along line of work.

I. If any road closures are included in the approved traffic control plan, the Contractor shall notify the public 30 days in advance by placing an ad in the local newspaper at the Contractor's expense.

J. Protect roads closed to traffic with effective barricades and warning signs. Illuminate barricades and obstructions from sunset to sunrise.

K. Remove traffic control devices when no longer needed.

END OF SECTION

SECTION 01 56 10
PROTECTION OF EXISTING INSTALLATIONS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work, except as specified.

2. Costs for repair of installations damaged by the Contractor's operations are the Contractor's responsibility.

1.02 PROJECT CONDITIONS

A. Drawings included in these specifications show items of existing materials and equipment but may not show all equipment and materials existing at the jobsite.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 PROTECTION

A. Provide protection for personnel and existing facilities from harm due to the Contractor's operations. Protection shall be subject to approval of the Government.

B. Arrange protective installations to permit operation of existing equipment and facilities by the Government while work is in progress.

3.02 REMOVAL OF PROTECTIVE INSTALLATIONS

A. Remove protective installations after purpose has been served. Materials furnished by the Contractor to provide protection remain property of the Contractor.

3.03 REPAIR

A. Repair, at Contractor's expense, damage to existing installations due to Contractor's operations or Contractor's failure to provide proper protection. At the Government's option, damage may be repaired by the Government, and the Contractor will be backcharged repair costs.

END OF SECTION

SECTION 01 56 15
PROTECTION OF EXISTING UTILITIES

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1. RSHS Reclamation Safety and Health Standards

B. Institute of Electrical and Electronics Engineers (IEEE)

1. IEEE C2-2023 National Electrical Safety Code (NESC)

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 56 15-1, Utility Owner Acknowledgment.

1. Copy of notification acknowledgement to string conductors or overhead ground lines.

1.04 PROJECT CONDITIONS

A. Drawings included in these specifications show existing utilities, but may not show all utilities existing at the jobsite.

B. Obtain location of buried conduit, pipe, cable, ground mat, and other buried items before excavating.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 INTERFERENCE WITH OPERATION OR MAINTENANCE

A. Do not interfere with operation or maintenance service on existing utilities.

1. Provide for access to utilities in a manner satisfactory to owners and operators and the Government.

B. Provide required temporary structures; make necessary repairs, replacements, or similar operations; and furnish indemnity or other bonds.

3.02 CLEARANCES

A. Additional clearances required for construction operations: The Contractor shall provide in accordance with RSHS.

3.03 STRINGING OF CONDUCTORS OR GROUND LINES

A. Prior to stringing conductors or overhead ground wires which cross over energized electric powerlines:

1. Notify owners and operators of energized electric powerlines when stringing will be done.

2. Obtain written acknowledgment from owners and operators of energized electric powerlines of notification to string conductors or overhead ground lines.

END OF SECTION

SECTION 01 57 20
ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.
2. Costs for damages and work stoppage are the Contractor's responsibility.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	RSHS	Reclamation Safety and Health Standards, including revisions posted at http://www.usbr.gov/ssle/safety/RSHS/rshs.html

1.03 REGULATORY REQUIREMENTS

A. Comply with Federal, State, and local laws and regulations.

B. Follow permit requirements of all attached permits.

C. Comply with RSHS.

D. Conform to most stringent requirement in cases of conflict between specifications, regulatory requirements, and RSHS.

E. Contractor shall be responsible for damages resulting from dust originating from Contractor operations in accordance with clause at FAR 52.236-7, Permits and Responsibilities.

F. The CO may stop construction activity in violation of Federal, State, or local laws and additional expenses resulting from work stoppage will be responsibility of Contractor.

1.04 DUST CONTROL

A. Provide dust control and abatement during performance of work. Water may be sourced from the reservoir at a location as designated by the COR at the rate and quantity identified in the Mitigated Temporary Water Use Permit No. S4-33348 for Dust Abatement, issued by the Department of Ecology on July 9, 2025.

B. Water for dust control shall be utilized in accordance with section 01 51 00 Temporary Utilities.

C. Prevent, control, and abate dust pollution on rights-of-way provided by Government or elsewhere during performance of work.

D. Provide labor, equipment, and materials, and use efficient methods to prevent dust nuisance or damage to persons, property, or activities, including, but not limited to, crops, orchards, cultivated fields, wildlife habitats, dwellings and residences, agricultural activities, recreational activities, traffic, and similar conditions.

1.05 AIR POLLUTION CONTROL

A. Use reasonably available methods and devices to prevent, control, and otherwise minimize atmospheric emissions or discharges of air contaminants.

B. Do not operate equipment and vehicles that show excessive exhaust gas emissions until corrective repairs or adjustments reduce such emissions to acceptable levels.

C. Burning material is not allowed.

1.06 NOISE CONTROL

A. Do not exceed noise levels of 65 decibels during nighttime during hours of 7:00 pm to 7:00 am and 80 decibels during daytime during hours of 7:00 am to 6:30 pm as measured at nearest noise-sensitive areas such as residences and schools.

B. Noise barriers and equipment mufflers required.

C. Compression brakes are not allowed.

D. Perform operations producing high-intensity impact noise only on weekdays during hours of 7:00 am to 6:30 pm.

1.07 LIGHT CONTROL

A. Direct stationary floodlights shall shine downward at an angle less than horizontal.

B. Shield floodlights so that floodlights will not be a nuisance to surrounding areas.

C. Direct lighting so that residences are not in direct beam of light.

D. Correct lighting control problems when they occur.

E. Lighting shall be turned off no later than 6:30 pm, unless approved by CO.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01 57 30
WATER POLLUTION CONTROL

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	RSHS	Reclamation Safety and Health Standards, including revisions posted at http://www.usbr.gov/ssle/safety/RSHS/rshs.html

B. Code of Federal Regulations (CFR)

1.	40 CFR, Part 112	Oil Pollution Prevention

C. Public Law

1.	Sections 311, 402, and 404	Clean Water Act (Public Law 92-500, as amended)

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 57 30-1. Pollution Prevention Plan:

1. As required by the stormwater permit (Section 402/NPDES/Construction General Permit) for discharges from construction sites.

   a. Shall be site-specific and conform with this Specification and the Department of Ecology's most recent Stormwater Management Manual for Eastern Washington (see Section 1.05 B below).

C. RSN 01 57 30-2, Spill Prevention, Control, and Countermeasure (SPCC) Plan:

1. Submit when SPCC Plan is required in accordance with 40 CFR, Part 112.

   a. SPCC Plan is required where release of oil and oil products could reasonably be expected to enter into or upon navigable waters of the United States or adjoining shorelines in quantities that may be harmful (40 CFR, Part 110), and aggregate on site oil storage capacity is over 1,320

gallons. Only containers with capacity of 55 gallons and greater are included in determining on site aggregate storage capacity.

2. Reviewed and certified by a registered professional engineer in accordance with 40 CFR, Part 112, as required by section 311 of the Clean Water Act (Public Law 92-500 as amended).

D. RSN 01 57 30-3, Water Pollution Control Product Data, including:

1. Weed-free certification for straw bales, current within the last 3 years.

2. Any other manufacturer's certifications for additional water pollution control/erosion control products.

1.04 REGULATORY REQUIREMENTS

A. Construction Safety Standards:

1. Comply with sanitation and potable water requirements of section 7 of RSHS.

B. Laws, Regulations, and Permits:

1. Perform construction operations to comply, and ensure subcontractors comply, with:

a. Applicable Federal, State, and local laws, orders, regulations, and Water Quality Standards concerning control and abatement of water pollution; and terms and conditions of applicable permits issued by permit issuing authority.

b. If conflict occurs between Federal, State, and local laws, regulations, and requirements, the most stringent shall apply.

C. Contractor Violations:

1. If noncompliance should occur, immediately (verbally) report noncompliance to the CO. Submit specific written information within 2 days.

2. Violation of applicable Federal, State, or local laws, orders, regulations, or Water Quality Standards may result in the CO stopping site activity until compliance is ensured.

3. The Contractor shall not be entitled to extension of time, claim for damage, or additional compensation by reason of such a work stoppage.

4. Corrective measures required to bring activities into compliance shall be at the Contractor's expense.

1.05 REQUIRED PERMITS

A. Section 404 Permit:

1. The Bureau of Reclamation has acquired the permit to discharge dredged or fill material into waters of the United States (including wetlands) as required under section 404 of the Clean Water Act (Public Law 92-500 as amended).

2. As the Section 404 dredge and fill permit holder (permittee), Reclamation will make known the conditions of permit to the Contractor by providing it to the Contractor.

    a. A copy of the 404 authorization letter, terms and conditions, and all pertinent attachments shall be kept onsite at all times.

3. Terms and Conditions:

    a. Comply with terms and conditions of the approved permit and permit enclosures.

4. Provide record keeping as required by permit

B. Stormwater Discharge Permit Associated With a Construction site (Section 402/NPDES/Construction General Permit (CGP)):

1. Apply online to the Environmental Protection Agency (EPA) for permit coverage at: https://www.epa.gov/npdes/2022-construction-general-permit-cgp.

    a. A copy of the Section 402/NPDES/CGP shall be available onsite at all times.

2. Notice of Intent (NOI): Both Reclamation and the Contractor shall sign the NOI to obtain coverage under a stormwater general permit to control stormwater discharges from the construction site as required under Section 402 of the Clean Water Act (Public Law 92-500, as amended).

3. Pollution Prevention Plan:

    a. The Contractor will be required to:

        1) Develop a stormwater pollution prevention plan that is site-specific and conforms with this specification, the Stormwater Discharge Permit, and the Department of Ecology's most recent Stormwater Management Manual for Eastern Washington: https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/stormwater-permittee-guidance-resources/stormwater-manuals.

        2) Implement site-specific sediment, erosion, and pollution prevention control measures to prevent erosion from soil or rock stockpiles, excavated materials, and excess soil materials as a result of stormwater runoff.

        3) Comply with the terms and conditions to obtain and maintain this stormwater discharge permit.

        4) Monitoring and Treatment:

a) Provide monitoring and water treatment, if necessary, to achieve compliance with permit conditions and applicable Water Quality Standards.

b) Provide recordkeeping required of the Section 402 permittee, as stated in the Section 402 permit.

5) Monitoring Results:

a) Provide monitoring results to CO two weeks before submittal deadline to EPA Regional Administrator.

b) Send copies of all information transmitted to EPA to the CO.

4. Terms and Conditions:

a. Comply with EPA's provisions listed in the approved permit.

b. Provide record keeping as required by permit, and provide to the CO.

C. Hydraulic Project Approval (HPA)

1. Reclamation has acquired a permit to perform construction in or near State of Washington waters, as required under Washington State law RCW 77.55.

2. Reclamation will make known the conditions of permit by providing it to the Contractor.

a. A copy of the HPA shall be available onsite at all times.

3. Terms and Conditions:

a. Comply with Washington State's provisions listed in the approved permit.

b. Provide recordkeeping required by the permit and provide to the CO at the beginning and end of construction, or at any point in time after construction has started and there will be longer than 2 weeks with no construction site activity.

D. 401 Water Quality Certification

1. Reclamation received a Water Quality Certification Order (Order No. 24079) from the Department of Ecology on August 25, 2025, to perform construction in or near State of Washington waters, as required under Section 401 of the Clean Water Act, as amended.

2. Reclamation will make known the conditions of the WQC Order to the contractor.

a. A copy of the WQC Order shall be available onsite at all times.

3. Terms and conditions:

a. Comply with terms and conditions of the WQC Order.

1.06 CONTRACTOR RESPONSIBILITIES

A. Permits:

1. Any permits obtained by Reclamation are exceptions to the clause at FAR 52.236-7, Permits and Responsibilities, which requires the Contractor to obtain necessary licenses and permits.

    a. The Government obtained the 404, 401, and the Hydraulic Project Approval (HPA) permits. A copy of each permit will be provided to the contractor.

    b. Reclamation will provide a copy of the Shoreline Substantial Development Permit Exemption letter.

    c. The contractor is responsible for obtaining the Section 402/NPDES/Construction General Permit and any other required state, local, or federal permits.

B. Monitoring:

1. Conduct monitoring to meet the requirements of the permits, which may include:

    a. Sampling,

    b. Site inspections,

    c. Required laboratory tests to determine effluent characteristics.

    d. Observations of fish distress of fish kills.

C. Reporting Results:

1. The Contractor will prepare any reports required by permitting. The Government will report required monitoring results to appropriate agencies for any Government-held permits.

2. The Section 402 Discharge permit has specific reporting requirements for the permittee for noncompliance when effluent limitations are exceeded.

    a. The Contractor will prepare any reporting or notices and submit to Reclamation for review prior to submitting to EPA.

3. The Mitigated Temporary Water Use Permit No. S4-33348 has specific reporting requirements for any water used from Cle Elum Lake for construction purposes. Water use data shall be recorded and submitted to the Washington State Department of Ecology.

    a. The Contractor will prepare any reporting or notices and submit to Reclamation for review prior to submitting to the Department of Ecology.

4. If a fish kill occurs or fish are observed to be in distress at the job site, immediately stop all activities causing harm and report the issue to the CO. The CO will notify Washington Department of Fish and Wildlife. If the fish kill or fish distress is related to water quality, the CO will also notify the Washington Military Department Emergency Management Division at 1-800-258-5990.

D. Recordkeeping:

1. Retain records and data required by permits.
2. Submit copies of records to the CO.

PART 2 PRODUCTS

2.01 STRAW BALES, WATTLES, SILT FENCING, OTHER PRODUCTS

A. Straw bales, if used: Certified weed free, within the last 3 years.

PART 3 EXECUTION

3.01 POLLUTION CONTROLS FOR GENERAL SITE WORK

A. Control pollutants by use of sediment and erosion controls, wastewater and stormwater management controls, construction site management practices, and other controls including State and local control requirements.

B. Sediment and Erosion Controls:

1. Establish methods for controlling sediment and erosion which address vegetative practices, structural control, silt fences, straw dikes, sediment controls, and operator controls as appropriate.
2. Institute stormwater management measures as required, including velocity dissipators, and solid waste controls which address controls for building materials and offsite tracking of sediment.

C. Wastewater and Stormwater Management Controls:

1. Pollution prevention measures:
   a. Use methods of dewatering, unwatering, excavating, or stockpiling earth and rock materials which include prevention measures to control silting and erosion, and which will intercept and settle any runoff of sediment-ladened waters.
   b. Prevent wastewater from general construction activities such as drainwater collection, aggregate processing, concrete batching, drilling, grouting, or other construction operations, from entering flowing or dry watercourses without the use of approved turbidity control methods.
   c. Divert stormwater runoff from upslope areas away from disturbed areas.
2. Turbidity prevention measures:
   a. Use methods for prevention of excess turbidity which include, but are not restricted to, intercepting ditches, settling ponds, gravel filter entrapment dikes, recirculation, combinations thereof, or other approved methods that are not harmful to aquatic life.

b. Wastewaters discharged into surface waters shall meet conditions of section 402, the National Pollutant Discharge Elimination System (NPDES) permit.

c. Only operate mechanized equipment below 2240 as necessary to construct crossings or perform the required construction.

D. Construction Site Management:

1. Contractor construction operations:

a. Perform construction activities by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes into streams, flowing or dry watercourses, lakes, wetlands, reservoirs, or underground water sources.

1) Pollutants and wastes include, but are not restricted to: refuse, garbage, cement, sanitary waste, industrial waste, hazardous materials, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

2. Stockpiled or deposited materials:

a. Do not stockpile or deposit excavated materials or other construction materials, near or on, stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high water or storm runoff, or can in any way encroach upon the watercourse.

3. Petroleum product storage tanks management:

a. Place oil or other petroleum product storage tanks at least 50 feet from streams, flowing or dry watercourses, lakes, wetlands, reservoirs, and any other water source.

b. Do not use underground storage tanks.

c. Construct storage area dikes at least 12 inches high or graded and sloped to permit safe containment of leaks and spills equal to storage tank capacity located in the area plus sufficient freeboard to contain the 25-year rainstorm.

1) Line diked areas with an impermeable barrier at least 50 mils thick.

d. Areas for refueling operations: Lined with impermeable barrier at least 10 mils thick covered with 2 to 4 inches of soil.

4. Refueling:

a. Refuel equipment a minimum of 50-feet from any water surface or wetlands.

5. Spill Containment Kit:

a. Maintain a spill containment kit at the construction site in accordance with the applicable environmental permits issued by WDFW and others.

6. Equipment:

   a. Heavy equipment may be stored below OHWM of 2240.

   b. All equipment working above, below, or proximal to the OHWM requires use of bio-based oils.

   c. All equipment working within the OHWM shall use a biodegradable, non-toxic hydraulic fluid meeting the toxicity requirements of the EPA and the U.S. Fish and Wildlife Service in the hydraulic systems.

   d. Equipment shall be maintained in good working condition and inspected daily to ensure that fuel, lubricants, hydraulic fluid, and other materials harmful to fish or other aquatic life are not leaked or spilled into the lake bed, banks, or shorelines.

   e. Equipment shall be stored, serviced, and parked at the end of the workday at locations at least 50-feet from water surface elevation of the reservoir, streams, or wetlands. Equipment shall be stored in a manner that will prevent contaminants such as petroleum products, hydraulic fluid, sediments, sediment laden water, chemicals, or other toxic or harmful materials from entering waters of the state.

   f. Secondary containment measures shall be used whenever slope or site conditions could direct spills of fuels, lubricants, hydraulic fluid, or other harmful materials to waters of the state.

   g. Equipment operators shall have immediate access to spill containment materials and shall operate according to the site-specific spill prevention and control plan.

   h. Washing of equipment, vehicles, tools, etc shall be done at locations where wash waters will not be discharged to the lakebed, streams, or wetlands.

   i. Inspect all heavy equipment daily for fuel, lubricant and hydraulic fluid leaks.

END OF SECTION

SECTION 01 57 90

PRESERVATION OF HISTORICAL AND ARCHAEOLOGICAL DATA

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Except as provided for an equitable adjustment, include in prices offered in the Price Schedule for other items of work.

1.02 DEFINITIONS

A. Cultural resources: Includes prehistoric, historic, architectural, and traditional cultural properties. These include, but are not limited to, human skeletal remains, archaeological artifacts, records, and material remains related to such property.

B. Cultural items: Native American cultural items (i.e., funerary objects, sacred objects, objects of cultural patrimony, or human remains) for which protection is prescribed under the Native American Graves Protection and Repatriation Act (NAGPRA) - Public Law 101-601; 104 Stat. 3042, Section 3(d); and 43 CFR Part 10.4.

C. Human remains: Physical remains of the body of a person.

D. Funerary objects: Native American items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains.

E. Native American: Of, or relating to, a tribe, people, or culture that is indigenous to the United States.

F. Sacred Objects: Native American items that are specific ceremonial objects needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents. These items are specifically limited to objects that were devoted to a traditional Native American religious ceremony or ritual and which have religious significance or function in the continued observance or renewal of such ceremony.

G. Objects of cultural patrimony: Native American items having ongoing historical, traditional, or cultural importance central to the Indian tribe itself, rather than property owned by an individual tribal member. These objects are of such central importance that they may not be alienated, appropriated, or conveyed by any individual tribal member.

1.03 PROJECT CONDITIONS

A. Federal legislation provides for protection, preservation, and collection of scientific, prehistorical, historical, and archeological data, including relics and specimens, which might otherwise be lost due to alteration of terrain as a result of any Federal construction project.

B. Any person who, without permission, injures, destroys, excavates, appropriates, or removes any historical or prehistorical artifact, object of antiquity, or archeological resource on public lands of the United States is subject to arrest and penalty of law.

C. Comply with state laws when operating on non-Federal and non-Indian lands.

D. Discovery of Resources

1. When the Contractor, or any of the Contractor's employees, or parties operating or associated with the Contractor, in performance of this contract discover cultural resources on any lands:

   a. Immediately cease work at that location. If the discovery may be NAGPRA cultural items as defined above, cease all activities within 50 feet (15.2 meters) of the discovery

   b. No one other than the Archaeological Monitor on site has the authority to notify a Reclamation official about the discovery. If a discovery is made by the contractor or contractor employee, the Monitor shall be notified and given time and space to assess the discovery.

   c. The Monitor shall provide immediate verbal notification to Reclamation’s Project Archaeologist, Gia DiMaggio; 208-590-6147; gdimaggio@usbr.gov giving the location and nature of the findings.

2. No later than 24 hours after the discovery, the Archaeological Monitor will send written documentation of the discovery to Gia DiMaggio; Bureau of Reclamation Project Archaeologist; 208-590-6147; gdimaggio@usbr.gov. After confirming the validity of the discovery, Project Archaeologist will then forward the written notification of the discovery to the Area Manager no later than three days after receiving written notification from the Monitor. The written statement needs to include: The geographical location by county and State;

   a. The contents of the discovery; and

   b. The steps taken to secure and protect the human remains or cultural items.

   c. Provide immediate verbal notification to the CO or COR, giving the location and nature of the findings.

   d. Follow with written confirmation to the CO immediately.

3. Once all pertinent Reclamation representatives are informed, and have had time to examine the validity of the discovery, they shall provide immediate verbal and written notification to:

a. Guy Moura of the Confederated Tribes of the Colville Nation; 509-634-2695; or Brenda Covington; 509-634-2699.

b. Casey Barny of the Confederated Tribes and Bands of the Yakama Nation; 509-865-5121, x4378; or Jessica Lally; 509-865-5121, x4766

4. In the event of a NAGPRA discovery, Reclamation shall then carry out the protocol outlined by a signed and approved Plan of Action (POA) for any human remains or cultural items that are to be removed if in place avoidance and protection actions are not feasible. The attached POA calls for all discoveries to be left in-situ however possible. If the discovery cannot be left in place for fear of damage from project activities, the POA addresses the collection protocol as well as a need for the development of a post discovery plan between Reclamation representatives and the tribes.

5. Where a NAGPRA discovery occurs on Federal lands, do not notify state officials. All notifications of a discovery shall be to a Reclamation Archaeologist who may then contact pertinent Tribal officials.

6. Exercise care so as not to disturb or damage cultural resources uncovered during construction activities and provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the Area Manager.

   a. In order to certify when the project activities may resume after a work stoppage, written certification shall be sent from the Area Manager to the project manager no later than 30 days after receiving written or verbal documentation of a discovery. The written certification shall provide: A copy of the signed POA with redaction of any confidential or sensitive information;

   b. Instructions for protecting, securing, stabilizing, or covering the human remains or cultural items, if appropriate;

   c. The date (no later than 30 days after the date of the written certification) on which lawful activity may resume around the discovery

7. On-site archaeological monitors will be present during the construction period. Archeological monitors will work with the Area Manager and Reclamation Archaeologists to assure preservation of the important natural and cultural features and to provide professional oversight to help prevent ground disturbances that might adversely impact buried archaeological materials, including human remains, and to make sure the appropriate protocols are followed in the event of an inadvertent discovery of human remains.

   a. On-site archaeological monitors have the authority to stop work at any time. Any stoppage of work will be temporary to allow time to contact Project Archaeologist and the Area Manager.

   b. No ground-disturbing work of any kind, or work to access or install the shoreline stabilization riprap, is to be performed by the Contractor or Sub-Contractors without an on-site monitor present.

E. Where appropriate by reason of discovery, the Area Manager may order delays in time of performance or changes in work, or both. When such delays or changes are ordered, an equitable adjustment will be made in the contract in accordance with applicable clauses of the contract.

1. Work is to cease immediately upon discovery of human remains or cultural items, and all activities shall cease within 50 feet (15.2 meters) of the discovery.

2. Work is not to begin until written notification to proceed is received from the Area Manager.

F. The Contractor is held to the minimal ground disturbance as defined in this specification and design. As such there will be no temporary haul routes to or across the construction sites and staging areas will be approved by the Area Manager as part of the Land Use plan prior to construction. The Contractor shall make every effort to minimize, or even eliminate any additional ground disturbance

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 – Submittals.

B. RSN 01 57 90-1, Additional Use Areas:

1. Areas identified as Contractor Additional Use Areas on the drawings may be used without CO approval prior to work. All other areas to be used require CO approval prior to work.

a. Prior to use of areas outside of the identified work areas or Contractor Additional Use Areas, Contractor shall provide written documentation demonstrating that the use area has been inventoried for cultural resources to the CO and COR for approval by the Project Archaeologist as required by the National Historic Preservation Act.

b. Once the CO has received approval of site use by the Project Archaeologist, the areas are subject to review under the National Environmental Policy Act and related laws.

c. CO shall retain the authority to designate all use areas as approved for work.

C. Review and approvals could take up to 45 days.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01 71 20
SURVEYING

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 DEFINITIONS

A. GPS: Global Positioning System

B. GNSS: Global Navigation Satellite Systems

C. TPS: Terrestrial Positioning Systems (i.e. total stations and automatic levels)

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 71 20-1, Surveying Plan:

1. Describe work layout and survey methods.
2. Surveying schedule.
3. Use updated survey information collected by Contractor showing
    a. Datum used,
    b. Elevations
    c. Benchmark elevations
    d. Existing surface elevation at the 2:1 slope.
4. Example of field records format on electronic data collection devices.
5. Plan for quantity surveys for bid schedule items requiring field measurement (sequence and schedule).

C. RSN 01 71 20-2, Resumes:

1. Professional Land Surveyor responsible for supervising and directing survey work.
2. Construction surveyor.

D. RSN 01 71 20-3, Accuracy Check Results:

1. Accuracy check of Government-established primary control.

E. RSN 01 71 20-4, Completed and Reduced Survey Notes:

1. Copy of completed and reduced survey notes (electronic or paper) for a survey or portion of survey. Include ASCII coordinate files.

2. Field records on electronic data collection devices: Include electronic files and paper copies of notes.

F. RSN 01 71 20-5, Quantity Survey Notes and Computations:

1. Itemized statement for work covered by notes and computations.

a. Electronic files that support calculations (i.e. dwg, ASCII, dems, landXML).

2. When progress payment invoice includes unit priced pay item that surveys required for computing quantities, this submittal is part of documentation required for a proper invoice for progress payments in accordance paragraph (a)(2)(xi) of the clause at FAR 52.232-27 - Prompt Payment for Construction Contracts.

G. RSN 01 71 20-6, Workday's survey notes:

1. Copies when requested by Government.

1.04 PRIMARY CONTROL

A. The Government has established primary control to be used for establishing work lines and grades.

B. Primary control consists of bench marks and horizontal control points in work vicinity as shown on drawings.

C. Survey data is based on the following datums (reference frames):

1. Horizontal: Washington State Plane, South Zone NAD 83.

2. Vertical: U.S. Bureau of Reclamation Datum for Cle Elum Dam. Conversion of U.S. Bureau of Reclamation Datum for Cle Elum Dam to NAVD 88 is as follows: Cle Elum Dam Elev. + 5.20 feet – NAVD 88.

D. Check and verify primary control and resolve discrepancies with Government before beginning work.

E. Preserve and maintain primary control points until otherwise authorized.

F. Replace any damaged or destroyed primary control points.

G. Replace any damaged or destroyed property boundary markers.

1.05 QUALIFICATIONS

A. Responsible Surveyor:

1. Professional Land Surveyor.
2. Registered in Washington State.
3. When GPS/GNSS is utilized, shall have working knowledge of geodesy, GNSS/GPS capabilities.

B. Construction Surveyors:

1. Under supervision and direction of Professional Land Surveyor.
2. Minimum 2 years' experience in charge of construction surveys for construction projects similar in nature to that required by this contract.
3. In charge of construction surveys for at least 2 projects similar in nature to that required by this contract.

PART 2 PRODUCTS

2.01 SURVEYING MATERIALS AND EQUIPMENT

A. Provide materials required for surveying work, including, but not limited to, stakes, spikes, steel pins, templates, platforms, and tools.

1. Except as required to be incorporated in work or left in place, surveying materials remain property of Contractor.

B. Instruments:

1. GNSS/GPS: Dual or multi-frequency survey grade receivers using accepted standards of practice.
2. TPS: Check total station level calibration, vertical index and horizontal collimation monthly, as recommended by instrument manufacturer. Include pre-measurement checks in surveyor reports.
3. Check and adjust optical plummets, tribraches, tripods, and leveling bubbles monthly and after harsh treatment or long-term storage. For barometers and thermometers, check regularly for accuracy.

PART 3 EXECUTION

3.01 LAYOUT OF WORK SURVEYS

A. Establish lines and grades for work layout from Government-established primary control points.

B. Establish measurements required for work execution to specified tolerances.

C. Provide stakes, markers, and other survey controls necessary to control, check, and guide construction. Place and mark controls so COR can monitor progress without the use of survey equipment.

3.02 QUANTITY SURVEYS

A. Perform surveys and computations to determine quantities of work performed or placed during each progress payment period.

B. Perform surveys necessary for the Government to determine final quantities of work in place. Final payment quantities will be based on the Government's original terrain data and submitted survey notes and computations.

C. Perform quantity surveys in presence of authorized Government representative, unless specifically waived. Notify the Government at least 24 hours before performing a quantity survey.

3.03 SURVEY REQUIREMENTS

A. Alignment Staking:

1. Each 50 feet on tangent.
2. Each 25 feet on curves, plus the following:
    a. Horizontal event points:
        1) Points of curvature (PC)
        2) Points of tangency (PT)
        3) Tangent to spiral (TS)
        4) Spiral to curve (SC)
        5) Curve to spiral (CS)
        6) Spiral to tangent (ST)}
    b. Vertical event points:
        1) Vertical point of intersection (VPI)
        2) Vertical curve (VC)

B. Slope Staking: Each 50 feet on tangent and each 25 feet on curves, stake every 10 feet in elevation on slopes.

C. Roads: Blue tops each 50 feet on tangent and each 25 feet on curves.

1. When using GPS/GNSS/Real Time Kinematics (RTK) or TPS, input roadway design templates, horizontal and vertical alignments, and superelevation rate data or a Digital Terrain Model (DTM) surface in Data Controller before proceeding with construction staking work.

D. Quantity surveys: Original, final, and intermediate Digital Terrain Models (DTMs) for structure sites and other locations as required for quantity surveys. Volumetric quantities shall be determined by preliminary (before) and final (as-constructed) DTM.

1. Borrow areas: Before and after removal of materials, but before final shaping.}

E. Set additional stakes as required by COR.

F. As-builts: As required for structures and other features of work.

3.04 ACCURACY

A. Degree of Accuracy:

1. Alignment of Tangents and Curves: Within 0.1 foot.
2. Structure Points: Within 0.01 foot, except where installation or operation considerations require tighter tolerances.
3. Blue Tops:
   a. Subgrades and gravel surfaced roads: Within 0.1 foot.
   b. Pavements: Within 0.01 foot.
4. DTMs and slope stakes: Within 0.10 foot, horizontally and vertically.
5. Horizontal Control Surveys: Precision shall be dictated by expected use of control point utilizing accepted standards of practice.
6. Vertical Control Surveys: Close within 0.05 foot times the square root of the circuit length in miles.

B. Beginning and ending of each survey shall include check measurement on known survey point(s).

3.05 FIELD RECORDS

A. Record field notes, computations, and other surveying data on electronic data collection devices or in fieldbooks. Field records shall be complete and accurate record of survey.

B. Record survey data in accordance with recognized professional surveying standards.

1. Notes or data not in accordance with standard formats will be rejected.
2. Electronic files of notes on electronic data collection devices: In approved format.
3. Fieldbooks:
   a. Illegible notes or data or erasures in a fieldbook will be sufficient cause for rejection of part or all of fieldbook.
   b. Corrections by ruling or lining out errors will be permitted.
   c. Copied notes or data will not be permitted.

d. Rejection of part or all of a fieldbook may necessitate resurveying.

C. Field notes shall include as a minimum:

1. Daily title page.
2. Date of survey.
3. Names and duties of survey crew members.
4. Pertinent atmospheric conditions, such as temperature, pressure and ppm settings.
5. Explanatory notes about conditions(s) that might affect accuracy or result of survey.
6. Instrument data:
   a. Instrument model(s), including GPS antenna type(s), offsets, measurement to ARP (Antenna Reference Point), atmospheric conditions entered, curvature and refraction constant, sea level correction, scale factor, prism model and offset.
   b. Care and adjustment of instruments including pegging the leveling instrument, level rod length checks, use of rod levels, collimation of total stations, prism model and offsets, and other pertinent information.
7. Survey location.
8. Diagrams or sketches.
9. Pertinent record information and references.
10. Original “raw” data values (without mathematical manipulations and without corrections for errors) of distance, angle, and elevations.
11. Monuments found or set; with complete descriptions (e.g., found 5/8-inch rebar with 1 ½-inch plastic yellow cap, including markings), and description of stampings.
12. Consecutively number pages in upper right hand corner.

END OF SECTION

SECTION 01 74 00
CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work except as specified.
2. Cost of environmental site assessments are the Contractor's responsibility.

1.02 DEFINITIONS

A. Hazardous waste: Defined as hazardous by 40 CFR 261.3; or by other Federal, State, or local laws or regulations.wa

1.03 REFERENCE STANDARDS

A. Bureau of Reclamation (USBR)

1.	RSHS	Reclamation Safety and Health Standards, including revisions posted at http://www.usbr.gov/ssle/safety/RSHS/rshs.html

B. Code of Federal Regulations (CFR)

1.	40 CFR 261.3	Definition of Hazardous Waste
2.	49 CFR 171-179	Transportation - Hazardous Waste Regulations

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 74 00-1, Waste Production and Disposal Plan:

1. For each type of waste, list estimated quantity and planned disposal location.

C. RSN 01 74 00-2, Waste Production and Disposal Records.

1. For each type of waste, list quantity and disposal location.
2. Include certifications that waste was properly disposed.
3. Hazardous wastes manifests.

D. RSN 01 74 00-3, Environmental Consultant Resume:

1. Describe experience on similar project.

E. RSN 01 74 00-4, Environmental Site Assessment.

1.05 DEFINITIONS

A. Hazardous waste: Defined as hazardous by 40 CFR 261.3; or by other Federal, State, or local laws or regulations

1.06 QUALIFICATIONS

A. Environmental consultant: Minimum 2 years experience in conducting environmental site assessments for similar construction.

1.07 REGULATORY REQUIREMENTS

A. Comply with Federal, State, and local laws and regulations.

B. Comply with RSHS.

C. Conform to most stringent requirement in cases of conflict between specifications, regulatory requirements, and RSHS.

1.08 PROJECT CONDITIONS

A. Report waste materials discovered at jobsite to COR.

1. Cease work in areas where waste may be hazardous until waste materials are investigated by the Government.
2. If waste is hazardous, the CO may order delays in time of performance or changes in work, or both.
3. If such delays or changes are ordered, an equitable adjustment will be made in the contract in accordance with applicable clauses of the contract.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 PROGRESS CLEANING

A. Keep work and storage areas free from accumulations of waste materials and rubbish.

3.02 FINAL CLEANUP

A. Remove temporary plant facilities, buildings, concrete footings and slabs, rubbish, unused materials, concrete forms, and other similar materials which are not part of permanent work.

3.03 DISPOSAL

A. Nonhazardous waste materials:

1. Reuse at jobsite or reuse or recycle waste materials removed from jobsite whenever possible.
2. Dispose of materials not reused at jobsite by removal from jobsite.
3. Dispose of nonhazardous waste materials that are not reused or recycled at appropriately permitted disposal facilities.]
4. Combustible waste materials: Dispose by removal from jobsite and dispose of at the Contractor's expense except as provided in Section 31 11 00 – Cleaning and Grubbing.
5. Noncombustible waste: Dispose by removal from jobsite.
6. Disposal by Removal:
    a. Reuse or recycle waste materials whenever possible.
    b. Dispose of nonhazardous waste materials that are not reused or recycled at appropriately permitted disposal facilities.
7. Do not burn waste materials.

B. Hazardous Waste Disposal:

1. Dispose by removal from jobsite.
2. Recycle hazardous waste whenever possible.
3. Dispose of hazardous waste materials that are not recycled at appropriately permitted treatment or disposal facilities.
4. Transport hazardous waste in accordance with 49 CFR 171-179.

C. Certification: Certify that wastes are disposed of in accordance with Federal, State, and local regulations.

3.04 SITE ASSESSMENT

A. Upon completion of work, perform site assessment at following areas for work done under these specifications:

1. Hazardous waste accumulation areas.
2. Petroleum dispensing and storage areas where aggregate storage of petroleum at jobsite was over 110 gallons.

3. Hazardous material storage areas.

B. Employ qualified environmental consultant to perform assessments.

C. Demonstrate and document by appropriate analytical sampling that site contamination is less than State action cleanup levels.

3.05 RECORDS

A. Keep records of types and amounts of waste materials produced.

B. Keep records of waste material disposal.

END OF SECTION

SECTION 01 78 30

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for other items of work.

1.02 UPDATED RECORD DRAWINGS

A. Update record drawings to document work or services performed for progress payments in accordance with the clause at FAR 52.232-27 - Prompt Payment for Construction Contracts.

1. At a minimum, meet monthly with COR to review and approve progress made to full-sized record drawings prior to the submittal for progress payment. Meeting location to be approved by COR.
2. Verify with the COR that mark-ups to the drawings are current with the progress of the work prior to submitting invoice for progress payment.

1.03 DEFINITIONS

A. Progress As-built Drawings:

1. Copies of as-built drawings maintained on site.

B. Draft As-built Drawings:

1. Completed set of marked-up as-built drawings that have been certified by Contractor reflecting all changes to the work and any additional contractor/manufacturer drawings.

C. Final Drawings:

1. Complete set of project drawings incorporating all changes as shown in the as-built drawings and reflecting the final project condition as constructed.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 01 78 30-1, Electronic Media Release Form, Upon Request.

1. Refer to Article 1.04 Electronic Drawings below.

C. RSN 01 78 30-2, Progress As-built Drawings:

1. Copies of As-built drawings maintained on site.
2. Include as-built conditions of drawings submitted as required in Table 01 33 00A -List of Submittals.

D. RSN 01 78 30-3, Draft As-built Drawings:

1. Certified marked sets: As-built drawings that have been certified by Contractor as up to date and accurate in the description of work.
2. Submit to COR for approval prior to commissioning, training, request for substantial completion, and/or Government possession.
3. For Information Only (FIO) Drawings: Revision date and details.

E. RSN 01 78 30-4, Final Drawings:

1. Drawings shall be provided in AutoCAD drawing (.dwg) format and Adobe Acrobat (.pdf) format.
2. Drawings or output data files produced on a Computer Aided Design and Drafting (CADD) system and furnished to Government shall be compatible with 2025 Autodesk products, .DWG file format, manufactured by Autodesk, Inc., Sausalito, CA. CO may require other versions of Autodesk.
3. Topographical drawings shall contain proper point files, point groups, and intelligent Civil 3D object entities such as surfaces, alignments, profiles and cross-sections as required.
4. ASCII point files shall be included, with a point descriptor glossary.
5. Deliverables shall be “eTransmit” from with the Civil 3D application, to package .DWG files with all resource files and dependencies including fonts, external references and images.
6. Updated with all changes as marked on As-built drawings to reflect approval comments.

1.05 ELECTRONIC DRAWINGS

A. CADD Files, will be distributed upon request, after:

1. Notice to Proceed.
2. Contractor signs form in Section 51 00 50 – Electronic Media Release.

1.06 PROGRESS AS-BUILT DRAWINGS

A. Maintain 2 sets of full-size prints of drawings listed in Division 52 and contractor drawings submitted and approved as required in Table 01 33 00A – List of Submittals marked to show accurate and complete records of as-built conditions:

1. Keep drawings at the jobsite and mark as work progresses.
2. If FIO drawings require changes, mark with revisions.

B. Use the following to represent changes.

1. Supplementary notes, legends, and details necessary to clearly portray as-built construction.

2. In lieu of referencing, incorporate clarifications from other documents such as RFI's, where as-built construction is identified.

3. Include pictures, sketches or other representations to further explain as-built construction. Do not provide in lieu of as-built drawings.

4. Mark and dimension to show variations between actual construction and that indicated or specified in contract documents.

   a. Include buried or concealed construction and utilities.

   b. Include existing items, topographic features, and utility lines revealed during construction which differ from those shown on contract drawings.

5. Mark to define construction actually provided where choice of materials or methods is permitted in specifications, or where variations in scope or character of work from that of the original contract are authorized.

C. Mark drawings in the following colors:

1. Red: Additions.

2. Green: Deletions.

3. Blue: Notations necessary for explanation of markings.

D. Allow the Government to review the drawings at all times.

E. Following successful commissioning of each unit or Government possession, submit As-builts with changes resulting from commissioning and training to COR for review and approval.

1.07 DRAFT AS-BUILT DRAWINGS

A. Convert information shown in progress as-builts into electronic format.

B. Upon completion of work, sign marked as-built drawings.

1. Sign and date each as-built drawing as certified correct. If no revisions were necessary to illustrate as-built conditions mark the drawing with "As-Built, No Changes."

2. Only certify FIO drawings which require changes.

1.08 FINAL DRAWINGS

A. Incorporate mark-ups from as-built drawings into complete drawings set showing as-built constructed condition.

1.09 AS-BUILT RECORD OF MATERIALS

A. Where several manufacturers' brands, types, or classes of items have been used in the project, designate specific areas where each item was used. Key designations to the areas and spaces depicted on contract drawings.

B. Provide record of materials used in the following format:

As-Built Record of Materials				
Specification Section	Materials Designation	Manufacturer	Materials Used (manufacturer's designation)	Where Used

1.10 EXTRA MATERIALS

A. List extra materials provided in accordance with the specifications and Section 01 60 00 – Product Requirements.

B. Provide the list in the following format:

List of Extra Materials				
Specification Section	Material Designation	Material	Manufacturer	Extra Material Item

1.11 WARRANTIES

A. Provide warranties in accordance with the clause at FAR 52.246-21 "Warranty of Construction," the specifications, and this section.

B. Warranty of Construction

1. Submit data concerning warranty of construction, required by the clause at FAR 52.246-21 "Warranty of Construction," including the warranty period (dates), and warranty contacts with names, addresses, and telephone numbers. Also, post this data, under glass, at a location as directed by the CO.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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DIVISION 02 – EXISTING CONDITIONS

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SECTION 02 41 13
SELECTIVE SITE DEMOLITION

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Selective Demolition:

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 REQUIREMENT

A. Provide all labor, material, and equipment necessary to demolish, remove and dispose of existing features, as shown on the drawings and as specified herein.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.01 DEMOLITION AND REMOVAL

A. Remove the following:

1. Partial demolition of staircase, drawing number: 33-109-60005.
2. Staircase, drawing number: 33-109-60005.
3. Pole Barn, drawing number: 33-109-600006.
    a. Disassemble the pole barn to keep the timbers intact as possible.
    b. Stockpile in the location shown on the drawings.
4. Wooden Bridge, drawing number: 33-109-60008.

3.02 PROTECTION AND CLEANUP

A. Protection: Take necessary measures to protect items indicated to remain including, but not limited to, structures and utilities.

B. Cleanup: Clean the site of all demolition debris at the conclusion of the work.

3.03 DISPOSAL

A. Dispose of removed materials in accordance with Section 01 74 00 – Cleaning and Waste Management.

END OF SECTION

DIVISIONS 03 THROUGH 12 – NOT USED

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DIVISION 13 – SPECIAL CONSTRUCTION

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SECTION 13 00 10
FISH HABITAT LOG STRUCTURES

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Log Structures:

1. Payment: Lump sum as offered in the Price Schedule's.

1.02 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 Submittals.

B. RSN 13 00 10-1, Log Structure Construction Plan

1. Describe proposed log sizes, arrangements and proposed compaction methods to be used in the construction of the fish habitat log structures.

PART 2 PRODUCTS

2.01 LOGS

A. Source logs locally from the project use area. See Section 31 11 00 Tree Removal for additional information regarding the harvest of trees.

B. Species: Conifer tree species only. Do not use cottonwood or other hardwoods

C. Diameter: Minimum log diameter of 15-inches measured at breast height.

D. Length: Minimum of 50-foot log length and maximum of 100-foot log length.

E. Root Wads: Root wads are not required to be intact for the log structures. If the root wads are intact, they shall be utilized on the exposed end of the log structure.

F. Branches: Keep branches intact as much as possible so they may be incorporated into each structure..

G. Embedment: Minimum embedment in the reservoir shall be 80% of each log's length.

PART 3 EXECUTION

3.01 CONSTRUCTION

A. Install fish habitat log structures according to the construction detail shown on the drawings and in locations as shown on the drawings.

B. Backfill after log placement with native soil used to key log into the reservoir bed. The contractor shall compact backfill using mechanical equipment such as the bucket of an excavator or a vibratory compactor. Jetting, sluicing, or water settling will not be permitted. Backfill material shall be placed in maximum 12-inch lifts and compacted thoroughly. No testing of compacted density will be performed.

END OF SECTION

DIVISIONS 14 THROUGH 28 – NOT USED

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DIVISION 31 - EARTHWORK

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SECTION 31 11 00
CLEARING AND GRUBBING

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Clearing and Grubbing:

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 DEFINITIONS

A. Vegetation: Trees, shrubs, brush, stumps, exposed roots, down timber, branches, grass, and weeds.

1.03 SUBMITTALS

Not Used

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CLEARING

A. Clear rights-of-way to be occupied by permanent construction and stockpile sites, and waste pile sites.

B. Clear adjacent to cut or fill sections to a minimum distance of 3 feet outside of slope lines.

C. Remove trees, vegetation, rubbish, and objectionable material.

1. Disturbance of shoreline vegetation shall be limited to the minimum necessary to construct the project and only in the areas shown on the approved plans.
2. Existing driftwood within the work area may be moved by the Contractor as necessary to perform work. Upon completion of work, driftwood shall not be left in stacks but rather spread naturally throughout the restored work area.
3. See the drawings for any special tree clearing conditions, including the conditions for the Schubring parcel APN 291934.

D. Preserve and protect vegetation designated for preservation within clearing limits and vegetation outside clearing limits.

3.02 GRUBBING

A. Grub ground surfaces to be under embankment and surfaces of excavation to be used for embankment.

B. Perform grubbing in advance of grading operations.

3.03 TREE CUTTING AND REMOVAL

A. Remove trees that interfere with riprap placement and within 3 feet of the final grade top contour by cutting or tipping.

B. Do not tip any trees that may cause damage to private property or are unsafe to do so, as agreed upon by the Contractor and COR.

C. Removed trees shall first be used for construction of the fish habitat log structures as described in section 35 21 00 Fish Habitat Log Structures.

D. Removed trees on the Schubring parcel APN 291934 shall be stockpiled in the location as shown on the drawings.

E. Haul and stockpile excess trees which are not needed for fish habitat log structure construction at the designated tree stockpile location defined in 3.04.

F. Preserve trees that do not interfere with work.

G. Remove limbs and branches and dispose of them in accordance with 01 74 00 - Cleaning and Waste Management.

H. Haul and stockpile and stumps and root wads removed from the ground to the tree stockpile location defined in 3.05.

3.04 TREE HAULING AND STOCKPILE LOCATION

A. Haul removed trees that are not needed for fish habitat log structure construction and stockpile at the “Howsen Pit” gravel pit located off of Salmon La Sac Road, about 10 miles north of the Speelyi Day Use area, located at approximately 47.376146, -121.092782.

3.05 DISPOSAL OF CLEARED MATERIAL

A. Dispose of material in accordance with Section 01 74 00 - Cleaning and Waste Management.

B. Nonvegetative material: Dispose of as noncombustible material in accordance with Section 01 74 00 - Cleaning and Waste Management.

C. Vegetative materials: Remove from jobsite material in accordance with Section 01 74 00 - Cleaning and Waste Management.

END OF SECTION

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SECTION 31 23 02
COMPACTING EARTH MATERIALS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include cost of compacting earth materials in prices offered in the Price Schedule for items of work where earth materials are required to be compacted.

   a. Includes furnishing water and moistening materials.

   b. Includes Contractor Quality Testing.

1.02 DEFINITIONS

A. Use definitions from ASTM D653.

B. Control Fraction: The portion of a soil sample consisting of particles smaller than a designated sieve size. The fraction is used to compare in-place unit weight with standard laboratory unit weight. The control sieve size depends on the laboratory test used to determine laboratory maximum density.

C. C-Value: The ratio expressed as a percentage of (1) in-place unit weight at fill moisture content to (2) the wet unit weight of a laboratory-compacted specimen prepared at fill moisture content as determined by the rapid method of construction control in accordance with ASTM D5080. The C-Value is a comparison of compactive effort of field compaction equipment to standard laboratory compactive effort.

D. D-value: The ratio expressed as a percentage of (1) in-place wet unit weight at fill moisture content to (2) laboratory maximum wet unit weight as determined from a compaction curve constructed at fill moisture content as determined by the rapid method of construction control ASTM D5080. The D-value is the equivalent of percent compaction in accordance with ASTM D698.

E. Percent Compaction: The ratio expressed as a percentage of the in place unit dry unit weight to the laboratory maximum dry unit weight

F. Special compaction: Compaction close to structures or in spaces not accessible by standard width rollers.

1.03 REFERENCE STANDARDS

A. ASTM International (ASTM)

1.	ASTM D653-14	Terminology Relating to Soil, Rock, and Contained Fluids

2.	ASTM D698-12	Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
3.	ASTM D1140-14	Amount of Material in Soils Finer than the No. 200 (75-µm) Sieve
4.	ASTM D1556-15	Density and Unit Weight of Soil in Place by the Sand-Cone Method
5.	ASTM D2216-10	Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
6.	ASTM D2487-11	Classification of Soils for Engineering Purposes (Unified Soil Classification System)
7.	ASTM D2488-09a	Description and Identification of Soils (Visual-Manual Procedure)
8.	ASTM D4318-10	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
9.	ASTM D4546-14	One-Dimensional Swell or Collapse of Cohesive Soils
10.	ASTM D4647/D4647M-13	Identification and Classification of Dispersive Clay Soils by the Pinhole Test
11.	ASTM D4718-15	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
12.	ASTM D4914-16	Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit
13.	ASTM D5030-13a	Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit
14.	ASTM D5080-08	Rapid Determination of Percent Compaction
15.	ASTM D6572-13	Determining Dispersive Characteristics of Clayey Soils by the Crumb Test
16.	ASTM D6913-04(2009)	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
17.	ASTM D6938-15	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depths)
18.	ASTM D7382-08	Determination of Maximum Dry Unit Weight and Water Content Range for Effective Compaction of Granular Soils Using a Vibrating Hammer

B. Bureau of Reclamation (USBR)

1. *USBR Guidelines for Earthwork Construction Control Testing of Gravelly Soils*, Earth Sciences and Research Laboratory, Technical Service Center, Bureau of Reclamation, Denver, Colorado, September 2008.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 31 23 02-1, Test Results:

1. Results of tests listed in Table 31 23 02A – Contractor Materials Testing Requirements and Frequency.
2. Include test date, time, location and person performing tests.
3. Notify COR within 2 hours if testing does not meet specified requirements.

1.05 AMBIENT CONDITIONS

A. Do not place and compact soil under following conditions:

1. Rain that creates puddles in clayey or silty materials.
2. Heat or wind or both that dries material below specified moisture conditions.
3. Ice, frost, or snow pockets are visible in soil being placed or in underlying materials.

B. Ambient air temperature below freezing may make placement and compaction operations difficult.

1. Minimize interruptions of operations.
2. Continuous operations may be required to eliminate freezing of materials.
3. Obtain COR approval, before performing operations when ambient air temperatures are below freezing.
4. Cease operations when placed materials are freezing or below freezing.

PART 2 PRODUCTS

2.01 CLASSIFICATION

A. When required, classify earth materials using the Unified Soil Classification System (USCS) according to ASTM D2487 or ASTM D2488.

1. Gradation tests for classification: ASTM D9913 or D1140.
2. Atterberg limits testing for classification: ASTM D4318.

2.02 SOIL TYPES

A. Clean Fill:

1. Any soil except soils with classifications Peat (PT), Organic Silts and Organic Clays (OL and OH), or Elastic Silt (MH) per ASTM D2487.
2. Do not use soils that exhibit expansive or dispersive characteristics in accordance with ASTM D4546, ASTM D4647, or ASTM D6572.
3. Free of roots, stumps, limbs, vegetation, organic matter, and ice.
4. Does not contain construction debris, scrap materials, refuse, man-made wastes, or chemical or hydro-carbon contamination.

B. Do not use frozen soils.

C. Special Gradations and Plasticity.

1. In some cases, such as embankment materials, embedment for buried pipe, special gradations and/or plasticity characteristics may be required. These requirements are in the applicable Section.

2.03 DESIGNATION OF SOILS FOR COMPACTION

A. Requirements for lift thickness, method of compaction, and method of determining degree of compaction depends on whether soil is considered to be silty or clayey, cohesionless, or cohesionless containing some silt and clay.

B. Silty or Clayey Soils:

1. Contains appreciable amounts of fines (more than 15 percent plastic fines or 30 percent non-plastic fines).

C. Cohesionless Soils:

1. Contains few fines (less than 5 percent fines).

D. Cohesionless Soils Containing Some Clay and Silt:

1. Contains some clay and silt (between 5 percent fines and 15 percent plastic fines or 30 percent non-plastic fines).

2.04 MAXIMUM PARTICLE SIZE

A. Soil for compacted backfill and embankment:

1. Maximum particle size limitations described in appropriate Sections for backfill against specific structures and zoned embankment materials.
2. Otherwise, no cobbles larger than 5 inches or boulders.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

A. Clear, grub, and strip.

B. Prepare surface so that first compacted lift will be placed on firm, stable base. Compact surface to specified compaction, if necessary.

C. For water-retaining compacted fill, scarify and moisten surface to provide satisfactory bonding surface before placing layer of material to be compacted.

3.02 SOIL MOISTURE CONTENT

A. Moisten or aerate material, as necessary, to provide moisture content that will readily facilitate obtaining specified compaction. Add water to soil only in increments that will permit moisture content to be uniform and homogenous throughout each layer after mixing.

B. Silty and Clayey Soils and Cohesionless Soils Containing Some Silt and Clay:

1. Add no more than 2 percent water to fill by sprinkling just prior to compaction when fill is clayey and contains dry clods of clay.
    a. If clayey borrow soil is more than 2 percent below optimum moisture, pre-conditioning and curing may be required to obtain uniform and homogenous distribution of moisture in the clods.
    b. Use of disks, harrows, or rakes may be required to blend moisture in the borrow area.
2. Moisture content during compaction:
    a. Soils controlled by impact compaction.
        1) Not greater than 2 percentage points wet or not less than 4 percentage points dry of optimum moisture content.
    b. Soils controlled by the vibrating hammer.
        1) Within the water content range for effective compaction as determined by ASTM D7382.

C. Cohesionless Soils:

1. Add water during compaction, as necessary, since these soils are free-draining.

D. Determine moisture with one of the following:

1. ASTM D1556.
2. ASTM D4914.
3. ASTM D5030.

4. ASTM D5080.
5. ASTM D2216.
6. ASTM D6938.
    a. Correct moisture from the nuclear gage for gauge error for the specific soils tested and the moisture content of the total material may require adjustment for the control fraction (ASTM D4718).

3.03 PLACEMENT

A. Place soils to be compacted in horizontal layers.

B. If necessary, blend materials so that compacted fill is homogenous and free from lenses, pockets, streaks, voids, laminations, or other imperfections.

3.04 COMPACTION

A. Compact material with following methods and techniques appropriate to type of soil.

B. Silty or clayey material:
1. Compact with mechanical impact tampers, tamping rollers, vibrating pad foot rollers, rubber tire rollers, other suitable compaction equipment, or equipment travel.
    a. Uniformly distribute equipment passes.
    b. Compact in horizontal layers to compacted thickness of 6 inches or less.
2. Special compaction: Compact with hand held impact tampers, or small tamping equipment.
    a. Uniformly distribute effort.
    b. Compact in horizontal layers to compacted thickness of 4 inches.
3. Density:
    a. Percent Compaction, minimum 95 percent, or
    b. D-value:
        1) Minimum 70 percent with moisture content +/-2 percent of optimum content.
        2) Minimum 70 percent with moisture content 2 to 4 percent dry of optimum.

C. Cohesionless free-draining material:
1. Compact with crawler-type tractors, vibrating drum rollers, surface plate vibrator, or similar equipment.
    a. Uniformly distribute equipment passes.

b. Compact in horizontal layers to compacted thickness of 12 inches or less.

2. Special compaction: Compact with hand held impact tampers, vibrating plate tampers, or small tamping equipment.

a. Uniformly distribute effort.

b. Compact in horizontal layers to compacted thickness of 6 inches.

3. Density:

a. Percent Compaction, minimum: 70 percent.

D. Cohesionless Soils Containing Some Silt and Clay:

1. Compact in accordance with either procedure above.

2. Density:

a. Percent Compaction, minimum: 95 percent, or

b. D-value:

1) Minimum 70 percent.

E. Demonstration:

1. Lift thicknesses may vary depending on equipment and methods. Before changing requirements in this Section, demonstrate that required density will be obtained.

3.05 MEASURE OF COMPACTION

A. Determine unit weight of soils in-place using one of the following methods:

1. Silty or Clayey and Cohesionless Soils:

a. ASTM D1556.

b. ASTM D4914.

c. ASTM D5030.

d. ASTM D6938.

B. Determine soil compaction by one of the following.

1. Silty or clayey soils:

a. Percent Compaction:

1) Rapid Method: ASTM D5080.

2) Laboratory Compaction Test: Comparison of in-place dry unit weight of minus no. 4 sieve size control fraction to laboratory maximum dry unit weight as determined by ASTM D698, Procedure A.

2. Cohesionless soils:

a. Percent Compaction: In-place dry unit weight compared to the maximum dry unit weight determined by ASTM D7382.

3. Cohesionless Soils Containing Some Silt and Clay:

a. Use whichever testing procedure result requires higher in-place dry density.

C. Adjustment:

1. For soils with 5 to 30 percent oversized particles: In-place unit weight of minus no. 4 size control fraction determined by screening gravel, washing, and determining mass and volume by assuming surface saturated dried moisture as outlined in ASTM D4718.

2. For soils containing greater than 30 percent oversized particles: Required D ratio or Percent Compaction may be adjusted in accordance with appropriate curve on Figure 3 in USBR Guidelines for Earthwork Construction Control Testing of Gravelly Soils.

3.06 CONTRACTOR FIELD QUALITY TESTING

A. Testing:

1. Independent testing laboratory shall perform sampling, testing, and reporting as required in Table 31 23 02A - Contractor Materials Testing Requirements and Frequency.

a. Independent testing laboratory shall meet requirements specified in Section 01 46 20 - Testing Agency Services.

2. Notify the independent testing laboratory and Government 24 hours before compaction work begins and 24 hours before significant change in compaction operations (major change in equipment or procedure used).

3. Notify the independent testing laboratory and Government immediately of equipment change due to breakdown, or re-deployment.

4. Testing Frequency:

a. At a minimum, perform test at frequencies specified in Table 31 23 02A - Contractor Materials Testing Requirements and Frequency.

b. Greater frequency of testing is normally performed at beginning of new work, new work crew, or new equipment.

c. After a successful work operation pattern is established, testing frequency may be performed at the minimum guidelines.

d. Perform additional tests at sites considered questionable by the Government; such as suspected incomplete compaction, surfaces that may have become excessively wet or dry since compaction, compacted surfaces torn up by subsequent equipment travel, or other similar

circumstances. Frequency of additional testing is at discretion of the Government.

Table 31 23 02A – Contractor Materials Testing and Frequency

PROCEDURE	TEST STANDARD	STANDARD TITLE	MINIMUM FREQUENCY OF TESTING
Soil Classification	ASTM D2487	Classification of Soils for Engineering Purposes	As necessary to classify material to meet specification requirements or to index material for determining density by nuclear method.
	ASTM D2488	Description and Identification of Soils	
Moisture Content	ASTM D2216	Laboratory Determination of Water (Moisture Content of Soil and Rock by Mass.	With in-place density or as required to index material for determining density by nuclear method.
Laboratory Compaction (Standard Effort)	ASTM D698, Procedure A.	Laboratory Compaction Characteristics of Soil Using Standard Effort	One test every 500 yd^3 Minimum 1 test per day per compacted backfill operation, regardless of amount of material placed.
Laboratory Compaction (Vibratory Hammer)	ASTM D7382	Standard Test Methods for Determination of Maximum Dry Unit Weight and Water Content Range for Effective Compaction of Granular Soils Using a Vibrating Hammer	One test every 500 yd^3 Minimum 1 test per day per compacted backfill operation, regardless of amount of material placed.
Oversized Correction	ASTM D4718	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles	When oversize material is between 5 to 30 percent
Rock Factor		USBR Guidelines for Earthwork Construction Control Testing of Gravelly Soils	When oversize material is greater than 30 percent
Sand Cone	ASTM D1556	Density and Unit Weight of Soil in Place by the Sand-Cone Method	One test every 500 yd^3 Minimum 1 test per day per compacted backfill operation, regardless of amount of material placed

Table 31 23 02A – Contractor Materials Testing and Frequency

PROCEDURE	TEST STANDARD	STANDARD TITLE	MINIMUM FREQUENCY OF TESTING
Rapid Construction Control	ASTM D5080	Rapid Determination of Percent Compaction	One test every 500 yd^3 Minimum 1 test per day per compacted backfill operation, regardless of amount of material placed.
Nuclear Method	ASTM D6938	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	One test every 100 yd^3 Minimum 1 test per day per compacted backfill operation, regardless of amount of material placed. Minimum 1 test per foundation prior to concrete placement.

B. Contractor Support:

1. Provide timely access to areas for density testing and excavate and level an area in compacted material to provide a surface for testing.
   a. Test fills compacted by sheepsfoot rollers one or two lifts below surface.
2. Government may select location of testing.
3. When density is being measured by a sand-cone device (ASTM D1556), cease construction activity in immediate vicinity of testing.
4. Dig test pits as requested to examine compacted soil against structures or pipe.
5. Backfill test pits to original requirements.
6. Provide warning lights, flags, or other safety devices as needed by testing personnel.
7. Provide adequate lighting for performing test if required because of darkness.

3.07 GOVERNMENT CONTRACT FIELD QUALITY ASSURANCE

A. The Government may perform test as required to verify contractor quality testing. If the Government performs quality assurance testing, provide support as required for contactor quality testing.

END OF SECTION

SECTION 31 23 11
EARTHWORK

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Earthwork:

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 DEFINITIONS

A. Additional Excavation: Excavation beyond specified lines to remove unsuitable foundation material.

B. Overexcavation: Excavation performed for the convenience, fault, or operation of the Contractor beyond specified or approved additional excavation lines.

PART 2 PRODUCTS

2.01 EXCAVATED MATERIALS

A. The Contractor's operations in excavations shall be such that excavations will yield as much suitable material for use in permanent construction required under these specifications as practicable.

B. Place excavated materials which are too wet for immediate compaction temporarily in stockpiles until moisture content is reduced sufficiently to permit them to be placed in embankments.

2.02 MATERIAL FOR COMPACTING BACKFILL (COMMON FILL)

A. Selected material containing no stones larger than 3 inches in diameter, and obtained from required excavation or approved borrow pits.

2.03 COARSE BEACH SAND (BEACH FILL)

A. Beach sand from approved local borrow areas.

2.04 TOE ARMOR COBBLES

A. 4-inch to 8-inch quarry spalls, processed from local borrow areas, or imported from other offsite sources.

PART 3 EXECUTION

3.01 EXCAVATION, GENERAL

A. Excavate structure foundations to elevations shown on the drawings.

B. The Government reserves the right, during progress of work, to vary slopes, grades, and dimensions of excavations from those specified.

C. The Government does not represent that excavation performed under these specifications can be made to or maintained at paylines shown on the drawings or described in these specifications.

D. Perform excavation in the dry.

E. Do not excavate in frozen materials.

F. Where excavating in backfill and embankment placed under these specifications, excavate in accordance with applicable provisions for excavation.

G. Blasting: Not allowed.

H. Preserve material below and beyond established lines of excavation in the soundest possible condition.

1. Damage to work due to the Contractor's operations shall be repaired by and at the expense of the Contractor.

2. Material beyond required or prescribed excavation lines which is loosened by the Contractor's operations shall be removed at the expense of the Contractor.

3.02 OVEREXCAVATION

A. If foundation material is excavated beyond lines required to receive the structure, fill overexcavation with suitable materials and compact in accordance with Section 31 23 02 - Compacting Earth Materials.

B. If foundation material is disturbed or loosened during excavation or otherwise, compact foundation in place or remove and replace it with suitable material and compact in accordance with Section 31 23 02 - Compacting Earth Materials.

3.03 DISPOSAL OF EXCAVATED MATERIALS

A. Dispose of excavated materials consisting of expansive clays, organic materials, in excess of embankment, backfill, or other earthwork requirements, as provided in Section 31 23 39 - Disposal of Excavated Materials.

3.04 PLACING COMMON FILL

A. Place common fill to the lines and grades shown on the drawings, or as approved by the COR.

B. Place common fill carefully and spread in uniform layers so that all spaces about rocks and clods will be filled.

C. Backfill trenches to the finished lines of adjacent earthwork.

3.05 COMPACTING COMMON FILL

A. Place, moisten, and compact materials in backfill as provided in Section 31 23 02 - Compacting Earth Materials.

END OF SECTION

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SECTION 31 23 39
DISPOSAL OF EXCAVATED MATERIALS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in prices offered in the Price Schedule for Excavation.

1.02 SUBMITTALS

A. 31 23 39 - 1 Material Disposal Plan.

1. Submit plan showing proposed locations where material will be disposed above elevation 2243.0 for approval.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 DISPOSAL OF EXCAVATED MATERIALS

A. Waste material shall be disposed of offsite at the Contractor's expense unless otherwise approved in the Material Disposal Plan.

B. Waste material from required excavation which is not suitable or required for backfill, embankment, topsoil.

C. The haul limit for wasting excavated material will be 5280 feet.

D. Do not place waste material in wetlands, within 12 feet of drainage channels, wasteways, drains, or within 20 feet of prescribed or actual cuts, or within 25 feet of environmental avoidance areas.

E. Waste areas for excavated materials in the reservoir area above elevation 2243.0 may be used in accordance with the material disposal plan.

1. Place waste banks so they will not:

a. Impede or alter natural flow of streams or cross drainage.

b. Interfere with flow to spillway or outlet works.

c. Interfere with operation of the reservoir.

d. Restrict accessibility of completed structures.

e. Detract from appearance of completed project.

F. Do not waste material by dumping from top of slope.

G. Do not waste material consisting of imported gravels used for the staging area or temporary access road onsite.

1. Imported material for temporary access roads and staging areas shall be removed from the site as part of completion of work.

H. Grade waste banks to reasonably even and uniform surfaces that blend with natural terrain.

1. Minimum slope: 2 percent.

2. Maximum slope: 4H:1V.

I. Leave surface in a condition that will facilitate natural revegetation.

END OF SECTION

SECTION 31 32 32
GEOTEXTILE

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Cost:

1. Include in the prices offered in the Price Schedule for Riprap.

1.02 REFERENCE STANDARDS

A. ASTM International (ASTM)

1.	ASTM D4355-07	Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon-Arc Type Apparatus
2.	ASTM D4491-99a(2009)	Water Permeability of Geotextiles by Permittivity
3.	ASTM D4533-11	Trapezoid Tearing Strength of Geotextiles
4.	ASTM D4632-08	Grab Breaking Load and Elongation of Geotextiles
5.	ASTM D4751-12	Determining Apparent Opening Size of a Geotextile
6.	ASTM D5261-10	Measuring Mass per Unit Area of Geotextiles
7.	ASTM D6241-04(2009)	Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals

B. RSN 31 32 32-1, Manufacturer's certification:

1. Manufacturer’s information sheets showing that geotextile to be furnished meets specified requirements.

C. RSN 31 32 32-2, Geotextile Samples:

1. Include manufacturer's certified test results covering properties listed in Table 31 32 32B - Geotextile Physical Properties.

2. Samples: Provide one yard in length from entire roll width.

3. Mark Samples:
   a. Project name and contract number.
   b. Product identification.
   c. Lot number.
   d. Roll number.
   e. Machine direction.
   f. Quantity represented.
4. Number of samples Table 31 32 32A - Geotextile Sampling Requirements. Frequency of sampling may be increased if a geotextile sample does not meet specification requirements.

Table 31 32 32A. - Geotextile Sampling Requirements.

Number of rolls to be furnished	Number of rolls to be sampled
1 - 2	1
3 - 8	2
9 - 27	3
28 - 64	4
65 -125	5

D. RSN 31 32 32-3, Geotextile Protection Method:
1. Method to protect exposed geotextile, when covering is not possible within 14 days.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Wrap geotextile rolls in relatively impermeable and opaque protective covers.

B. Mark or tag geotextile rolls with manufacturer's name, product identification, lot number, roll number, and roll dimensions.

C. Mark geomembrane with special handling requirements such as "This Side Up" or "This Side Against Soil to be Retained."

D. Protect geotextile from ultraviolet light exposure, temperatures greater than 140 degrees F (60 degrees C), precipitation or other inundation, mud, dirt, dust, puncture, cutting, or other damaging or deleterious conditions.

E. Elevate and cover material stored outside with waterproof membrane.

PART 2 PRODUCTS

2.01 GEOTEXTILES

A. Needle-punched, nonwoven geotextile comprised of long-chain polymeric filaments composed of at least 85 percent, by weight, polyolefins or polyesters.

B. Orient filaments into stable network which retains its structure during handling, placement, and long-term service.

C. Stabilizers or inhibitors added to filament base material: Resist deterioration due to ultraviolet or heat exposure.

D. Geotextile edges: Selvaged or otherwise finished to prevent outer material from pulling away.

E. Conform to roll values listed in Table 31 32 32B - Geotextile Physical Properties.

1. Values listed are minimum average roll values (MARV=s), unless otherwise noted.
2. Test results for weaker principal direction shall meet or exceed minimum values listed in the table.
3. Mass per unit area is a nominal value and is provided for information purposes only.

F. Direct exposure to sunlight: Withstand 14 days with no measurable deterioration.

Table 31 32 32B. - Geotextile Physical Properties

Property	Test Method	Required Values
Mass per unit area, nominal	ASTM D5261	16 oz/yd^2
Grab tensile	ASTM D4632	370 lbs
Elongation at break	ASTM D4632	50 percent
Trapezoidal tear	ASTM D4533	145 lbs
Puncture strength	ASTM D6241	900 lbs
Permittivity	ASTM D4491	0.5 sec^{-1}
Apparent opening size (minimum US Sieve No. / maximum opening size)	ASTM D4751	100 US Sieve
UV resistance – tensile strength retained at 500 hours, minimum	ASTM D4355	70 percent

PART 3 EXECUTION

3.01 SUBGRADE PREPARATION

A. Prepare surface upon which geotextile is to be placed to a firm surface, reasonably even and smooth, and free of offsets, abrupt indentations, and protruding materials greater than 1-1/2 inches.

B. Fill low spots with crushed gravel or compacted native material.

C. Obtain COR approval of subgrade before installing geotextile.

3.02 INSTALLATION

A. Place geotextile in the manner and at locations shown on drawings.

B. Lay geotextile smoothly, free of tension, stress, folds, wrinkles, or creases so far as is practical and except where required in these specifications.

C. Shingle overlaps on slopes with upstream roll placed over downstream roll.

D. Pin, staple, or weight to hold geotextile in position.

E. Anchor terminal ends of geotextile with key trenches or aprons at crest and toe of slopes.

F. In the presence of wind, weight geotextiles with sandbags or equivalent until cover material placed.

G. Do not entrap stones, soil, excessive dust, or moisture in geotextile that could damage geotextile or hamper subsequent seaming.

H. Do not drive or operate equipment directly on geotextile.

1. Cover material depth required for equipment travel over geotextile, minimum: 20inches.

I. Drop height of cover material on to geotextile, maximum: 3 feet.

J. Cover geotextile within 14 days after geotextile placement.

1. If covering geotextile with specified material is not possible within 14 days, protect exposed geotextile with suitable cover approved by the Government.
2. Replace geotextile not protected.

3.03 SEAMING

A. Join adjacent sheets of geotextile by overlapping or sewing.

B. Overlapped seams:

1. Overlap minimum: 12 inches.
2. Upstream/upslope roll placed over the downstream/downslope roll.
3. Weight or pin on 3-foot centers to secure the overlap during placement of cover material.
    a. Do not use pins when installed over geomembrane.

C. Sewn seams:

1. Interlocking or sewn twice.
2. Thread:
    a. Contrasting color.
    b. Chemical resistance: Equal to geotextile.
3. Sew geotextiles continuously. Spot sewing is not allowed.
4. Sewn seam strength: Not less than 70 percent of parent material strength.

3.04 RIPRAP INSTALLATION

A. Place riprap or bedding material so as not to damage geotextile.

1. Place directly on geotextile with drop height not exceeding 1 foot with 16 oz. geotextile.

B. Before placing riprap, demonstrate that placing technique will not damage geotextile or underlying geomembrane. If the demonstration does not show that riprap can be installed without damaging geotextile, modify riprap placing technique (such as reducing drop height, installing additional layer of sacrificial geotextile, or installing additional gravel cushion).

C. Begin riprap placement at toe and proceed up slope.

3.05 REPAIRS

A. At placement, geotextile will be rejected if it has defects, rips, holes, flaws, deterioration, contamination, or damage.

B. Replace or repair geotextile damaged during installation or placement of cover in the following manner:

1. Remove cover from damaged area of geotextile.
2. Remove any soil or other material which may have penetrated torn geotextile.
3. Repair damaged geotextile by placing additional layer of geotextile to cover damaged area and either sew the patch to undamaged geotextile according to sewing requirements stated above or overlap undamaged geotextile by at least 3 feet on all sides.

3.06 CONTRACTOR FIELD QUALITY EXAMINATION

A. After installation, examine entire geotextile surface to ensure that potentially harmful foreign objects (such as needles) are not present.

B. Remove foreign objects or replace geotextile.

END OF SECTION

SECTION 31 37 00
RIPRAP

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Riprap:

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 REFERENCE STANDARDS

A. ASTM International (ASTM)

1.	ASTM C88-05	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
2.	ASTM C97-02(2008)	Absorption and Bulk Specific Gravity of Dimension Stone

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 31 37 00-1, Approval Data:

1. Riprap gradation data sheets from commercial source or processing plant that clearly demonstrates the supplied materials meet the gradations defined below.
2. Materials shall be approved by Government prior to delivery and placement.

C. RSN 31 37 00-2, Placement plan

1. Describe equipment and technique that will be used to place the riprap.

PART 2 PRODUCTS

2.01 ROCK-RIPRAP

A. Hard, dense, and durable

1. Specific gravity, ASTM C97, minimum: 2.50.
2. Absorption, ASTM C97, maximum: 2 percent.
3. Loss, Sulfate Soundness, ASTM C88, maximum: 10 percent.

B. Either quarried rock or boulders may be used for riprap.

C. Shape:

1. Predominantly angular.
2. Maximum dimension not greater than 3 times minimum dimension.

D. Riprap Gradation: Reasonably well graded within limits shown in Table 31 37 00A - Riprap Gradation.

Table 31 37 00A - Riprap Gradation

Diameter, in.	Percent Smaller than Given Size by Weight
Type I - D_{50} Size = 30 in.	
42	100
36	–55-90
30	–25-60
12	–0-20

2.02 ROCK-BEDDING

A. Four-inch to 8-inch quarry spalls, reasonably well-graded, processed from approved local borrow areas or imported from other offsite sources.

2.03 AREAS TO RECEIVE RIPRAP

A. Place riprap to the outlines and thicknesses as shown on the drawings.

2.04 PRE-DELIVERY INSPECTION

A. Process and stockpile approximately 10-cubic yards of riprap at the source site and notify the Contracting Officer's Representative a minimum of 7-days in advance to inspect the material before delivering any material to the work site.

B. Adjust riprap generation process as required based on the inspection to meet specification requirements and notify the Contracting Officer's Representative a minimum of 7-days in advance for a second inspection.

C. Delivery of riprap material to the work site without conducting a pre-delivery inspection and receiving approval from the Contracting Officer's Representative may result in rejected loads at the Contractor's expense or a reduction in payment for any riprap that does not meet the project specifications.

D. Riprap material may be delivered to the work site once the test stockpile has been approved by the Contracting Officer's Representative.

PART 3 EXECUTION

3.01 AREAS TO RECEIVE RIPRAP

A. Place gravel bedding on top of geotextile to the outlines and thicknesses as shown on the drawings.

B. Place riprap to the outlines and thicknesses as shown on the drawings.

3.02 PLACING

A. Bed riprap on geotextile and gravel bedding as shown on drawings.

B. Rock in riprap need not be hand placed or compacted.

C. Place rocks so that larger rocks are evenly distributed and small rock fragments fill the spaces.

D. Dump and smooth by moving rocks into position so that material when in place is stable.

E. Placing riprap on geosynthetics:

1. Drop height, maximum: 1-foot.
2. Before placing riprap, demonstrate that placing technique will not damage geotextile or underlying geomembrane.
    a. If the demonstration does not show that riprap can be installed without damaging geosynthetic materials, modify riprap placing technique.
    b. Possible modifications to placing technique include reducing drop height, installing layer of sacrificial geotextile, or installing gravel cushion.

F. Begin riprap placement at toe and proceed up slope.

1. Leave no unreasonably large unfilled spaces within riprap.

G. Rock in riprap need not be hand placed or compacted.

H. Place rocks so that larger rocks are evenly distributed and small rock fragments fill the spaces.

I. Dump and smooth by moving rocks into position so that material when in place is stable.

J. Placing riprap:

1. Drop height, maximum: 1-foot.

2. Before placing riprap, demonstrate that placing technique will not damage geotextile or underlying geomembrane.

    a. If the demonstration does not show that riprap can be installed without damaging geosynthetic materials, modify riprap placing technique.

    b. Possible modifications to placing technique include reducing drop height, installing layer of sacrificial geotextile, or installing gravel cushion.

K. Leave no unreasonably large unfilled spaces within riprap.

END OF SECTION

DIVISION 32 – EXTERIOR IMPROVEMENTS

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SECTION 32 14 40
STONE PATHS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Stone Paths:

1. Payment: Lump sum price offered in the Price Schedule

1.02 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 - Submittals.

B. RSN 32 14 40-1, Stone Path Construction Plan:

1. Describe materials to be used and method of construction to create paths in the locations shown on the Drawings.
2. Provide a drawing showing the proposed layout of each path in plan view and profile view with finished surface elevations and grades labeled.

PART 2 PRODUCTS

2.01 CRUSHED SURFACING

A. Description

1. Crushed aggregates suitable for compaction to form a hard and durable surface.
2. Free from expansive clays and shales.
3. Free from organic debris.
4. Gradation

Three-quarters-inch-minus gradation:

U.S. Standard Sieve Size (Nominal)	Percent Passing By Weight
3/4 inch	99 to 100
½ inch	80 to 100
No. 4	46 to 66
No. 40	8 to 24
No. 200	10 max

PART 3 EXECUTION

3.01 PATH CONSTRUCTION

A. Toe armor cobble specification material shall be used to fill in voids in the riprap prior to placement of crushed surfacing. See section 31 23 11 – Earthwork for the material specification.

B. The top course of each path shall consist of a 4-inch layer of three-quarters-inch-minus crushed gravel, compacted to a smooth surface using an excavator bucket or plate compactor.

C. Paths shall be installed in locations shown on the Drawings

D. The surface of each path shall be firm and stable.

E. The clear width of each path is indicated on the Drawings and shall be a minimum of 5-feet wide.

F. The slope of each path shall not exceed 10-percent grade.

G. The cross slope of each path shall not exceed 1:48.

H. Resting intervals of minimum size 60-inches by 60-inches shall be provided every 30 feet for paths which exceed 30-feet in length.

I. Resting interval slopes shall not exceed 1:48 in any direction.

END OF SECTION

SECTION 32 31 29
WOOD FENCE

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Wood Fence:

1. Measurement: Length along fence including gates.
2. Payment: Linear foot price offered in Optional Price Schedule A.
    a. Includes cost of furnishing materials; erecting fence gates; digging and backfilling postholes; placing concrete for posts and braces; making fence connections; and other work required for complete erection and repair of fence.

1.02 SUBMITTALS

A. RSN 32 31 29-1, Fence Materials

1. Submit list of materials to be used for fence repair for approval.

PART 2 PRODUCTS

2.01 MATERIALS

A. Wood Posts and Braces:

1. 4x4 treated lumber posts, 2x4 treated lumber braces.

B. Fence boards

1. 1x6 cedar, match existing 6-foot height (contractor to verify height).

PART 3 EXECUTION

3.01 PREPARATION

A. Clear and remove trees, brush, ground surface irregularities, and other obstacles which interfere with proper erection of fence in advance of starting other fencing work.

B. Dispose of removed material in accordance with Section 31 11 00 – Clearing and Grubbing.

3.02 ERECTION

A. Erect fence at locations shown on drawings. Replace portions of existing fence disturbed by construction activities, in-kind, to match surrounding fence.

END OF SECTION

SECTION 32 92 20
SEEDING AND SOIL SUPPLEMENTS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. Seeding and Soil Supplements:

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 SUBMITTALS

A. RSN 32 92 20-1, Shredded Mulch Plan:

1. Submit a drawing for approval that shows the extent of area that will be covered with mulch.

PART 2 PRODUCTS

2.01 SHREDDED MULCH

A. Shredded bark or wood.

B. Free of mold or other evidence of decomposition.

C. Free from weed seed.

PART 3 EXECUTION

3.01 DECOMPACTION AND BARK PLACEMENT

A. Decompact disturbed areas within the planting areas shown on the Drawings.

B. Spread shredded mulch in a 4-inch thick layer in the disturbed planting zone areas.

END OF SECTION

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DIVISION 33 – UTILITIES

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SECTION 33 42 30
CORRUGATED METAL PIPE CULVERTS

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

A. CMP Culvert

1. Payment: Lump Sum as offered in the Price Schedule's.

1.02 REFERENCE STANDARDS

A. ASTM International (ASTM)

1.	ASTM A760/A760M-06	Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains

1.03 SUBMITTALS

A. RSN 33 42 30-1, Material Approval:

1. Submit manufacturer's product information describing material characteristics of culvert piping and fittings.

B. RSN 33 42 30-2, Installation Plan:

1. Submit an installation plan describing how the existing culvert will be modified to complete the culvert installation. Include a shop drawing showing plan and profile views of how the modified culvert will meet the exit invert requirement shown on the Drawings.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Haul and handle pipe to avoid damage to galvanized coating.

B. Do not use rope, cable, or chain slings for handling pipe.

PART 2 PRODUCTS

2.01 CORRUGATED METAL PIPE

A. Corrugations:

1. 2-2/3 inch by 1/2 inch unless otherwise indicated on drawings or in the schedule.
2. Annular or helical.

B. Sheet thickness: Minimum 16 gauge.

C. Corrugated steel pipe and coupling bands:

1. ASTM A760
2. Galvanized.

D. Bends:

1. Shop fabricate elbows or field cut and weld sections of pipe to form elbow sections.
2. Pipe for elbow sections: Corrugated metal pipe specified above.]

2.02 BACKFILL

A. Insofar as practicable, obtain backfill material from material moved in required excavations for pipe or from adjacent excavation. Type of material used for backfill is subject to approval.

B. Maximum particle size:

1. Backfill within 1 foot of pipe: 1-1/2 inches.
2. Compacted backfill in trench: 3 inches.
3. Uncompacted backfill in pipe trench: 3 inches.

PART 3 EXECUTION

3.01 CORRUGATED METAL PIPE

A. Furnish and lay corrugated metal pipe of sizes and gauges shown on drawings complete with coupling bands and joint materials.

3.02 EXCAVATION

A. Excavate trench to established line and grade to provide a firm and uniform bearing for entire length of pipe.

B. Where directed to remove unsuitable foundation material, excavate trench to a depth of 6 inches below bottom of pipe, and backfill with suitable material.

C. Compact material to provide a firm and uniform bearing for pipe.

3.03 LAYING CORRUGATED METAL PIPE

A. Lay corrugated metal pipe to lines and grades shown on drawings.

1. Laying tolerances:
   a. Departure from and return to established alignment and grade, maximum: 1/8 inch per foot of pipe.

b. Total departure, maximum: 1-inch.

B. Place pipe carefully to be fully supported over bottom quarter of circumference.

C. Lay pipe with outside laps of circumferential joints pointing upstream and with longitudinal joints at sides.

D. Coupling bands:

1. Use where necessary to join sections of pipe and to join elbows to sections of pipe.
2. Draw fastenings up tight.
3. Install to ensure tight joints.
4. Joints between sections approximately at center of coupling band.

3.04 BACKFILL

A. As each unit of pipe is laid, tamp backfill material about pipe to hold it rigidly in place until joints are completed.

B. After joints have been completed, place and compact backfill in accordance with Section 31 23 02- Compacting Earth Materials.

C. Backfill and compacted backfill:

1. The manner of depositing backfill is subject to approval.
2. Place backfill and compacted backfill to lines and grades shown on drawings.
3. As each pipe unit is laid, tamp sufficient backfill material about pipe to hold it rigidly in place until joints are completed.
4. After joints are completed, place backfill carefully and spread in uniform layers so that spaces about rocks and clods will be filled.
5. Place backfill to about same elevation on both sides of pipe to prevent unequal loading and displacement of pipe.
    a. Difference in elevation of backfill on sides of pipe, maximum: 6 inches.
6. Compact backfill in accordance with Sections 31 23 02 - Compacting Earth Materials

D. Backfill and compacted backfill:

1. Place backfill and compacted backfill to lines and grades shown on drawings.
2. Place backfill to about same elevation on both sides of pipe to prevent unequal loading and displacement of pipe.
    a. Difference in elevation of backfill on sides of pipe, maximum: 6 inches.

3. Compact backfill in accordance with Sections 31 23 02 - Compacting Earth Materials.

E. Equipment travel over pipe not permitted until backfill has been placed and compacted to depth recommended by pipe manufacturer, but not less than 1 foot above top of pipe. Provide adequate earth cover over pipe to prevent damage from construction equipment loads.

3.05 REPAIR

A. Repair damage to galvanized coatings including factory or field cut edges and welding in accordance with ASTM A 760.

END OF SECTION

DIVISIONS 34 THROUGH 48– NOT USED

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DIVISION 51 – INFORMATION AVAILABLE TO OFFERORS

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SECTION 51 00 50
ELECTRONIC MEDIA RELEASE

U. S. BUREAU OF RECLAMATION
ELECTRONIC MEDIA RELEASE

U.S. Bureau of Reclamation, Contract Number/Solicitation Number _____
This release for electronic media is dated the ___ day of _____ (month), ____ (year), between _____ (RECIPIENT) and U.S. Bureau of Reclamation, for the exchange of electronic media (CD ROMs, DVD, Flash Drives, External Hard Disk Drives, etc.) containing information on the _____ project (hereinafter referred to as the PROJECT) for use by the RECIPIENT.

Therefore, RECIPIENT and U.S Bureau of Reclamation (Reclamation), agree as follows:

1. All data and intellectual property contained on the electronic files remains the property of U.S. Bureau of Reclamation, and may not be copied or distributed to any other party without the written permission of U.S. Bureau of Reclamation.
2. The electronic files provided to RECIPIENT by U.S. Bureau of Reclamation, for the PROJECT may be used or adapted by RECIPIENT for their own use. If RECIPIENT chooses to alter in any way, in whole or in part, the electronic files provided for the PROJECT or any future project(s), RECIPIENT agrees that the use of the altered files shall be without liability or legal exposure to U.S. Bureau of Reclamation.
3. Because information and data provided electronically may be altered, whether inadvertently or otherwise, U.S. Bureau of Reclamation, reserves the right to retain copies of the electronic file(s) and to remove from the electronic files provided to RECIPIENT all identification (such as logo, surveyor's seal, etc.) reflecting the involvement of U.S. Bureau of Reclamation, in their preparation.
4. The electronic files are provided solely as a convenience to RECIPIENT by U.S. Bureau of Reclamation, and shall not be considered "Drawings of Record" or "Construction Documents." All documents considered "Drawings of Record" or "Construction Documents" will be hardcopy drawing sheets with signatures or scanned files of the hardcopy drawings with signatures.
5. RECIPIENT is advised to check all electronic media for viruses and malware before loading the files. RECIPIENT is solely responsible for intercepting and disabling viruses, if any, that may be transmitted with the electronic files and hereby agrees to indemnify and hold U.S. Bureau of Reclamation harmless from and against all claims of any type or nature asserted by RECIPIENT or any party as a result of viruses transmitted with the electronic files.
6. Files distributed electronically are subject to data erosion, erasure, and/or alteration, and computer systems and software become obsolete in time. By accepting these electronic files, RECIPIENT acknowledges these risks and agrees to waive all claims against U.S. Bureau of Reclamation, should data erosion, erasure, and/or alteration of these electronic files occur.
7. RECIPIENT agrees to defend, indemnify, and hold U.S. Bureau of Reclamation, harmless from all claims, injuries, damages, losses, expenses, and costs, including attorney's fees, arising out of breach of this agreement, or the modification or reuse of the electronic files.

ACCEPTED FOR RECIPIENT:	RELEASED BY U.S. BUREAU OF RECLAMATION:
_____	_____
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

END OF SECTION

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SECTION 51 10 20

HYDROGRAPHS, EXCEEDANCE CURVES, AND RESERVOIR TIME HISTORY

PART 1 GENERAL

1.01 HYDROGRAPHS, EXCEEDANCE CURVES, AND RESERVOIR TIME HISTORY

A. Current water operation data is available for the Contractor's reference at: https://www.usbr.gov/pn/hydromet/yakima/index.html

B. The provided hydrologic data, exceedance curves, and reservoir time history are solely for information of the Contractor in timing construction operations to prepare for such flood storage or flow bypassing as may be necessary.

C. The provided exceedance curves and reservoir time history are current into the year 2014. Additional data may be available.

D. The Government assumes no responsibility for deductions, interpretations, or conclusions made by the Contractor based on information made available by the Government, in accordance with the clause at FAR 52.236-3 "Site Investigations and Conditions Affecting the Work."

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

Historic Water Elevations

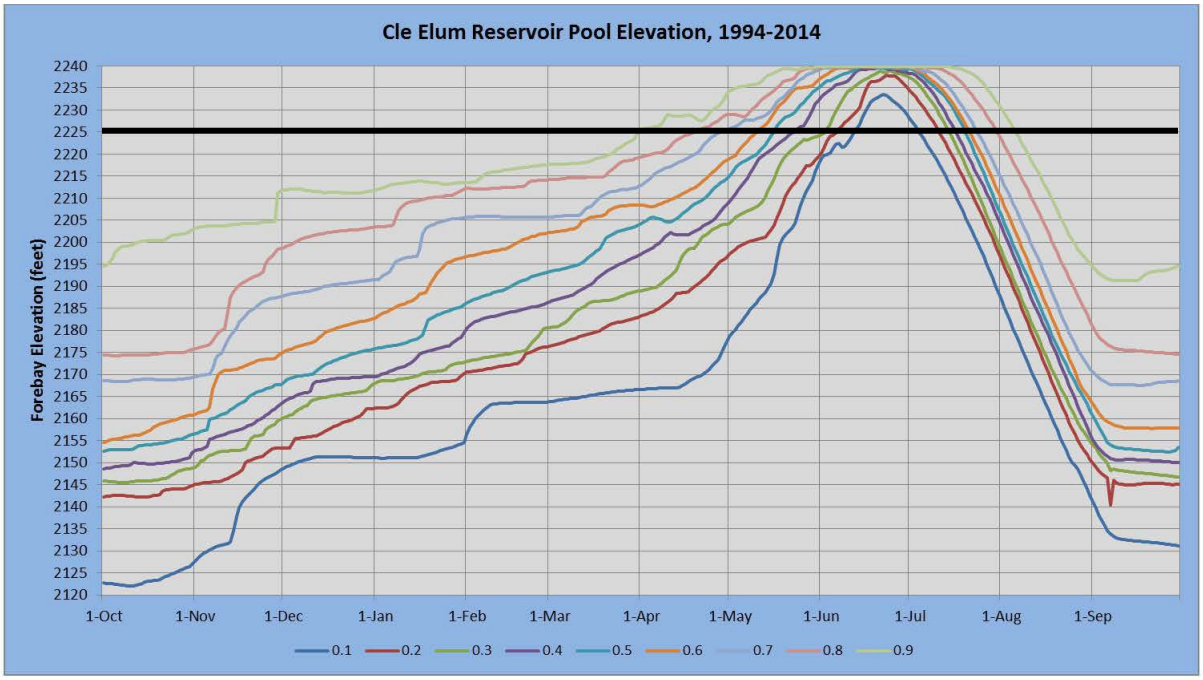

Figure 1 – Cle Elum Reservoir Pool Elevation, 1994-2014, 1-Oct to 1-Sep

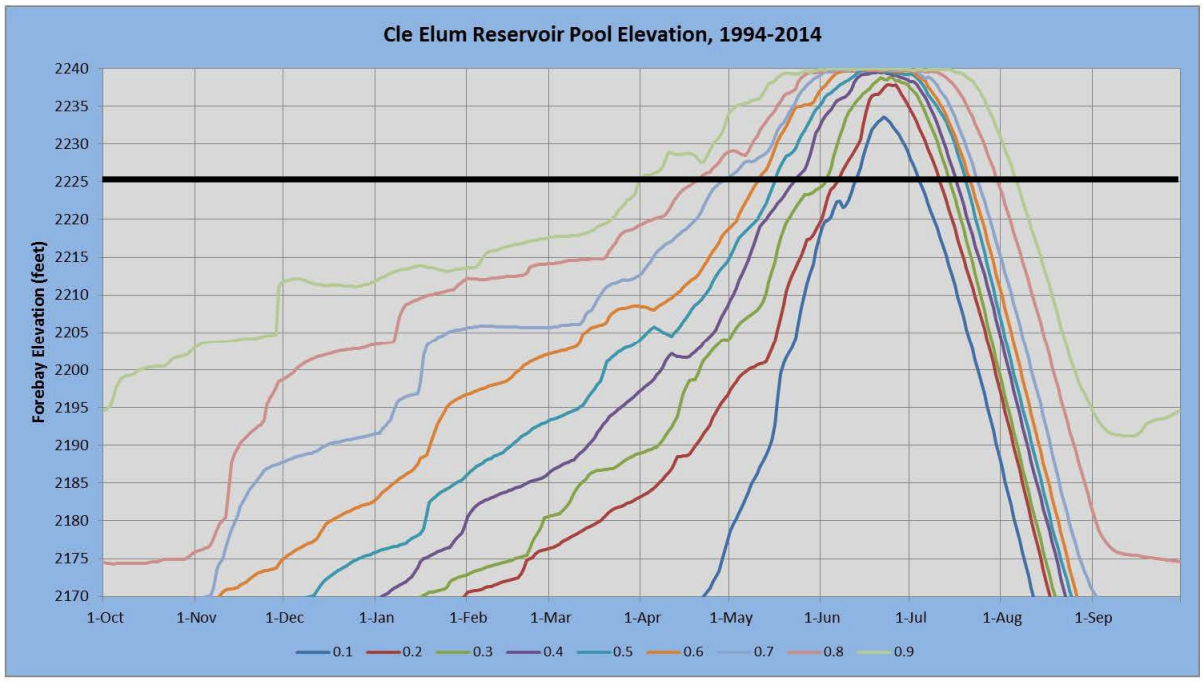

Figure 2 – Cle Elum Reservoir Pool Elevation, 1994-2014, 1-Oct to 1-Sep

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AREA AND ACTIVE CAPACITY TABLE
LAKE CLE ELUM RESERVOIR
CLE ELUM RIVER, YAKIMA PROJECT

MAY, 1951
SHEET 1 of 2

ACTIVE CAPACITY - - 437,000 acre-feet between gate sill (elevation 2,110.00 feet) and top of spillway gate (elevation 2240.00 feet). Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Reservoir formed on natural lake. Dead storage not determined.

Elevation (Feet)	Area (Acres)	Active Capacity (Acre-Feet)	Elevation (Feet)	Area (Acres)	Active Capacity (Acre-Feet)
2,110	1,982	0	2,145	2,680	77,200
2,111	1,987	1,985	2,146	2,710	79,900
2,112	1,992	4,000	2,147	2,740	82,600
2,113	1,997	6,000	2,148	2,770	85,400
2,114	2,001	8,000	2,149	2,790	88,100
2,115	2,005	10,000	2,150	2,814	90,900
2,116	2,010	12,000	2,151	2,840	93,800
2,117	2,016	14,000	2,152	2,870	96,700
2,118	2,022	16,000	2,153	2,900	99,500
2,119	2,028	18,000	2,154	2,930	102,400
2,120	2,034	20,100	2,155	2,960	105,400
2,121	2,045	22,100	2,156	2,980	108,300
2,122	2,056	24,200	2,157	3,010	111,300
2,123	2,068	26,200	2,158	3,040	114,400
2,124	2,080	28,300	2,159	3,070	117,400
2,125	2,092	30,400	2,160	3,097	120,500
2,126	2,103	32,500	2,161	3,120	123,600
2,127	2,113	34,600	2,162	3,140	126,700
2,128	2,123	36,700	2,163	3,160	129,900
2,129	2,133	38,800	2,164	3,190	133,100
2,130	2,143	41,000	2,165	3,210	136,300
2,131	2,160	43,100	2,166	3,240	139,500
2,132	2,180	45,300	2,167	3,260	142,700
2,133	2,210	47,500	2,168	3,280	146,000
2,134	2,250	49,700	2,169	3,302	149,300
2,135	2,300	52,000	2,170	3,332	152,600
2,136	2,360	54,300	2,171	3,352	156,000
2,137	2,410	56,704	2,172	3,380	159,320
2,138	2,460	59,100	2,173	3,400	162,700
2,139	2,500	61,600	2,174	3,420	166,100
2,140	2,542	64,100	2,175	3,440	170,000
2,141	2,565	66,700	2,176	3,460	173,000
2,142	2,595	69,300	2,177	3,480	176,500
2,143	2,625	71,900	2,178	3,500	180,000
2,144	2,650	74,500	2,179	3,523	183,500

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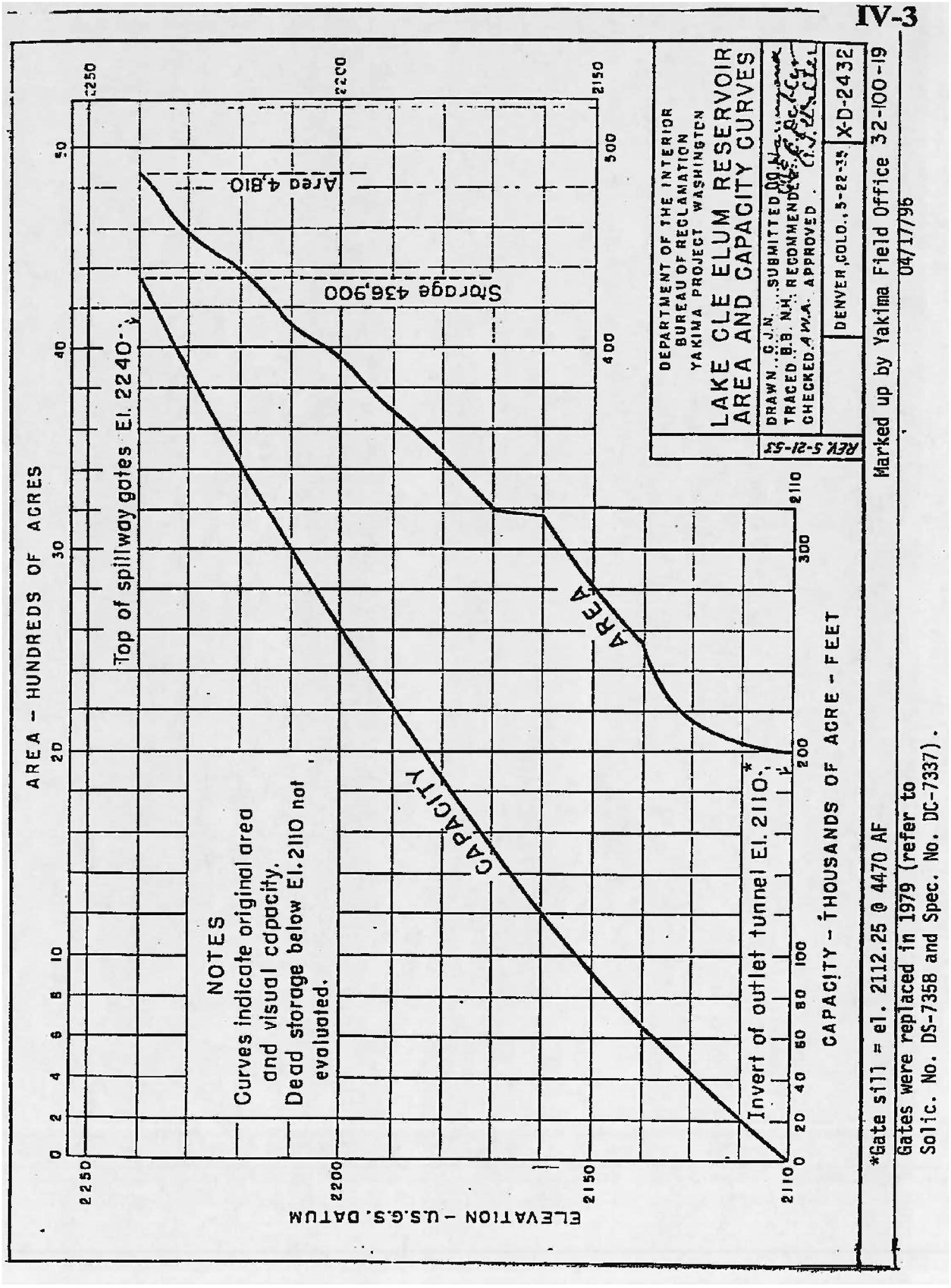
AREA AND ACTIVE CAPACITY TABLE
LAKE CLE ELUM RESERVOIR
CLE ELUM RIVER, YAKIMA PROJECT

MAY, 1951
SHEET 2 of 2

Elevation (Feet)	Area (Acres)	Active Capacity (Acre-Feet)	Elevation (Feet)	Area (Acres)	Active Capacity (Acre-Feet)
2,180	3,553	187,000	2,215	4,250	323,800
2,181	3,573	190,600	2,216	4,270	328,100
2,182	3,593	194,200	2,217	4,290	332,300
2,183	3,613	197,800	2,218	4,310	336,600
2,184	3,633	201,400	2,219	4,330	341,000
2,185	3,653	205,000	2,220	4,355	345,300
2,186	3,673	208,700	2,221	4,380	349,700
2,187	3,693	212,400	2,222	4,400	354,100
2,188	3,713	216,100	2,223	4,420	358,500
2,189	3,733	219,800	2,224	4,440	362,900
2,190	3,753	223,500	2,225	4,460	367,400
2,191	3,773	227,300	2,226	4,480	371,800
2,192	3,793	231,100	2,227	4,500	376,300
2,193	3,813	234,900	2,228	4,530	380,800
2,194	3,840	238,700	2,229	4,560	385,400
2,195	3,870	242,600	2,230	4,590	390,000
2,196	3,893	246,400	2,231	4,610	394,600
2,197	3,913	250,300	2,232	4,630	400,000
2,198	3,933	254,300	2,233	4,650	403,900
2,199	3,953	258,200	2,234	4,670	408,500
2,200	3,973	262,200	2,235	4,690	413,200
2,201	3,993	266,200	2,236	4,720	417,900
2,202	4,013	270,200	2,237	4,750	422,600
2,203	4,035	274,200	2,238	4,772	427,400
2,204	4,053	278,200	2,239	4,792	432,100
2,205	4,070	282,300	2,240	4,812	437,000
2,206	4,080	286,400			
2,207	4,090	290,400	Elevation of top of Spillway Gate - - 2240.00 feet		
2,208	4,110	294,500			
2,209	4,130	298,700			
2,210	4,150	302,800	2,241	4,832	441,800
2,211	4,170	307,000	2,242	4,852	446,600
2,212	4,190	311,100	2,243	4,882	451,500
2,213	4,210	315,300			
2,214	4,230	319,600			

NOTE: Computed by Hydrologic Studies Office, Boise, Idaho, in May, 1951, on basis of data supplied by the Yakima Project Office. All capacities shown are flat-pool capacities. Backwater effects were not considered. Based on area table computed November 3, 1915. The topography was taken prior to construction of the dam. No allowance has been made for sedimentation.

OCT 22 1979


IV-3
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA PROJECT WASHINGTON
LAKE CLE ELUM RESERVOIR
AREA AND CAPACITY CURVES
DRAWN C.J.N. SUBMITTED
TRACED B.B. N.H. RECOMMENDED
CHECKED A.W.A. APPROVED
DENVER, COLO., 5-22-53
REV. 5-21-53
X-D-2432
Marked up by Yakima Field Office 32-100-19
04/17/96
AREA - HUNDREDS OF ACRES
CAPACITY - THOUSANDS OF ACRE - FEET
ELEVATION - U.S.G.S. DATUM
Top of spillway gates El. 2240.*
Area 4,810
Storage 436,900
AREA
CAPACITY
Invert of outlet tunnel El. 2110.*
NOTES
Curves indicate original area and visual capacity.
Dead storage below El. 2110 not evaluated.
*Gate sill = el. 2112.25 @ 4470 AF
Gates were replaced in 1979 (refer to Solic. No. DS-7358 and Spec. No. DC-7337).

Discharge Curve

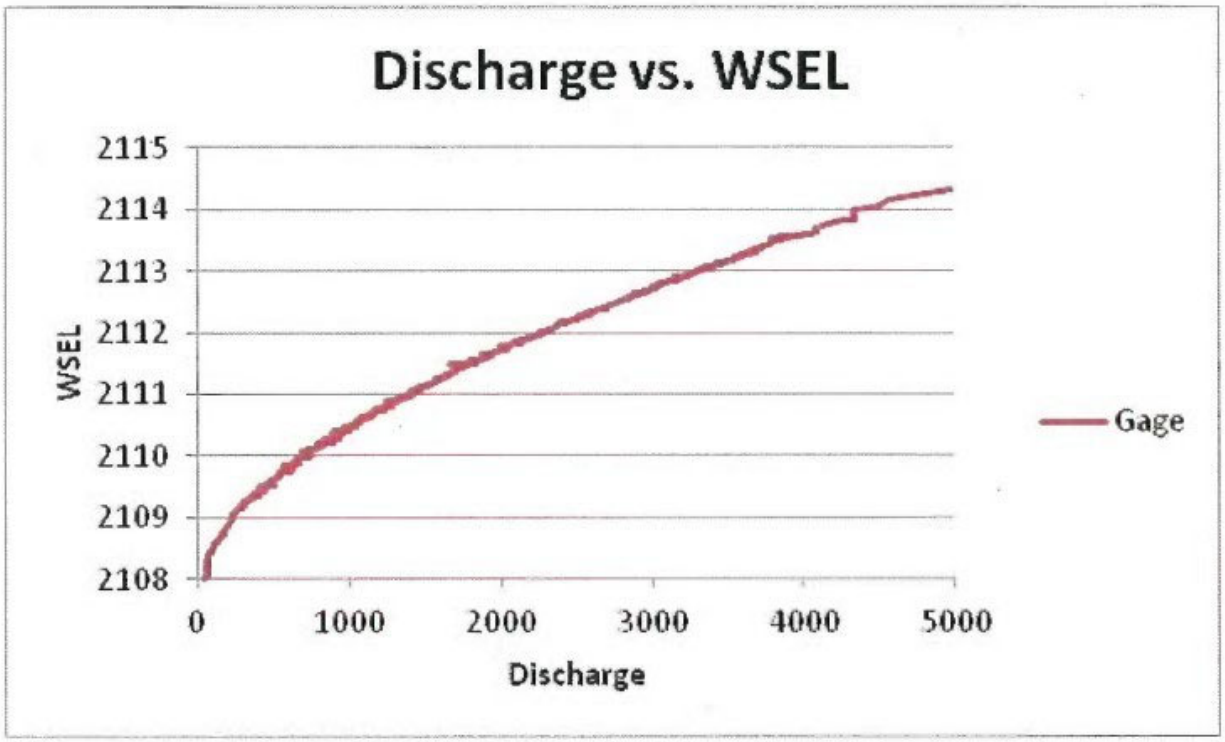


Figure 3: Discharge vs. Tailwater Elevation downstream of Cle Elum Dam

Discharge Hydrographs

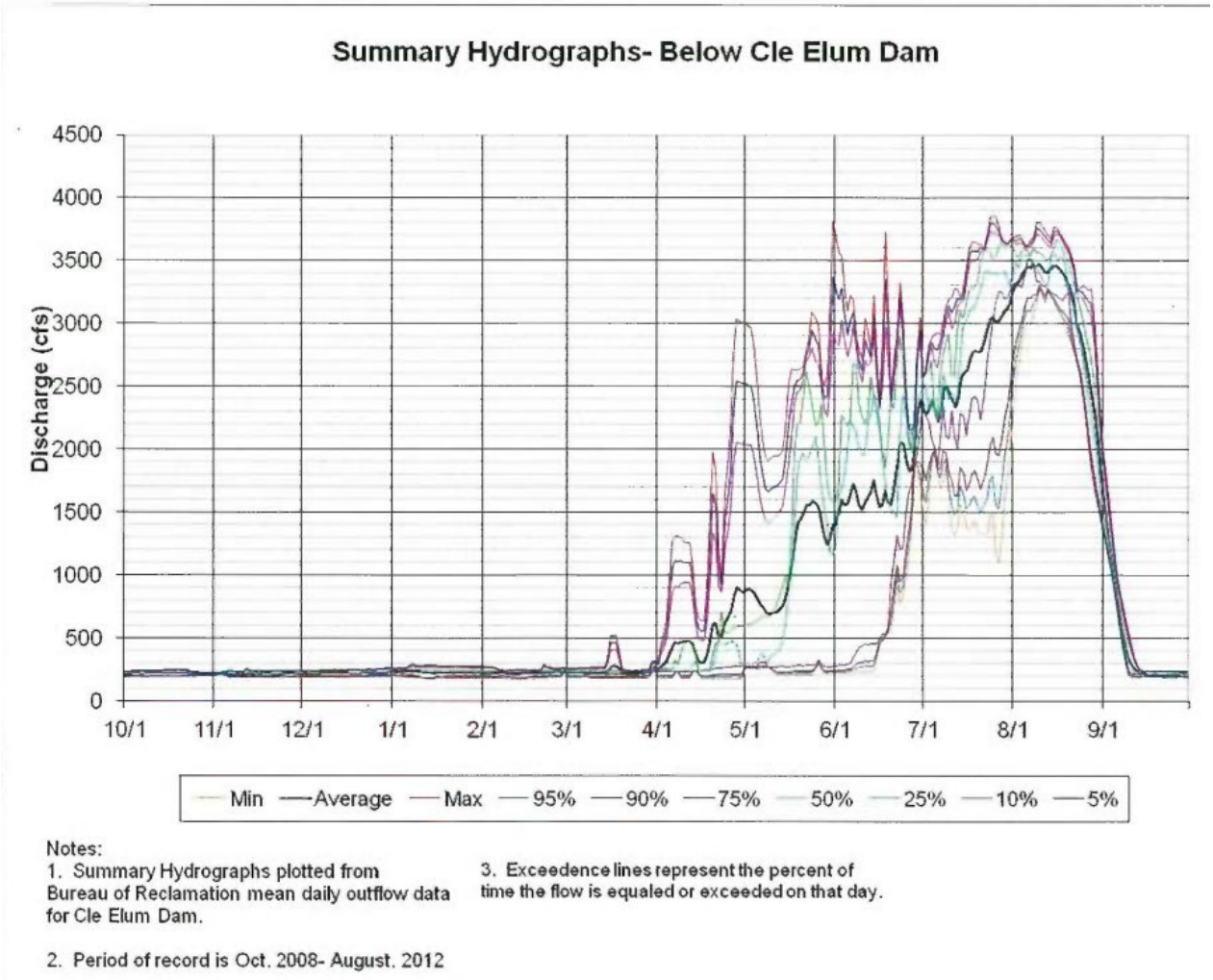


Figure 4: Summary Discharge Hydrographs for Cle Elum Dam from 2008 to 2012.

END OF SECTION

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DIVISION 52 - DRAWINGS

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SECTION 52 00 00
DRAWINGS

PART 1 GENERAL

1.01 DISCREPANCIES, ERRORS, OR OMISSIONS

A. Inform the CO of discrepancies discovered on drawings in accordance with clause at FAR 52.236-21, Specifications and Drawings for Construction.

B. In accordance with clause at FAR 52.236-21, Specifications and Drawings for Construction, in case of discrepancies, written specifications take precedence over drawings unless otherwise specified.

1.02 PROJECT CONDITIONS

A. Where there are differences as determined by the CO between details and dimensions shown on drawings and details and dimensions of existing features at jobsite, use details and dimensions of existing features at jobsite.

1.03 INFORMATION DRAWINGS

A. Drawings marked "For Information Only" in the drawing list are included to show existing features about which knowledge is required to perform work under this contract. These drawings do not show work to be performed under this contract.

B. If there are differences as determined by the CO between details and dimensions shown on these drawings and those of existing features at jobsite, use details and dimensions of existing features at jobsite.

1.04 STANDARD DRAWINGS

A. Standard drawings may show details which are not a part of work under this contract. Disregard details shown on these drawings which are not applicable to work under this contract.

1.05 LIST OF DRAWINGS

A. Drawings listed in Table 52 00 00A - List of Drawings.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

Table 52 00 00A - List of Drawings

Sheet No.	Drawing No.	Title
General:		
1	33-109-60001 rev 2	Location Map and Sheet Index
2	33-109-60002 rev 2	Access and Staging – Plan and Detail
3	33-109-60003 rev 2	Site Plan Overview
4	33-109-60004 rev 2	Plan View Riprap Placement Sta. 0+00 to Sta. 6+50
5	33-109-60005 rev 3	Plan View Riprap Placement Sta. 6+50 to Sta. 12+50
6	33-109-60006 rev 3	Plan View Riprap Placement Sta. 12+50 to Sta. 19+50
7	33-109-60019 rev 2	Plan View Riprap Placement Sta. 12+75 to Sta. 13+25
8	33-109-60007 rev 2	Plan View Riprap Placement Sta. 19+50 to End
9	33-109-60008 rev 2	Perched Beach Plan
10	33-109-60009 rev 2	Access Road / Riprap Typical Sections
11	33-109-60010 rev 2	Perched Beach Sections
12	33-109-60011	Riprap Top Alignment Tables
13	33-109-60047 rev 1	Fish Habitat Log Structures
14	33-109-60088	Cross Sections – Riprap Top Alignment Sta. 0+50 to 2+00
15	33-109-60089	Cross Sections – Riprap Top Alignment Sta. 2+50 to 5+00
16	33-109-60090	Cross Sections – Riprap Top Alignment Sta. 5+50 to 7+00
17	33-109-60091	Cross Sections – Riprap Top Alignment Sta. 7+50 to 9+00
18	33-109-60092	Cross Sections – Riprap Top Alignment Sta. 9+50 to 11+00

Table 52 00 00A - List of Drawings

Sheet No.	Drawing No.	Title
19	33-109-60093	Cross Sections – Riprap Top Alignment Sta. 11+50 to 13+50
20	33-109-60094	Cross Sections – Riprap Top Alignment Sta. 14+00 to 15+50
21	33-109-60095	Cross Sections – Riprap Top Alignment Sta. 17+50 to 19+00
22	33-109-60096	Cross Sections – Riprap Top Alignment Sta. 19+50 to 23+00
23	33-109-60097	Cross Sections – Riprap Top Alignment Sta. 23+50 to 24+00
Information Drawings:		
24	33-100-60413	Speelyi Beach Topographic Survey
25	33-100-60414	Speelyi Beach Topographic Survey
26	33-100-60415	Speelyi Beach Topographic Survey
27	33-100-60416	Speelyi Beach Topographic Survey
28	33-100-60417	Speelyi Beach Topographic Survey
29	33-100-60418	Speelyi Beach Topographic Survey
30	33-100-60419	Speelyi Beach Topographic Survey

END OF SECTION

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