

SCOPE OF WORK

Pumphouse Recreation Site River Operations Facility Design Build
within Kremmling Field Office

Bureau of Land Management
COLORADO

January 2022

1 Scope:

- 1.1 This project includes architectural and engineering services for Planning through Construction Document preparation, review of operations and programming, and construction and commissioning of a proposed BLM river operations facility (Title I II and III services and Construction). The facility is located on BLM-owned land at the Pumphouse Recreation Site West of Trough Road in Grand County within the BLM Kremmling Field Office. The planning and design will be based on site review and assessment and discussions with BLM Kremmling Field Office (KFO). The contractor shall be responsible for developing integrated design solutions for this project and constructing a facility to meet those goals.
- 1.2 BLM has budgeted approximately \$XXX,XXX for planning and construction of the proposed Operations Shed. BLM and the A/E contractor shall work together throughout the contract preparation to monitor projected construction costs and adjust the scope of work to meet the available funding to avoid any redesign efforts after bidding.
- 1.3 The contractor shall be responsible for all site survey, site sub-surface survey, utility relocation, and existing equipment relocation. BLM shall be responsible for removing all stored goods from the existing shed prior to demolition.

2 Background:

- 2.1 The proposed River Operations Facility replaces an approximate 18' x 20' un-insulated steel shed. The existing shed houses storage items for the campground and river crew as well as a small water treatment room (approx. 5' x 10') for the campground.

3 Summary of Work:

- 3.1 Work effort includes review of current operations and programming and preparation of construction documents including drawings and specifications for the proposed operations shed and adjoining site work. Work for development of operations shed alternatives includes site investigation, stormwater and utility analysis, site layout, conceptual and schematic design, and cost estimates at the appropriate BLM class level.
- 3.2 Master Plan and Construction Documents: The work shall include the following:
 - 3.2.1 Review of programming and function of existing facilities.
 - 3.2.2 Review of site layout and function.
 - 3.2.3 Review of program and employee needs for current operations.
 - 3.2.4 Review of all applicable codes and regulations for the facilities.
 - 3.2.5 Assessment of proposed facility with regard to programming, function and needs.
 - 3.2.6 Resultant Master Plan outlining findings, clarifying proposed construction documents, with short term and long term recommendations to phase the facility and site work as required to meet budget objectives.

4 River Operations use plan:

- 4.1 Review attached “Pumphouse Operations Shed Site Overview 2021” for draft assessment of proposed design by staff.
- 4.2 Perform programming and operation review, and staff interviews in one scoping meeting to solidify project needs.
- 4.3 Provide conceptual design of alternatives for current operational needs, provide preferred alternative.
- 4.4 Site surveys, investigations and research as need for schematic design of preferred alternative.
- 4.5 Review water system utilities within proposed shed and plan and relocate them within proposed facility.
- 4.6 Report of all findings and design requirements.

5 River Operations Building Preliminary Design Criteria

5.1 General

5.1.1 HVAC system

- 5.1.1.1 Shall be optimized to provide consistent, comfortable, efficient climate for office area and visitor’s center and consistent for safe, effective storage in operations area.
- 5.1.1.2 Summer HVAC may consist of an evaporative cooler in main operations area (insure any proposed evaporative cooler is designed for safe winterization and maintenance with safe access.
- 5.1.1.3 and a small, HVAC unit for IT, office, and personnel areas as identified in drawings.
- 5.1.1.4 HVAC shall be capable of providing comfortable working environment in areas noted for full HVAC on attached drawings.
- 5.1.1.5 Building Automation System (BAS) shall be ethernet / IP based and shall integrate with existing BLM Johnson Controls Metasys system server located at the National Operations Center (NOC) in Denver, CO
- 5.1.1.6 Heated-only area shall be capable of preventing utility and building damage during winter months and shall be capable of quick recovery during use of bay doors.
- 5.1.1.7 Heating shall utilize propane fuel. Locate propane storage where it may be easily accessed by delivery truck and out of the way of errant or reckless drivers. Tank shall be sized for sufficient heating through limited winter access.

- 5.1.2 Door Access system with card access system for all exterior man-doors and interior door to office area.

- 5.1.3 All access doors shall have mortise type grade locksets and shall be security rated doors applicable for their installed location.
- 5.1.4 Durable exterior materials, steel-framed building structure shall be considered.
- 5.1.5 Resistant to vandalism
- 5.1.6 Roof shall be metal and include gutters and downspouts.
- 5.1.7 Consider snow loading and snow melt. Passive snow melt is preferred over active snow melt.
- 5.1.8 Slope roof to shed snow away from personnel areas;
- 5.1.9 Utility room shall be safely accessible in winter without snow clearing or ice melt by staff or mechanical repair personnel.
- 5.1.10 Durable, hygienic, and easily maintainable interior finishes.
 - 5.1.10.1 Consider dyed and polished concrete floors throughout interior of building while considering ABA required texture.
- 5.1.11 Consider BLM GQBE document for building exterior aesthetics
- 5.1.12 Consider maintenance and local climate and snowfall for building exterior.
- 5.1.13 Design shall consider snow removal and snow melt / retention as necessary.
 - 5.1.13.1 BLM prefers mono-sloped roof that drains away from employee and public access areas to facilitate easy snow removal and management of stormwater
- 5.1.14 Aesthetics of exterior material shall be consistent with BLM design guide and existing rec site aesthetics.
- 5.1.15 Septic leach field preferred located in open area behind building.
 - 5.1.15.1 Size tank for max six people using facility plus two trailers each with two people hooked up to dump into system.
 - 5.1.15.2 1000 gallon minimum tank size.
- 5.1.16 Building shall meet applicable fire safety code and contain sprinklers if required.
 - 5.1.16.1 Roof above bay operation area shall be capable of supporting fire suppression system.
- 5.1.17 Protect building from vehicle damage by providing bollards where vehicles may errantly drive into building (both ramming of public area and where vehicles may back into bays).
- 5.1.18 Contractor shall work with Government to avoid culturally sensitive areas (none known in vicinity); Government will flag any areas to avoid that may be disturbed (none known).

- 5.1.19 Sustainable building requirements such as:
 - 5.1.20 Tank-based hot-water storage system to provide expedient hot water.
 - 5.1.20.1 Shall be 40 gallons minimum.
 - 5.1.20.2 Shall be supplied with an adjustable mixing valve capable of tempering water supplied from tank.
 - 5.1.21 Prioritization of cost-efficient passive design solutions over active solutions
 - 5.1.22 Site EUI target of 50 kbtu/sf/yr or less
 - 5.1.23 LED lighting throughout
 - 5.1.24 EPA WaterSense plumbing and fixtures
 - 5.1.25 Design emphasis on use of natural light (daylighting), including basic systems and controls (no advanced modeling required)
 - 5.1.26 High-Performance Building Envelope to include continuous insulation (including foundation), optimally high R-values in floor, roof and walls, and appropriately sized glazing with high thermal resistance values.
 - 5.1.27 Architecturally integrated exterior shading of glazing to reduce or eliminate unwanted passive solar heat gain.
- 5.2 River Operations Boat Storage / Maintenance Area:
- 5.2.1 Indoor parking for three river boats on trailers
 - 5.2.1.1 verify bay size accommodates current river boat size with ABA clearance on all sides.
 - 5.2.1.2 Minimum size shall be 10' wide x 22' long
 - 5.2.1.3 Door width shall be 12' min.
 - 5.2.1.4 Design shall consider future ability to install four-post lift to store additional trailer with boat above each bay.
 - 5.2.2 Operations areas consolidated on main floor with no future plan for upstairs / mezzanine warehouse storage.
 - 5.2.3 Operations shelving area design optimized for personnel safety.
 - 5.2.3.1 No warehouse shelving is included with this contract
 - 5.2.3.2 consider personal safety when providing shelving location.
 - 5.2.4 No forklift will be kept on site.
 - 5.2.5 Personnel storage lockers
 - 5.2.5.1 Locate lockers in operations area.
 - 5.2.5.2 Provide min. 8 lockers with dimensions of 18" x 36" x 18" min.
 - 5.2.5.3 Lockers shall be constructed of material with regular openings to facilitate drying of interior goods.

- 5.2.5.4 If lockers are stacked vertically, locker on top shall not drain into locker beneath.
- 5.2.6 Place one shop sink near the work bench with hot and cold water
- 5.2.7 Place hookups for a washer and dryer within this area. Washer shall have hot and cold water and drain, Dryer shall be electric and have a vent to the outdoor according to local standards.
- 5.2.8 Slope bay area floor to drain out bay doors. Floor shall have no drains. This is a storage not maintenance area.
- 5.2.9 Locate a supplied air compressor in a closet to mitigate sound.
 - 5.2.9.1 Prohibit installation of system oiler in lines.
 - 5.2.9.2 Air compressor shall be capable of delivering 10 CFM at 120 psi.
 - 5.2.9.3 Set distribution pressure at 120psi.
 - 5.2.9.4 Set regulators at each delivery point for 20-120psi [30 for gen use (osha), 110 for tires].
 - 5.2.9.5 Specify black iron pipe for distribution. No galvanized pipe allowed.
 - 5.2.9.6 Air compressor shall be equipped with auto-blowdown system that drains into sanitary drain.
- 5.2.10 Air Lines piped to the following delivery locations:
 - 5.2.10.1 Each bay (with a drop down reel)
 - 5.2.10.2 Work bench – at least two locations
 - 5.2.10.3 By exterior personnel doors
 - 5.2.10.4 Water / Utility room
- 5.3 Locate one single-basin shop sink at back of bay area.
- 5.4 Locate janitorial supply shelf and equipment storage near shop sink and away from ice machine
- 5.5 Shall have one re-circulating style ice machine with drain and water hookup.
- 5.6 Operations Secure Storage Area
 - 5.6.1 Provide secure storage area.
 - 5.6.2 Security shall be provided by a padlock-secured chain-link gate.
 - 5.6.3 Gate shall slide open overlapping chain-link fence.
 - 5.6.4 Gate shall be 6' wide minimum.
- 5.7 Office Area
 - 5.7.1 Offices for 4 personnel:
 - 5.7.1.1 Two Camp Hosts
 - 5.7.1.2 Two Seasonal Staff

- 5.7.2 Offices consolidated into office / public interface room.
- 5.7.3 Office area shall utilize natural light within economical means.
- 5.7.4 Include a standing and sitting height counter to serve the Visitor's Center.
- 5.7.5 No door access provided to the visitor's center
- 5.7.6 Provide access to exchange payments and documents through operable windows.
- 5.7.7 Provide visitor's center side roll-up security cover for windows.
- 5.7.8 Provide visual access to all site rec areas as able from office area and kitchenette
- 5.7.9 Power and IT panels shall be located on three walls to allow different for office system furniture layouts.
- 5.7.10 Walking space shall be power and cable entanglement free.
- 5.7.11 Design area for space for a copier / printer and paper storage.
- 5.8 Visitor's Center
 - 5.8.1 Provide area for hanging brochure racks.
 - 5.8.2 Area shall be lit with abundant natural light.
 - 5.8.3 Consider vandalism likelihood and provide security cameras to monitor all visitor's center area.
 - 5.8.4 Provide access through door meeting ABA requirements.
 - 5.8.5 Design area to allow for access to brochure hanger even when access to office area is closed.
 - 5.8.6 Allow for access control to visitor's center area when area is locked.
- 5.9 Kitchenette Area
 - 5.9.1 Kitchenette shall be separated from office space by a sliding door to maximize available space.
 - 5.9.2 Shall have space for one supplied full-size fridge-freezer combination unit
 - 5.9.2.1 With ice maker and water filtration.
 - 5.9.2.2 With building-supplied water.
 - 5.9.3 Shall have one, commercial-grade ABA compliant dual-basin sink
 - 5.9.4 Shall have under-counter space for one dishwasher
 - 5.9.5 Shall utilize ABA compliant cabinets
 - 5.9.6 Shall provide seating for min. two employees.
 - 5.9.7 Shall have upper and lower cabinets with one cabinet-mounted microwave.
 - 5.9.8 Shall have solid-surface countertops.

- 5.9.9 Shall have above-counter outlets for kitchen appliances.
- 5.9.10 Fridge door opening shall be coordinated with fridge location.
- 5.9.11 Shall have water resistant back splash.
- 5.9.12 Cabinets shall have ABA compliant pull hardware.
- 5.10 Unisex Restroom
 - 5.10.1 Provide one unisex restroom minimum
 - 5.10.2 Include space for changing bench away from toilet and sink.
- 5.11 ABA Compliant Shower Room
 - 5.11.1 Walk / Roll-in shower
 - 5.11.2 Provide space for a changing bench where floor will remain dry during use of shower.
 - 5.11.3 Provide drain in floor area and slope floor to drain.
 - 5.11.4 Provide adjustable mixing valve with shower that can lower water temperature at shower head to 104 degrees Fahrenheit.
- 5.12 IT room
 - 5.12.1 IT room shall be central drop area for wiring for Local Area Network
 - 5.12.2 Wiring to office area for eight BLM workstation LAN ports. Each workstation shall be equipped with two LAN ports.
 - 5.12.3 Office area wiring for a single Wireless Access Point.
 - 5.12.4 Operations area wiring including data and power for a single wireless access point.
 - 5.12.5 Wiring for Wide Area Network shall place one uplink cable to roof or high wall area for optional wireless internet install so adequate signal for satellite internet is available.
 - 5.12.6 Rack space shall be provided for all required IT systems, security, and building access controls.
 - 5.12.6.1 Min. 20 vertical units for BLM computer network needs.
 - 5.12.7 IT cabinet shall be central drop area for security camera wiring on a separate Local Area Network.
- 5.13 Security cameras
 - 5.13.1 Showing all sides of exterior building.
 - 5.13.2 Cameras must show access through doors
 - 5.13.3 Showing interior access and interior doors

- 5.13.4 Cameras shall be wired to central IT Room area where local DVR stores data and is capable uploading to remote server.
- 5.14 Water Treatment and Utility Room
 - 5.14.1 Move existing equipment and lines to new room.
 - 5.14.2 Provide for easy winterization of this equipment (valves, vacuum breaker).
 - 5.14.3 Provide adequate heat for winter use (system may or may not be used in winter).
 - 5.14.4 Electrical panel(s) conforming with governing arc-flash safety requirements.
 - 5.14.5 Move electrical lines coming into building conforming to requirements of Electrical Utility provider.
 - 5.14.6 Pumphouse Rec. Site Water Treatment and Utility Room
 - 5.14.7 May include other plumbing utilities related to operations shed.
 - 5.14.8 Presently equipment exists within a 10' by 5' closet.
 - 5.14.9 Allow for room for a second water storage tank – do not provide at this time.
 - 5.14.10 Provide access with double exterior doors
 - 5.14.11 Consider access during winter. Do not dump snow in front of this door.
 - 5.14.12 Provide exterior, concrete walkway without steps from utility room access to flatwork at front of River Operations Storage / Maintenance Area.
- 5.15 Site
 - 5.15.1 Provide flatwork to access all exterior man doors with 5' wide minimum path.
 - 5.15.2 Provide space for three concrete picnic tables with one table minimum located on concrete flatwork.
 - 5.15.3 Allow for four visitor's temporary parking spaces. One space minimum shall meet accessible standards with area for unloading and no-step access to flatwork leading to visitor's center.
 - 5.15.4 Serve spaces with concrete flatwork.
 - 5.15.5 Provide flatwork driveway in front of each bay door with minimum 20' of distance between door and edge of driveway.
 - 5.15.6 Max slope of tie-back into existing grade shall be 3 horizontal to 1 vertical.
 - 5.15.7 Slope all exterior flatwork to drain away from building.
 - 5.15.8 Provide dark-sky compliant site lighting installed on exterior of building.
 - 5.15.9 Maintain 20' wide site access road through River Operations Building and parking area.
 - 5.15.10 Minimize tie-in to existing grade and utilize natural rockery retaining walls to meet grade as required.

- 5.15.11 Eliminate any need for guardrails and handrails on site access-ways
 - 5.15.12 Plan for landscaping disturbed area with natural, local materials and vegetation.
 - 5.15.13 Preserve existing trees as noted on site plan.
 - 5.15.14 Minimize disturbance to adjacent camping area and consider visual barrier between River Operations Building and this immediate camp area.
 - 5.15.15 Provide an option to hookup two separate RV trailers to both sanitary and electrical on either East or West side of building. Each hookup shall be designed for winter use and be supplied with electrical breakers.
- 5.16 Commissioning
- 5.16.1 Contractor shall coordinate with State to update water permit plan with updated system design to expedite commissioning of facility.

6 All work shall be accomplished and produced in accordance with:

- 6.1 Federal Environmental Protection Agency (EPA) regulations and guidelines.
 - 6.2 State of Colorado Department of Environmental Quality (DEQ) regulations.
 - 6.3 BLM Guiding principles.
 - 6.4 BLM Guidelines for A Quality Built Environment (latest edition)
 - 6.5 U.S. Access Board Architectural Barriers Act Standards
 - 6.6 Applicable local standards and guidelines including but not limited to septic facility design, governing local frost depth, snow load, and lateral loads design.
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7 General Tasks and Deliverables:

- 7.1 Scoping Meeting / Site Visit (15 Calendar days after award): Key members of the project team will attend a half day meeting at the Pumphouse Recreation Site near Kremmling, CO. The on-site meeting time should not exceed 4 hours. Within 3 calendar days of the site visit, the A/E Contractor will provide detailed meeting notes. Meeting discussion will include the following:
 - 7.1.1 Detailed review and discussion of project scope and schedule
 - 7.1.2 Review of site and constraints
 - 7.1.3 Review environmental requirements
 - 7.1.4 Review of utilities
 - 7.1.5 Review of site security elements
 - 7.1.6 Review of Government provided materials
 - 7.1.7 Set project objectives, deliverables, and schedule
 - 7.1.8 Constructed facility
 - 7.1.9 Warranty
- 7.2 Pre-Design (15 Calendar Days after Scoping Meeting)
 - 7.2.1 The AE shall begin site survey and geotechnical investigations as needed. Perform a site survey and provide electronic copy of all survey data, including control points, important physical features, field notes, and observations.
- 7.3 Master Plan and Concept Design Documents (30 calendar days after site surveys)
 - 7.3.1 Provide one electronic copy (pdf) for Government review. A/E contractor shall plan to meet via teleconference to discuss Schematic Design layouts. Allow Government 10 calendar days for review and comment. Include the following:
 - 7.3.1.1 DRAFT of Master Plan report and recommendations with attachments.
 - 7.3.1.2 Concept drawings including preliminary site plan for proposed Operation Shed, including utilities, building floor plan, and building elevations. Provide a written narrative describing the proposed site and building type with proposed. envelope, mechanical systems, electrical systems, and other key building systems. A minimum of 2 building concepts shall be provided for review and selection.
 - 7.3.1.3 BLM Class D construction estimate (equivalent to AACEI Class 5 Estimate)
 - 7.3.2 Conduct a conference call with BLM and design team to review comments prior for moving forward with schematic design. This is an “over-the-shoulder” review.
- 7.4 Final of Master Plan and 90% Construction Documents (30 calendar days after review meeting of the DRAFT)

- 7.4.1 A/E Contractor shall incorporate the Government review comments into the finalized Master Plan. Provide one electronic signed copy with attachments.
- 7.4.2 A/E Contractor shall incorporate the Government review comments into the Schematic Layout and Final Cost Estimate submittal. Provide one electronic copy of each document. Schematic design shall be created in AutoCAD and cost estimate shall be created in Microsoft Excel and both shall be made into an Adobe Acrobat file directly from the originating software. Allow Government 10 calendar days for review and comment. Include the following:
 - 7.4.3 Schematic drawings including site plan reflecting proposed Operations Shed layout, building floor plan, building elevations, site plan. Provide a written narrative describing the proposed site and building envelope, mechanical systems, electrical systems, and other key building systems.
 - 7.4.4 BLM Class B construction estimate (equivalent to AACEI Class 2 Estimate)
 - 7.4.5 Conduct a conference call with BLM and design team to review comments prior for moving forward with final Construction Document designs.
- 7.5 Final Construction Documents (15 Calendar days after review meeting of the Schematic Design)
 - 7.5.1 The deliverables will be emailed directly to the point of contact identified below. The task order COR may identify additional individuals to whom submittals/deliverables will be emailed. If the submittal is too big to be accepted by BLM's email system, it will be posted on a web site that BLM personnel can access and download from. The email will provide BLM personnel with a web link and instructions on how to download the submittal.
 - 7.5.2 For the final (100%) submittal, the name of the individual in responsible charge of the design/drawing shall appear in the title block. Electronically stamp / seal all drawings to indicate the registration of the individual in responsible charge for the design of each drawing in accordance with the requirements of the State of Colorado.
 - 7.5.3 Electronic submittals/deliverables are to be sent to the following individuals:
 - 7.5.3.1 Aaron Clubb, aclubb@blm.gov
 - 7.5.3.2 As constructed plan set shall be delivered after final construction review.
 - 7.5.3.3 Electronic copies in PDF format and AutoCAD DWG / Revit Format.
- 7.6 Cost Estimating
 - 7.6.1 90% Design Phase
 - 7.6.1.1 Estimate quantities and cost to a $\pm 10\%$ contract cost level.
 - 7.6.1.2 Availability of materials and labor
 - 7.6.1.3 Project delivery procedures
 - 7.6.1.4 Construction sequencing/phasing and scheduling

7.6.1.5 Appropriate contingencies

7.6.2 Final Design Phase

7.6.2.1 Consists of reviewing, updating, and further developing 90% design cost estimate, project delivery procedures, construction schedules, and contingencies for final design.

7.6.2.2 Final updated cost estimate shall include any additive or deductive alternates, allowances, and/or unit cost items necessary to ensure the project is within the Construction Cost Limit (CCL) requirement.

7.7 Construction Phase

7.7.1 Provide weekly progress reports.

7.7.2 Work with BLM Construction Inspector and COR

7.7.3 Pumphouse Recreation Area is heavily used by public.

7.7.3.1 Maintain good image with public

7.7.3.2 Consider site security and prevent public from accessing ongoing construction and potentially dangerous work environments.

8 Period of Performance:

8.1 Estimated start date: May 1, 2022

8.2 Estimated completion date: July 1, 2023

9 Bridging Documents

9.1 Site Layout and Facility Block Diagram (attached)

10 Contacts:

10.1 Contracting Officer (CO) BLM-CO David Thomas

10.2 Contracting Officer Representative (COR) Aaron Clubb (970) 623-9123

11 Fee and Compensation

11.1 The cost of all communications, mailings, copying, and reproductions initiated by the contractor in providing these services shall be included in the fee without additional reimbursement.

11.2 All costs associated with the meetings/travel described herein shall be included within the fee proposal.

11.3 The Government shall issue payment through the IPP platform and will be in accordance with FAR requirements.

12 Suppliers and Subcontractor Requirements

KFO – Pumphouse River Operations Center

- 12.1 Proposed suppliers must have at least five (5) years' experience designing and installing these type structures and a minimum of three (3) successful river restoration projects, of similar construction, each of which has been in service at least two (2) years.
- 12.2 BLM requires that any supplier and subcontractor list the location, owner, and a contact for reference for each project to verify experience. BLM will evaluate and verify the accuracy of the submittal prior to acceptance. If BLM determines that the qualifying criteria have not been met, the contractor's proposed supplier shall be rejected.