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Idaho Falls District Challis Field Office

Prepared by GeoSense, LLC, Idaho Falls, ID

Environmental Assessment Rock Creek Hydroelectric Project

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CHAPTER 1 - INTRODUCTION

This Environmental Assessment (EA) was prepared by GeoSense, LLC, Idaho Falls, ID for the Bureau of Land Management, Challis Field Office (BLM CFO) for the Rock Creek Hydroelectric Project (project). This EA discloses the anticipated environmental impacts resulting from granting two Federal Land Policy and Management Act (FLPMA) Rights-of-Way (ROWs) for infrastructure and access associated with the project. BLM has received ROW applications from Rock Creek Hydro LLC (company) for installation of (1) a powerhouse, interconnect powerline, and appurtenant facilities, and (2) a substation tieline. A ROW authorization, identified as IDI-36856, for the powerhouse, interconnect powerline and appurtenant facilities, if granted, would be held by Rock Creek Hydro LLC. A ROW authorization, identified as IDI-38280, for the substation tieline, if granted, would held by Salmon River Electric Cooperative (SREC).

Background

This EA was prepared to analyze the impacts to the natural and human environment that may occur from construction of the hydropower project facilities. The project would be installed on an existing water conveyance system, consisting of a diversion and buried pipeline, that is used to deliver irrigation and stockwater to private lands located in T.9N., R.22E., Sections 5, 6, 7 and 8. Water is diverted from Rock Creek near elevation 7,210-feet above mean sea level (AMSL) where it enters a 20-inch diameter buried pipeline and is conveyed downslope for about 12,275 feet. The pipeline drops about 610 feet and at the end of the pipeline, approximately 300 feet east of the BLM property line, the flow is diverted north and south to irrigated farmland via open ditches. The water delivery system is jointly owned by Gordon Fulton and Wiley Smith who operate under a BLM ROW that was issued on December 21, 1960 under grant No. IDI-0-11980. Gordon Fulton intends to produce power as an intermediate step in the irrigation and stockwater conveyance system. The conversion of the system would require construction of a powerhouse at the end of the pipeline and installation of an interconnection powerline and a substation tieline. The project would not change the amount or timing of water diverted from Rock Creek but would allow for additional beneficial use of the water already being diverted.

The applicant applied to the Federal Energy Regulatory Commission (FERC) for authorization to construct the project under the Federal Power Act (FPA). On February 5, 2015 FERC issued a determination that the project did not require licensing under the FPA.

Purpose and Need for Action

The purpose of the proposed action is to determine the conditions, terms, and stipulations under which a ROW would be granted for a hydropower facility to be located on public land. The need for the action is established by the BLM's responsibility under the FLPMA to respond to requests for legal access across public lands administered by the BLM, and is in accordance with the FLPMA and consistent with the Challis Resource Management Plan (RMP), as amended.

Location

The proposed powerhouse and interconnection powerline are in T.9N., R.22E., Sections 5 and 6 (Figure 1). The powerhouse and approximately 350 ft of the interconnection powerline would be located on BLM administered land, just east of private land, in Section 5; the remaining 2,000 ft of interconnection powerline would be located on private land in Sections 5 and 6. The proposed substation tieline is located in T.13N., R.20 E. Section 19 (Figure 2). Approximately 1,300 feet of the tieline would be located on BLM lands and the remaining 300 feet of tieline would be located

on private lands.

Figure 1. Project Location Map – Powerhouse Site (see Figure 3 for vicinity map).

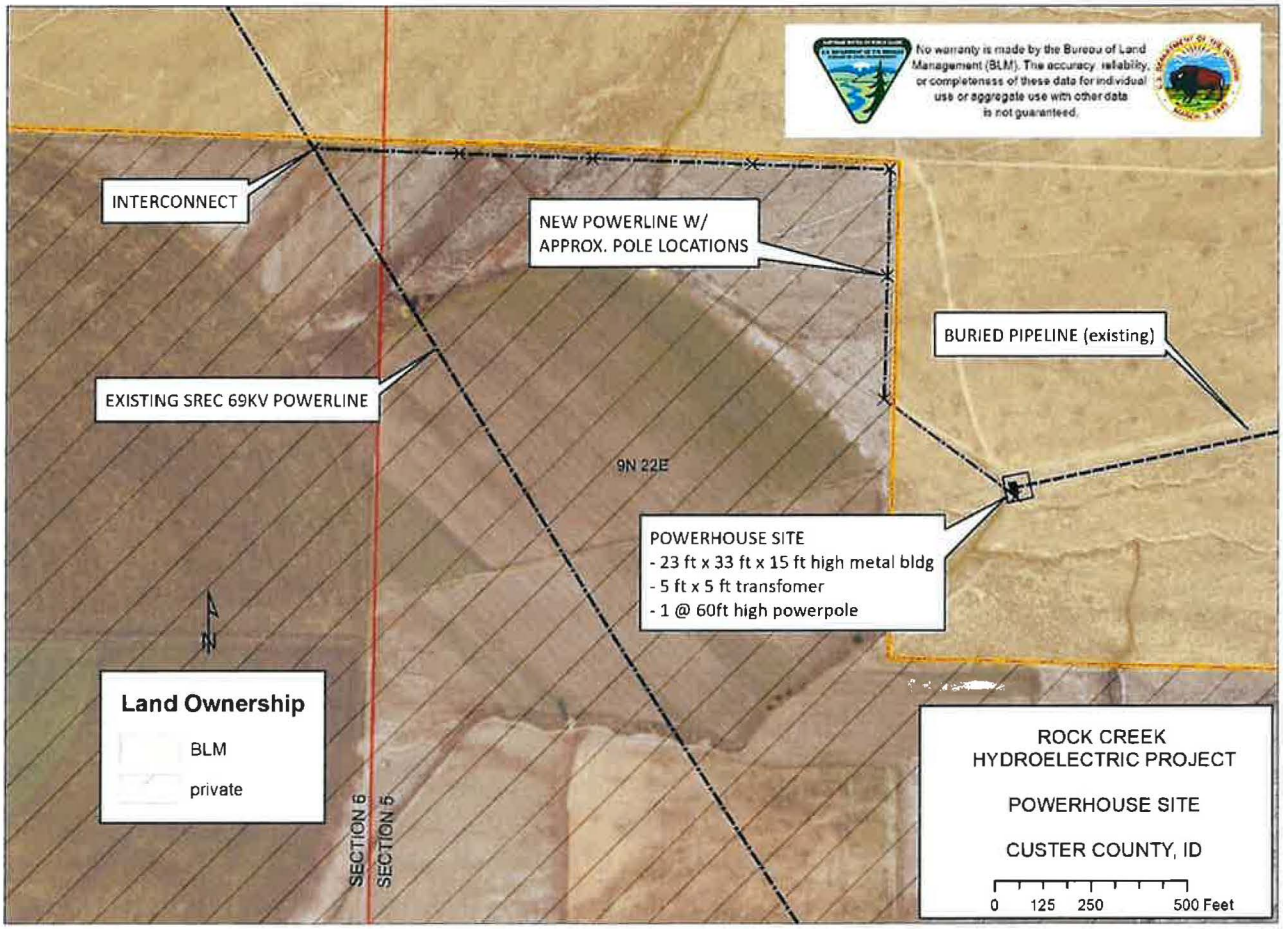
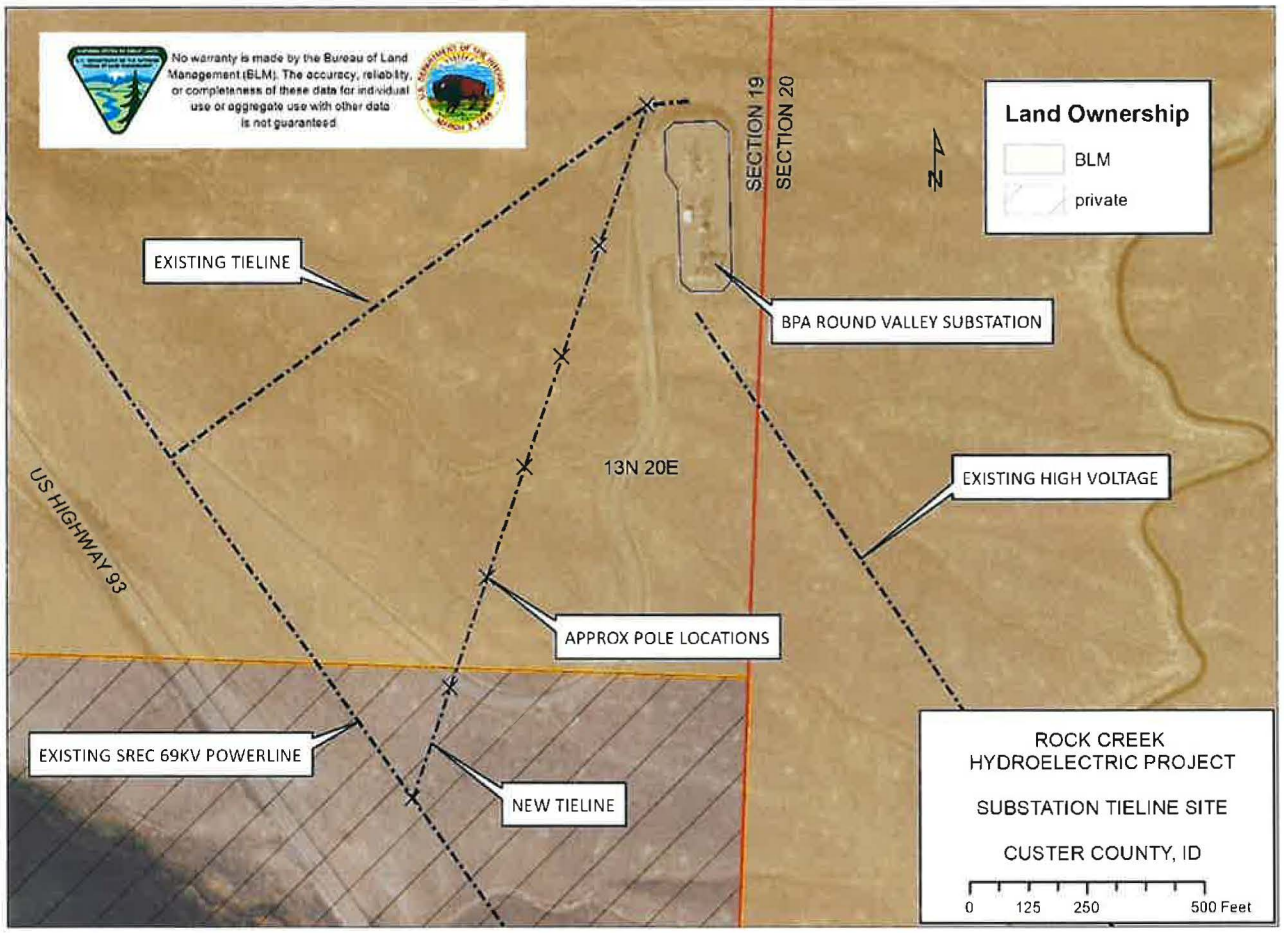


Figure 2. Project Location Map – Substation Site (see Figure 3 for vicinity map).



Conformance with the Applicable Land Use Plan

The applicable Land Use Plan for the Proposed Action is the 1999 Challis RMP, as amended. The alternatives analyzed in this EA are subject to and in conformance with the following goals and objectives of the Challis RMP (BLM 1999), as amended.

- Biological Diversity: Goal 1, Page 21: Maintain functional and repair non-functional ecological systems and processes to ensure continued sustained production of ecosystem products and values such as forage, timber, clean water, and wildlife and fisheries habitat.
- Cultural Resources: Goal 1, Page 19: Identify and manage cultural resources for a variety of values, including information potential, public values, and conservation.
- Hazardous Materials Management: Goal 1, Page 31: Prevent the occurrence of hazardous materials/waste incidents on public lands.
- Noxious Weed Infestation: Goal 1, Page 45: Reduce potential for new infestations of noxious weeds.
- Visual Resources: Goal 1, Page 66: Maintain or enhance the visual quality of the Resource Area, and prioritize the areas where greater and lesser consideration would be given to surface disturbing activities
- Wildlife Habitat: Goal 2, Page 73: Sustain diverse and abundant wildlife populations (game and nongame), consistent with Idaho Department of Fish and Game (IDFG) management objectives and BLM policy directives, by improving wildlife habitat currently in

unsatisfactory condition, and maintaining habitat currently in satisfactory condition.

- Public Needs: Goal 3, Rationale 1, Page 35: Except for restrictions in WSAs, allow rights-of-way in Special Management Areas (SMAs) only if it can be demonstrated that there would be no negative effect on the special values for which the SMA was designated. All other BLM lands would be considered for rights-of-way through site-specific analysis. No right-of-way leases, permits, or easements would be authorized in riparian areas that would hinder attainment of the riparian and aquatic habitat conditions.

The alternatives analyzed in this EA are subject to and in conformance with the Challis RMP, as amended, including the Idaho and Southwestern Montana Greater Sage-grouse Approved Resource Management Plan Amendment 2015 (ARMPA); conformance review documentation is provided in Appendix A.

Relationship to Statutes, Regulations, or Other Plans

The following statutes, regulations and plans are considered relevant to this Environmental Assessment:

- National Historic Preservation Act of 1966, as amended
- Archaeological Resource Protection Act of 1979
- The 1868 Fort Bridger Treaty, between the United States and the Shoshone and Bannock Tribes
- The Clean Water Act of 1972
- The Clean Air Act of 1970 (amended 1990)
- Title 42 Chapter 2 Section 42-201(1) and (2) of the Idaho Statutes concerning legal appropriation of water for beneficial use (including power generation)
- Idaho Comprehensive Wildlife Conservation Strategy 2005
- Idaho Sage-Grouse Conservation Strategy 2006
- Challis Sage-grouse Conservation Plan 2007
- Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, including the Greater Sage-grouse Sub-Region of Idaho and Southwestern Montana 2015

Scoping

The Challis Field Office (CFO) Manager and members of the National Environmental Policy Act interdisciplinary team (IDT) met with the representative for Rock Creek Hydro LLC on August 15, 2016 to complete internal scoping. Internal scoping included discussions of issues and indicators as well as the specific actions proposed under the project. Scoping material was uploaded to the BLM e-planning website on 9/21/2016.

Scoping Comments

No scoping comments have been received from any members of the public to date.

Tribal Consultation

Tribal consultation was initiated via letter to the Shoshone-Bannock Tribes dated 1/10/2017. No comments have been received from the Tribes to date.

Issues

Through the scoping process, a list of issues was developed as shown in Table 1.

Table 1. Issues identified through Scoping

RESOURCE	RESOURCE ISSUE
Invasive/Non-native Species	How would the Proposed Action and alternatives impact the abundance and distribution of invasive/non-native species?
Economic and Social Values	How would the Proposed Action and alternatives impact the local and regional economy including agricultural practices within the Big Lost River Valley? How would the Proposed Action and alternatives economically impact the permittee due to generation and sale of electricity?
Wildlife	How would the Proposed Action and alternatives impact sage-grouse habitat including designated Important and Priority Habitats in the project area? Specifically, how would powerline design and amount of disturbance in mapped habitat impact sage-grouse habitat?
Vegetation	How would the Proposed Action and alternatives impact existing upland vegetation?
Visual	How would the Proposed Actions and alternatives impact the viewshed and aesthetic character of the project area?

Decision to be Made

The Challis Field Manager is the authorized officer responsible for the decisions regarding management of public lands within the project area. Based on the results of the NEPA analysis, the authorized officer will issue a determination of the significance of the environmental effects and whether an environmental impact statement (EIS) would be required. If the authorized officer determines that it is not necessary to prepare an EIS, the EA will provide information for the authorized officer to select an alternative in its entirety, or select specific portions from the alternatives. The Field Manager may authorize ROWs for: 1) construction and operation of the Rock Creek Hydroelectric Project, including a powerhouse, transformer, and powerline; and 2) construction and operation of a substation tieline between the SREC transmission line and the Round Valley Substation.

CHAPTER 2 – ALTERNATIVES

Alternative A (No Action)

Under this alternative the Rock Creek Hydroelectric Project would not be implemented and no construction activities would occur. Irrigators would continue to divert the entirety of their decreed water rights (up to 15.2 cubic feet per second (cfs)) into the existing buried pipeline for conveyance to the place of use, but the additional beneficial use of this water for power generation would not be realized. No new powerlines would be constructed.

Alternative B (Proposed Action)

The Applicant's proposal is to construct in T.9N., R.22E., Section 5. This ROW would be issued to Rock Creek Hydro LLC, under the serial number IDI-36856, and would include:

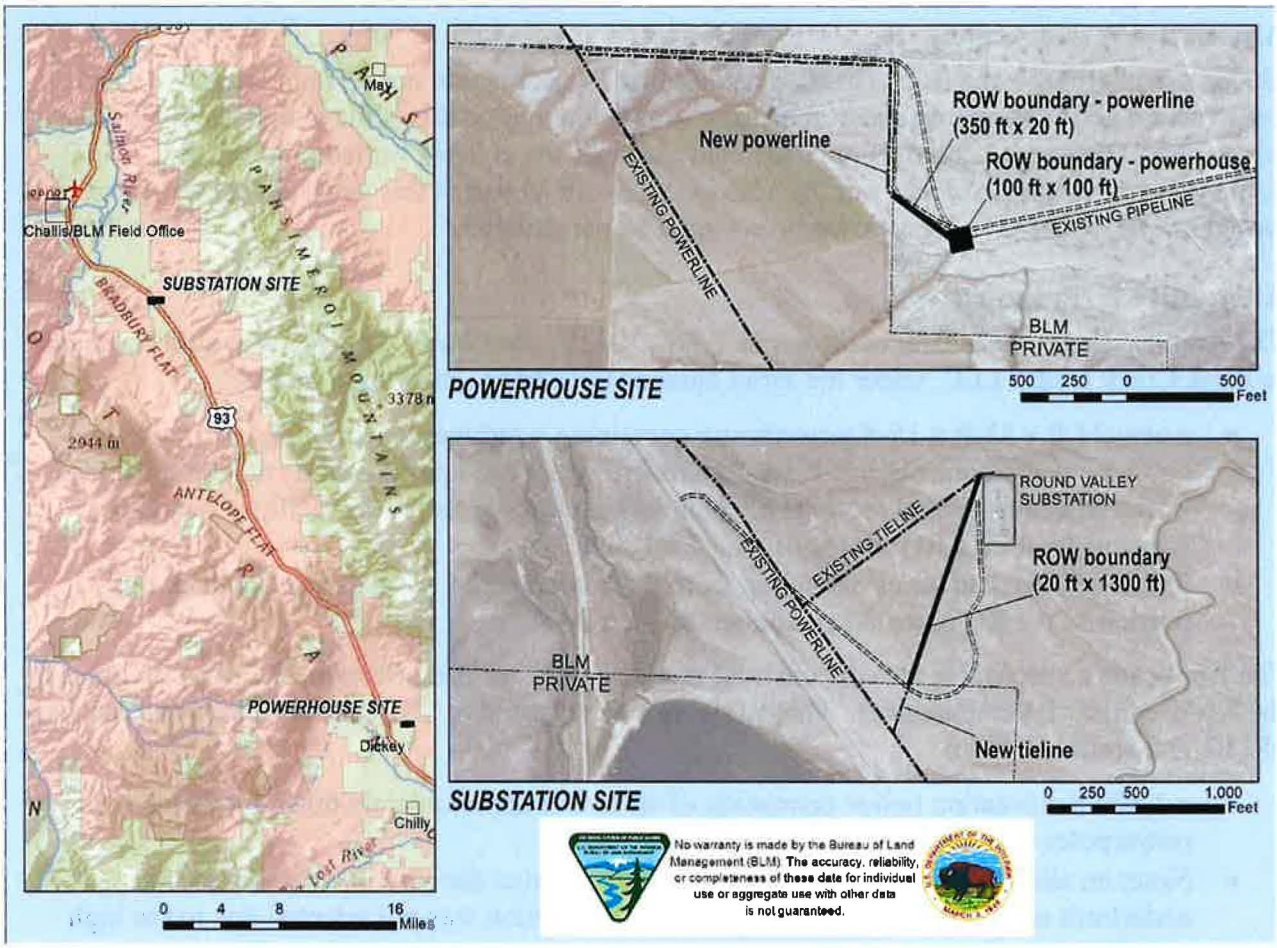
- a new 23-ft x 33-ft x 15-ft powerhouse containing a turbine-generator and associated equipment and controls, a 6-ft x 6-ft transformer pad, an approximately 60-ft tall wooden powerpole, and several sections of chain link security fence; these facilities would be contained within a ROW area of 100-ft x 100 ft.
- 350-ft of overhead wires extending from the powerpole to adjacent private land; this portion of the ROW would encumber 350-ft x 20-ft.

The Applicant's proposal is also to construct within T.13N., R.20E., Section 19 (about 25 miles to the NNW of the powerhouse site). This ROW would be issued to SREC, under serial number IDI-38280, and would include:

- a 1,300 ft substation tieline consisting of up to five approximately 60-ft tall wooden powerpoles and associated overhead wires
- Note: an alternative tieline route would be to construct the new line parallel to (or underbuilt on) the existing tieline; however, this option was not selected due to the high cost of pole replacement and construction on an energized high voltage line.

The ROW dimensions and locations for the two authorizations are shown in Figure 3 below.

Figure 3. ROW Dimensions and Locations for Rock Creek Hydroelectric Project.



Proposed construction activities associated with the action at the powerhouse site include:

- Reroute pipeline discharge around the powerhouse construction site by building a temporary conduit.
- Excavate a shallow (<6 ft) foundation for the powerhouse.
- Pour concrete for the transformer pad and powerhouse foundation.
- Erect the metal building and install powerhouse equipment.
- Install transformer, powerpole, metering equipment, and conducting wire to interconnect the project with the SREC transmission line.
- Configure the powerplant outlet to distribute water into the existing ditches and then connect to the water supply (pipeline).
- Startup and test the powerplant equipment.
- Recontour site, re-seed disturbed area and, if warranted, install sections of chain link security fence.

Proposed construction activities associated with the action at the Substation Site include:

- Excavate holes for up to 5 power poles using truck mounted auger.
- Install and backfill power poles.
- Install conducting wire and connect at the substation end.

- Connect at the transmission line (live) end.

All construction would be supervised onsite by a designated site supervisor and would be in accordance with design drawings and engineering completed by Rock Creek Hydro, LLC.

All construction is planned for implementation during the fall and winter of 2017, but could extend into the spring of 2018 if necessary. Construction activities are anticipated to take approximately 6 months.

Water Rights

The proposed project would not cause any increase in the diversion of water from Rock Creek since it would only utilize water that is being diverted into the pipeline for irrigation and stockwater use. Table 2 shows the existing Rock Creek water rights that are diverted into the pipeline. The cumulative water right throughout the year is plotted in Figure 4. Figure 4 also shows the estimated median natural streamflow in Rock Creek at the diversion site based on a U. S. Geological Survey Streamstats simulation (U.S. Geological Survey, 2012).

The powerplant turbine would have a hydraulic capacity of 6.5 cfs. When operating, the powerplant would utilize up to 6.5 cfs for power generation. Any pipeline flow exceeding 6.5 cfs would be bypassed around the powerplant into the existing irrigation system. The actual amount used for power generation at any time would depend on the availability of streamflow in Rock Creek, the irrigation and stockwater demand, and the turbine capacity. Referring to Figure 4:

- From 1-Jan to about 1-Apr power generation would be limited by stockwater diversion rates and streamflow availability.
- From 1-Apr to about 1-May power generation would be limited by the availability of streamflow.
- From 1-May to about 15-Sep power generation would be limited by turbine capacity.
- From 15-Sep to about 15-Nov power generation would be limited by availability of streamflow.
- From 15-Nov to 31-Dec power generation would be limited by stockwater diversion rates and streamflow availability.

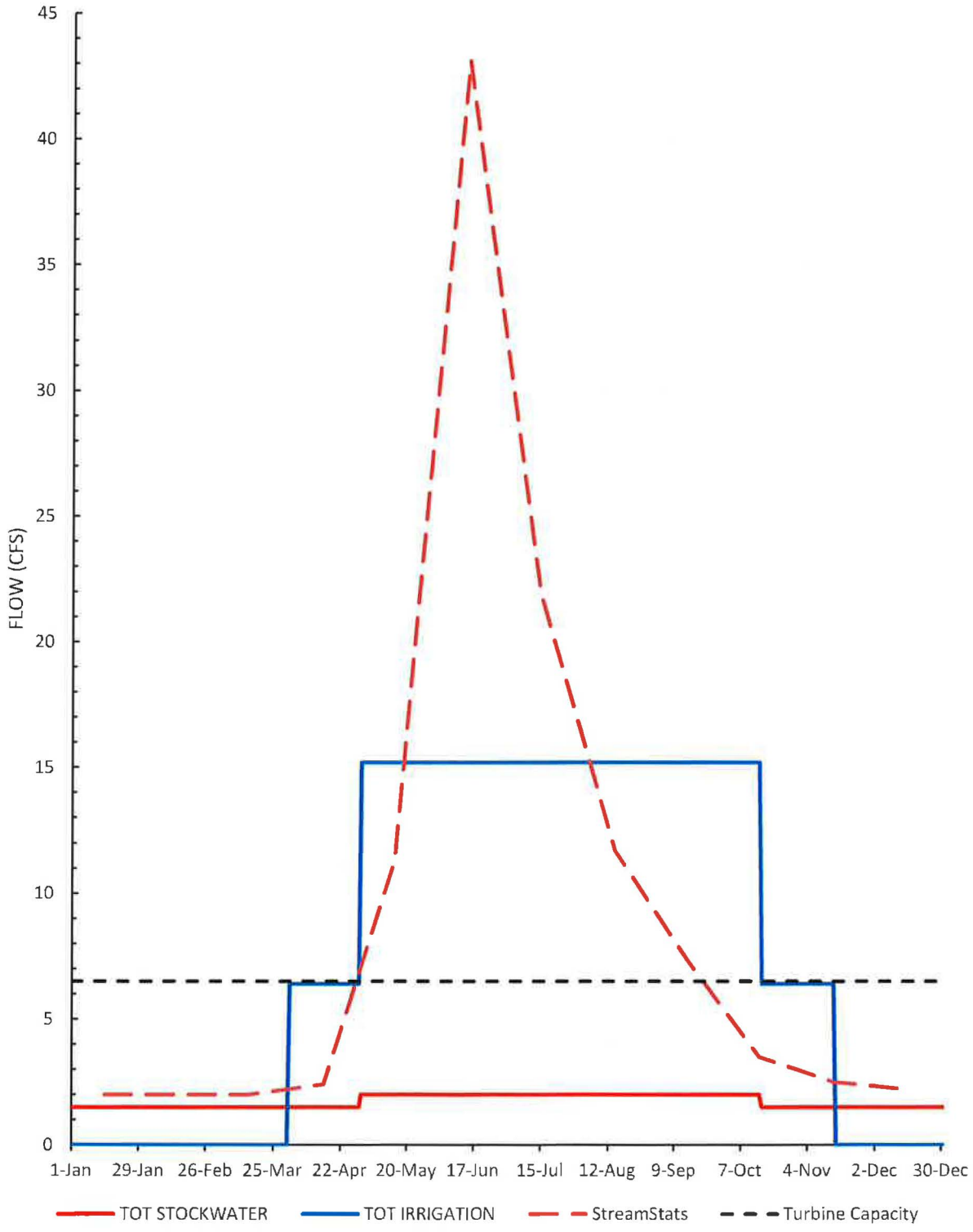
The water right obtained for power generation, WR No. 34-14339, is non-consumptive. This means that all water used for power generation remains available for other beneficial uses. The water right explicitly states that power generation is subordinate to other beneficial uses, including irrigation and stockwater. In addition, the water right includes a provision that requires a 0.2 cfs minimum flow past the point of diversion in Rock Creek.

The stockwater rights shown below are conveyed via an open ditch between the proposed power house and their designated place of use. Although the stockwater rights, depending on the time of year, only total 0.04-0.21 cfs, the appropriator is entitled to the quantity of water described for stockwater purposes at a point of measurement where the delivery ditch enters the place of use described in the water right(s). Due to infiltration losses in the open ditch between the end of the existing pipeline and the stockwater right place of use, the appropriator diverts between 1.5 -2 cfs for stockwater into the pipeline at the point of diversion, which allows for conveyance losses and delivery of the 0.04-0.21 cfs at the stockwater right at the place of use. Thus, water available for power generation during the non-irrigation months (15-Nov through 1-Apr) would be dependent on the availability of water at the point of diversion, but would likely not exceed 2 cfs.

Table 2. Water rights diverted into existing pipeline at Rock Creek.

BASIN	SEQUENCE	PRIORITY DATE	AMOUNT (CFS)	PERIOD OF USE	PURPOSE	OWNER
34	57	6/1/1887	2.4	5/1 - 10/15	irrigation	Fulton
34	57	6/1/1887	0.02	1/1 - 12/31	stockwater	Fulton
34	58	10/27/1910	3.2	5/1 - 10/15	irrigation	Fulton
34	836	6/1/1888	3.2	4/1 - 10/31	irrigation	Smith
34	836	6/1/1888	0.02	10/16 - 4/30	stockwater	Smith
34	836	6/1/1888	0.19	5/1 - 10/15	stockwater	Smith
34	4039	3/31/1934	3.2	4/1 - 11/15	irrigation	Smith
34	10585	5/1/1951	3.2	4/1 - 11/15	irrigation	Smith

Figure 4. Summary of existing diversion rate into project pipeline.



Site Access

The powerhouse site is located approximately 1.3 miles NE of US Highway 93. The site would be accessed using existing gravel and dirt roads (Figure 3). These roads are in good condition and do not require any significant repair to accommodate construction traffic, although it may be necessary to place gravel in isolated low spots.

The substation site is located approximately 0.3 miles NE of US Highway 93. The site would be accessed using an existing gravel road (Figure 3). The gravel road is used to access the Round Valley substation, is in good condition and would require no repair to accommodate construction traffic. The road provides access to the powerline corridor from the north and south ends. Construction would proceed by driving construction vehicles overland along the corridor to install powerpoles and hang conductor. This would require two traverses by wheeled equipment, one to auger holes and place poles, and a second to carry conductor spools. No permanent road would be constructed.

No stream or canal crossings are necessary at either site.

Temporary Water Bypass During Construction

A temporary bypass system would be used to route water from the existing pipeline around the powerhouse site during construction (Figure 5). A temporary above-ground pipeline would be constructed to convey water around the work area. The bypass conduit would connect to the existing pipeline about 75-ft (or less) upstream of the current pipeline termination and would discharge back into the irrigation canal about 50-ft (or less) downstream of the current pipeline termination. The bypass conduit would be removed once powerhouse construction is complete. No instream work within any natural channel would be required.

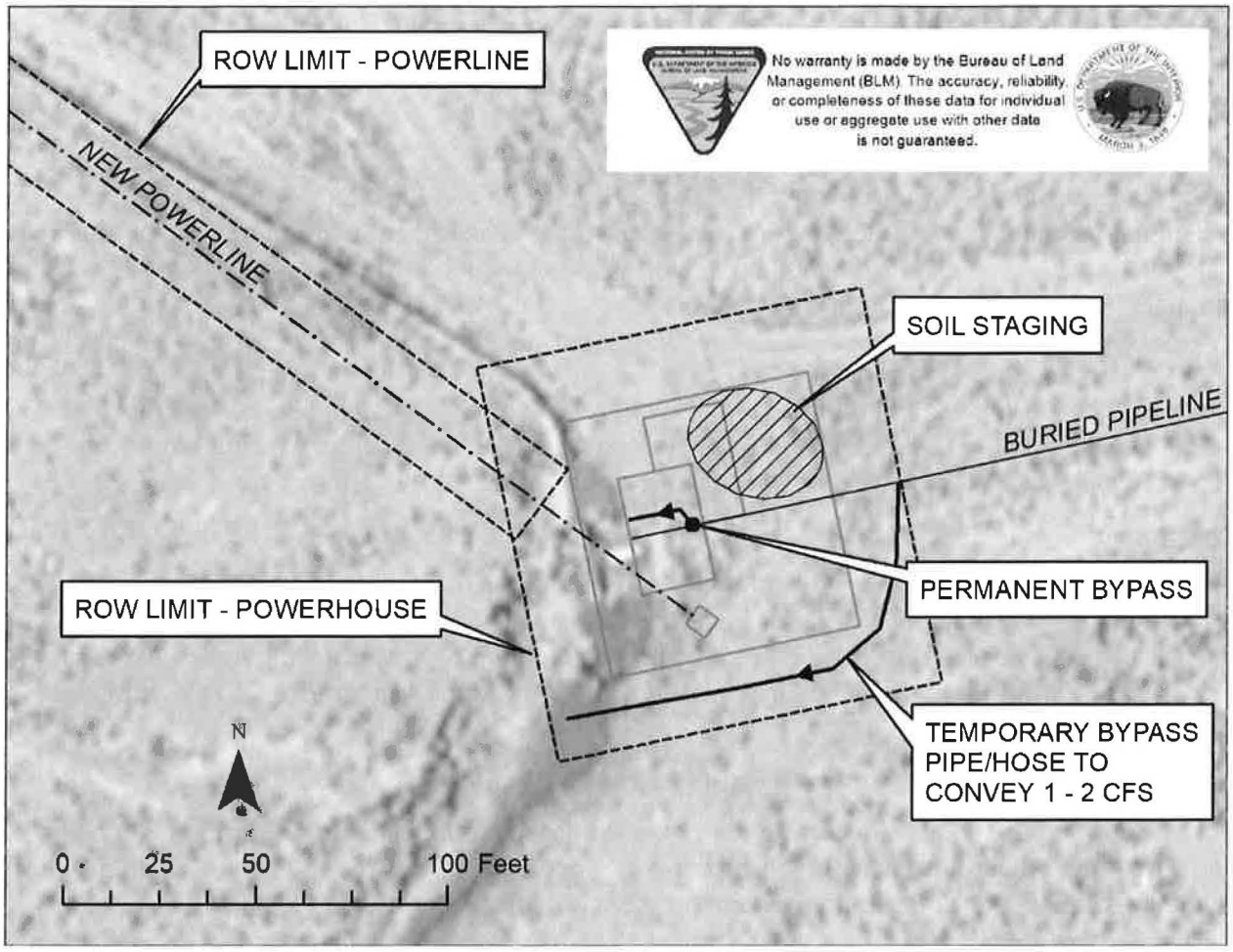
Permanent Water Bypass System

During project operation irrigation demand (up to 15.2 cfs) would at times exceed power generation capacity (6.5 cfs). A bifurcation would be installed in the pipeline above the turbine/generator so that water in excess of the turbine capacity can be bypassed around the turbine/generator (Figure 5). The bifurcation would be located inside or adjacent to the powerhouse and would discharge water to the same location as the turbine discharge.

Head Level Control

A head level sensor above the diversion head gates would sense changes in streamflow and communicate with the powerhouse via a wireless link and the powerhouse would adjust automatically to any changes in flow. No additional equipment requiring ground disturbing construction would be needed to facilitate head level control operations.

Figure 5. Sketch drawing showing water bypass system and soil staging area.



Powerhouse Foundation

A tracked excavator would be used to prepare the foundation area, which would extend to approximately six feet below grade at the deepest point. The total excavation would produce about 100 cubic yards of spoils, which would be staged temporarily onsite and then used to backfill the completed foundation (Figure 5). The foundation and transformer pad would be formed and poured concurrently, and no concrete would be batched on site.

Powerhouse

Powerhouse construction would include assembly of a pre-fabricated metal building and installation of the turbine, generator, bypass valve, switchgear and appurtenant equipment. A small crane would be used to set the turbine/generator in place. Exterior lighting, if installed will be motion sensor activated and down-shielding with minimum intensity light.

Interconnection Powerline

A portable or truck-mounted auger would be used to bore a hole approximately 8-ft deep for the single powerpole that would be located adjacent to the powerhouse. The pole would be set and backfilled at a location next to the powerhouse. The transformer would be delivered pre-filled with oil; no onsite oil transfer operations would be required. The overhead line would then be installed

from the powerhouse pole to the portion of the powerline located on private land.

The overhead line would be attached using wheeled equipment (spool truck, man lift) deployed from the existing road.

Substation Tieline

A portable or truck-mounted auger would be used to bore holes for up to 5 powerpoles along the transmission corridor. The poles would then be set, backfilled and the overhead line would be attached using wheeled equipment (spool truck, man lift). Vehicles required for constructing the substation powerline would be deployed overland, i.e. no new road would be constructed or maintained following construction.

Perimeter Fence

If deemed necessary, a 6-ft tall perimeter chain link fence would be installed to enclose the powerhouse, powerpole and transformer. The final decision on the need for fencing would be made in consultation with BLM and would be based on public safety considerations.

Revegetation

Areas disturbed during construction would be revegetated as part of the project design. Revegetation plans include reseeding disturbed areas with a BLM approved upland seed mix. If invasive species become established due to the implementation of this project, they will be treated in accordance with the Challis Field Office Integrated Weed Management Program Environmental Assessment (BLM 2009).

Summary of Ground Disturbing Impacts for Alternative B

Estimated ground disturbance occurring under the Proposed Action is described in Table 3, below. A portion of the powerhouse site has been previously developed for roads and irrigation ditches. The total disturbance includes both new and previously disturbed portions.

Table 3. Estimated New Ground Disturbance, broken out by GRSG Habitat Management Area, under Alternative B.

PROPOSED ACTIVITY UNDER ALTERNATIVE B	GRSG HABITAT MANAGEMENT AREA	ROADS & DITCHES (ACRES)	STEPPE HABITAT (ACRES)	TOTAL DISTURBANCE (ACRES)
Powerhouse, transformer and powerpole (1)	Priority	0.06	0.18	0.24
	Important	0.0	0.0	0.0
	General	0.0	0.0	0.0
Overhead lines at powerhouse site	Priority	0.0	0.0	0.0
	Important	0.0	0.0	0.0
	General	0.0	0.0	0.0
Substation tieline and powerpoles (up to 5)	Priority	0.0	0.0	0.0
	Important	0.0	0.57	0.57
	General	0.0	0.0	0.0
Total Estimated Ground Disturbance	Priority	0.06	0.18	0.24
	Important	0.0	0.57	0.57
	General	0.0	0.0	0.0

Best Management Practices

The following best management practices would be applied to all construction activities and/or maintenance activities associated with project implementation and long-term operation of the ROW, as appropriate:

- The work window for construction to minimize effects to terrestrial wildlife is from July 15 through March 1. All construction is anticipated to be completed between fall and early spring.
- Prior to construction, the project area would be flagged to identify the following: (1) equipment entry and exit points; (2) road and stream crossing alignments; (3) staging, storage, and stockpile areas; (4) no-spray areas and buffers for herbicides use (e.g. streamside and riparian areas).
- Construction spill prevention and control would be in accordance with *The Catalog of Stormwater BMP, Idaho Department of Environmental Quality, for Idaho Cities and Counties* (IDEQ 2005) BMP 8: *Spill prevention and control.*
- Contractors would be required to have a spill containment kit of appropriate size for the equipment used at the construction site. If spills of hazardous materials (including petroleum products) occur on site in excess of 25 gallons, the site supervisor shall immediately notify Idaho Department of Environmental Quality and then BLM, in that order.
- Construction equipment and materials staging, including refueling areas, would be identified prior to initiation of project activity, and would occur away from streams (150 feet minimum distance). All possible steps would be taken to minimize the possibility of machine lubricants entering the stream (i.e., equipment would be leak free prior to arrival on site and inspected daily, and absorbent pads and booms will be on site and ready for use).
- All equipment would be pressure washed to remove any excess oil, grease, or weed seeds before arriving at the work site.
- All project work would cease during heavy precipitation events (>1.6-inches in 24 hours [5-YR, 24-HR Storm Event]) in order to minimize resource damage. Project work would not occur until ground is sufficiently dry that wheeled equipment does not leave ruts with depth greater than 4-inches. Additionally, ground disturbing activities would not occur during wet conditions if use of the equipment causes ruts greater than 4-inches in depth (i.e. during or immediately following rain events).
- Sequence or schedule work to reduce exposed bare soil to wind erosion. Water may be used to control dust.
- Any waste liquids generated at the staging areas would be temporarily stored under cover on an impervious surface such as tarpaulins until such time they can be properly transported to and treated at an approved facility.
- Heavy equipment would be selected (when possible) and operated in a manner that minimizes adverse effects to the environment (e.g., minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils).
- Access to the construction site would occur on existing BLM roads.
- Complete earthwork (including drilling, excavation, dredging, filling and compacting) as

quickly as possible.

- All construction materials must come from outside of the construction site, and cannot be procured from BLM administered lands, unless approval is given by the authorized officer (Field Office Manager or his/her representative). The exceptions to this requirement are mineral materials (riprap, fill, gravel) that were procured with a valid BLM permit.
- Holder would ensure that adequate sanitation facilities are provided on site during construction, in accordance with 29 CFR 1910.141(c)(1)(i).
- Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery would be made by the authorized officer or his/her representative to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder would be responsible for the cost of evaluation and any decision as to proper mitigation measures would be made by the authorized officer after consulting with the holder.
- Pursuant to 43 CFR 10.4(g), the holder of this authorization must immediately notify the authorized officer by telephone, with written confirmation, upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- Vegetation may be grubbed only from areas where permanent ground alteration would occur. Vegetation is to be cut at ground level and root wads retained where temporary clearing occurs.
- Each area requiring revegetation would be replanted during the first fall season following the end of construction in order to take advantage of the seasonal moisture regime. A BLM approved seed mix would be used to achieve establishment and erosion control objectives, preferably comprised of forb, grass, or shrub species native to the project area or region and appropriate to the site. Non-native or invasive species would not be used. No fertilizer would be applied. Short-term stabilization measures may include the use of weed- free certified straw, jute matting, and other similar techniques.
- The project area will be surveyed for weed infestations by BLM personnel prior to project implementation. Heavy equipment would avoid entering those areas, where practical, to reduce the potential for the spread of weed species.
- All access road improvement work would be done within the existing road prisms on BLM administered land. Placement of culverts, should it be necessary, would follow established BLM guidelines.
- Construction and/or maintenance in upland sites would be done so as to keep soil, grass, shrub and woody vegetation disturbance to a minimum. The upland construction sites would be reseeded with a BLM approved seed mix.

Stipulations, Terms and Conditions

- The Holder shall conduct all activities associated with the construction, operation, maintenance, and termination of the ROW within the authorized limits of the ROW.
- The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant or permit.
- The authorized officer may suspend or terminate in whole, or in part, any notice to proceed

which has been issued when, in his judgment, conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

- 90 days prior to expiration or relinquishment of the ROW, the Holder shall contact the authorized officer to arrange a joint inspection of the ROW. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding. The authorized officer must approve the plan in writing prior to the Holder's commencement of any termination activities.
- There is reserved to the Secretary of the Interior, or his/her lawful delegate, the right to grant additional ROW or permits for compatible uses on, over, under or adjacent to the land involved in this grant.
- The Holder shall notify the authorized officer of any change of mailing address within 30 days of such change.
- Holder shall, within 30 days following completion of the facility, submit proof of construction. Said proof shall include "as built" drawings of the authorized facilities including but not limited to power lines and authorized roads, and highlighting any changes from the approved design.
- Holder shall maintain the ROW in a safe, usable condition, as directed by the authorized officer.
- If any emergency repair activity results in disturbance outside a previously disturbed area and/or the existing ROW boundary, the Holder will notify the authorized officer within 3 days of the occurrence. Upon review, the authorized officer may conclude the emergency repair activity is a substantial deviation. Substantial deviations require an amendment.
- The Holder shall permit free and unrestricted public access upon the ROW for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the ROW.
- No signs or advertising devices shall be placed on the ROW or on adjacent public lands, except those posted by or at the direction of the authorized officer.
- During conditions of extreme fire danger or when the State of Idaho and/or the Idaho State Director issues a fire restriction order, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized officer.
- In accordance with 43 CFR 2805.12(d) (or subsequent revisions), the Holder shall do everything reasonable to prevent and suppress wildfires on or in the immediate vicinity of the ROW. The Holder will immediately report fires to the BLM authorized officer or Fire Dispatch (208.756.5157) or 911 and take all necessary fire suppression actions, when safe to do so, with their personnel and equipment on any fires they cause to ignite.
- Right-of-way holder shall remove only the minimum amount of vegetation necessary for the use and maintenance of the existing road.
- Right-of-way shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
- The Holder shall be responsible for weed control, including noxious weeds and non-native invasive plants that result from construction, use, or maintenance authorized in the Holder's ROW grant. The Holder must coordinate with the Authorized Officer and/or local authorities for acceptable weed control measures (within limits imposed in the grant

stipulations) prior to implementing weed treatments. If herbicides are to be used for weed control, the applicator(s) shall hold a current State of Idaho applicator's license or be under the direct supervision of a licensed applicator.
- Bird diverters for avian protection will be installed at 15 foot intervals on all new powerlines, and perch deterrents on all new power poles.

Required Design Features

The following Required Design Features, as recommended in Appendix C of the Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment (BLM, 2015) would be implemented during construction and operation of the hydropower facility:

- Solicit and consider expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations during development of projects.
- No repeated or sustained behavioral disturbance (e.g., visual, noise over 10 dbA at lek, etc.) to lekking birds from 6:00 pm to 9:00 am within 2 miles (3.2 km) of leks during the lekking season.
- Avoid mechanized anthropogenic disturbance, in nesting habitat during the nesting season when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.
- Avoid mechanized anthropogenic disturbance during the winter, in wintering areas when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.
- Utilize available plant species based on their adaptation to the site when developing seed mixes. (Lambert 2005; VegSpec).
- Utilize the warmer component of a species' current range when selecting native species for restoration when available (Kramer and Havens 2009).
- Above-ground disturbance areas would be seeded with a BLM approved seed mix comprised of perennial vegetation.
- Place infrastructure in already disturbed locations where the habitat has not been fully restored.
- Co-locate linear facilities within one mile of existing linear facilities.
- Consider co-locating powerlines, flowlines and pipelines under or immediately adjacent to a road or adjacent to other pipelines first, before considering co-locating with other ROW.
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Use free standing structures where possible, to limit the use of guy wires. Where guy wires are necessary and appropriate, bird collision diverters would be used if doing so would not cause a human safety risk.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Construction and development activities should conform to seasonal restrictions.
- Utilize existing roads, or realignments of existing routes to the extent possible.
- Address post reclamation management in reclamation plan such that goals and objectives

are to protect and improve sage-grouse habitat needs.

- Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.

Permit Requirements and Contractual Agreements

A Class III intensive cultural resource inventory was conducted over the Area of Potential Effect of the project (BLM, 2016). No cultural resources were located. The Idaho State Historic Preservation Office has reviewed and concurred with the findings and determination of effect.

The holder has obtained exemption from the Federal Energy Regulatory Commission for the development of hydropower.

The holder has obtained an Idaho Water Right for beneficial use of water for the purpose of power generation.

Alternatives Considered but not Analyzed in Detail

An alternative that would extend the buried pipeline for about 300 ft to a location on private land was considered. Under this alternative the powerhouse would be located on private land. A BLM ROW authorization would still be needed for this alternative, since the extension of the pipeline would occur on BLM land and since the substation powerline would still need to be constructed. This alternative was not analyzed in detail because the private lands necessary for development could not be purchased from the owner.

An alternative tieline route would be to construct the new line parallel to (or underbuilt on) the existing tieline, eliminating the need for a new powerline corridor. However, this option was not economically feasible due to the high cost of pole replacement and construction on an energized high voltage line.

CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

General Setting

The substation tieline site is in the Warm Springs Creek watershed of the Upper Salmon River subbasin (4th Field hydrologic Unit Code 17060201). The subbasin is in east-central Idaho between the Pahsimeroi Mountains range to the east, and the Pioneer Range and Sawtooth Mountains of central Idaho to the west. Elevations in the subbasin range from 10,500 feet in the Sawtooth Mountains to approximately 4,900 feet at the Salmon River near Challis, ID. Located at the downstream end of the subbasin, Warm Springs Creek flows in a topographically complex valley 5 – 7 miles wide. Gravel-filled alluvial fans spread out from the Pahsimeroi Mountain range and converge on the valley floor (IDEQ 2001). The substation tieline site is located on one of these large fan complexes. There are no permanent streams in the area but shallow gulches mark the locations where runoff occurs during spring snowmelt and heavy precipitation events.

The powerhouse site is in the Rock Creek watershed within the headwaters of the Big Lost River subbasin (4th Field Hydrologic Unit Code 17040218). The subbasin is in east-central Idaho between the Lost River mountain range to the east, and the Pioneer Range and Sawtooth Mountains of central Idaho to the west. Elevations range from 12,662 feet at Borah Peak to approximately 5,300 feet at the Big Lost River near Arco, Idaho. The valley topography is characterized by steep, rugged mountains, transitioning into gentle slopes on the valley floor. The valley floor has a typical width of 4 - 6 miles. Numerous large gravel-filled alluvial fans spread out from the mountain ranges and converge on the valley floor. The powerhouse site is located on one of these alluvial fans. Rock Creek emerges from the mountains onto this alluvial fan where it infiltrates into the porous fan materials, rarely sustaining flow to its confluence with Thousand Springs Creek 2.5 miles below (IDEQ 2001).

The climate of the region is semi-arid high desert typical of the Rocky Mountains in central Idaho. Average annual precipitation is less than 10 inches per year over much of the valley. Winters are long and cold while summers are brief and hot. Precipitation rises in the surrounding mountains to 25 inches or more, falling mostly as snow. Periodic heavy thunderstorms are common during June and July. Average annual temperature and precipitation is summarized in Table 4 (IDEQ 2004).

Table 4. Annual climate summary for stations in, or near the Big Lost River watershed.

LOCATION - ELEV	GALENA 7300 FT.	CHILLY 6200 FT	GROUSE 6110 FT	MACKAY 6,000 FT	ARCO 5330 FT
Average Annual Maximum Temperature (°F)	51.3 F (Range 98° F to 38° F)	54.5 (Range 95° F to 40° F)	53.6 (Range 95° F to 38° F)	54.4 (Range 96° F to 35° F)	57.3 (Range 103° F to 40° F)
Average Annual Minimum Temperature (°F)	18.6 (Range 32° F to -40° F)	23.6 (Range 36° F to -42° F)	20.6 (Range 32° F to -42° F)	27.9 (Range 36° F to -35° F)	27.1 (Range 42° F to -45° F)
Average Annual Total Precipitation (in)	24.74	8.27	12.75	10.07	9.76
Average Annual Total Snowfall (in)	182.8	19.0	61.4	32.9	31.3
Average Annual Snow Depth (in.)	17	0	4	1	1

The two project sites include both BLM administered and private lands. The substation tieline site is located within the 64,600 acre BLM Warm Springs Grazing Allotment and the powerhouse site is within the 8,500 acre BLM Dickey Grazing Allotment. No state lands or other federal lands would be affected.

Resources Considered in the Analysis

The resources considered in this analysis are summarized in Table 5.

Table 5. Summary of resources potentially affected by the project.

RESOURCE	RESOURCE STATUS	RATIONALE
Access	Present Not Impacted	Existing roads will be used for all construction, operation and maintenance activities. No new roads are authorized. Implementation of the Proposed Action or Alternatives would not result in changes in access to the area.
Air Quality	Present Not Impacted	Implementation of the Proposed Action or Alternatives would not result in production of vehicle or equipment emission or particulate matter above baseline levels as required by the Clean Air Act. Therefore, air quality would not be affected by the Proposed Action or Alternatives.
Areas of Critical Environmental Concern (ACEC's)	Not Present	There are no ACECs located in the proposed project area.
Climate Change	Present Not Impacted	Climate change does not have a clear cause-and-effect relationship with the proposed action due to the scale of the impacts. The project would have a positive impact due to displacement of fossil fuel based energy sources, but the amount of the impact would be insignificant on the scale of global climate change.

RESOURCE	RESOURCE STATUS	RATIONALE
Cultural Resources	Not Present	A Class III cultural resource inventory survey was conducted at all areas that would potentially be disturbed by project construction and operation. The results of Class III inventory indicate no known cultural resources would be impacted by the Proposed Action or Alternatives.
Economic and Social Values	Present Impacted	Impacts are disclosed under Economic and Social Values.
Environmental Justice	Present Not Impacted	There are minority and low-income populations near the proposed project area, however the alternatives described would not affect these populations as described under Executive Order 12898 of 2/11/1994. There would be no disproportionately high and adverse human health or environmental effects to the minority and low-income populations in the area resulting from the Proposed Action or Alternatives.
Existing and Potential Land Uses	Present Not Impacted	The project area contains existing authorized roads and powerlines and is within BLM Grazing Allotments. These uses would continue unchanged under the Proposed Action or Alternatives.
Floodplains	Not Present	There are no floodplains in the proposed project area.
Forest Resources	Not Present	There are no forest resources in the proposed project area.
Invasive, Non-Native Species	Present Impacted	Impacts are disclosed under Vegetation Resources.
Mineral Resources	Present Not Impacted	Mineral resources (e.g. sand, gravel, fill) are present on almost all lands in the BLM CFO area. The Proposed Action or Alternatives would not require use of these resources nor affect use of these resources for other authorized purposes.
Migratory Birds	Present Not Impacted	The project impact area is small (< 1 acre) and does not contain any habitat important to migratory birds. Therefore, the Proposed Action or Alternatives would not affect migratory birds.
Native American Religious Concerns	Not Present	There are no known ceremonial sites or resources associated with ceremonial practices in the proposed project area.
Paleontological Resources	Not Present	There are no known paleontological resources located in the proposed project area.
Prime and Unique Farmlands	Not Present	There are no prime or unique farmlands located within or near the proposed project area.
Range Resources	Present Not Impacted	The Proposed Action or Alternatives would not affect current or future authorized uses of range resources in the Dickey and Warm Springs Allotments.
Recreational Use	Present Not Impacted	Access and availability for recreation opportunities would not change as a result of implementation of the Proposed Action or Alternatives.
Soil Resources	Present Not Impacted	Due to the timing of construction and project BMPs, the Proposed Action or Alternatives would not affect soil resources.
Threatened, Endangered, and Sensitive Plants	Not Present	There are no known threatened, endangered, or sensitive plants or their habitat within the proposed project area.
Threatened, Endangered, and Sensitive Animals/ Wildlife	Present, Not Impacted	There is no suitable or designated habitat for lynx, yellow-billed cuckoos, or wolverines within the proposed project area and these species will not be addressed further in this document. Impacts to greater sage-grouse, a BLM Type 2 Sensitive species, as well as 21 other Type 2 Sensitive species, are disclosed under Wildlife Resources.

RESOURCE	RESOURCE STATUS	RATIONALE
Threatened, Endangered, and Sensitive Fish; Fisheries	Not Present	There are no known listed/candidate, or sensitive fish species or designated critical habitat (DCH) within the proposed project area.
Tribal Treaty Rights and Interests	Present Not Impacted	There would be no impacts to Tribal Treaty Rights and Interests under the Proposed Action or Alternatives.
Vegetation	Present Impacted	Impacts are disclosed under Vegetation Resources.
Visual Resources	Present Impacted	Impacts are disclosed under Visual Resources.
Wastes, Hazardous and Solid	Not Present	There are no solid or hazardous wastes in the proposed project area and none would be created or used during the implementation of the Proposed Action or Alternatives.
Water Quality (Surface and Ground)	Not Present	The project would involve minimal ground disturbance, is not located on any natural water body, and is situated so that any surface drainage would never reach a natural water body. The project would have no effect on surface or ground water.
Wetland and Riparian Zones	Not Present	There are no wetland areas or riparian zones in the proposed project area. There would be no changes in diversion amounts or timing as a result of this project.
Wild and Scenic Rivers	Not Present	There are no wild and scenic rivers near the proposed project area.
Wild Horse and Burro HMAs	Not Present	There are no wild horse and burro Horse Management Areas in the proposed project area. The Challis Wild Horse HMA is located approximately 17 air miles from the proposed powerhouse site and is separated from the tieline site by Highway 93.
Wilderness	Not Present	There are no wilderness areas or WSAs in the proposed project area. The nearest WSA (Borah Peak) is located approximately 2 miles to the southeast.
Lands with Wilderness Characteristics	Not Present	There are no Lands with Wilderness Characteristics present or affected within or near the proposed project area.
Wildlife Resources	Present Impacted	Impacts are disclosed under Wildlife Resources.

Economic and Social Values

Affected Environment

The project is located in Custer County. The town of Mackay is the closest population center, and the city of Challis is the nearest major population center. This analysis describes anticipated socioeconomic impacts in Custer County.

Custer County has an estimated population of 4,140. Median household income in the period from 2009-2013 was $39,541, which is below the state median of $46,767 (USCB, 2015a). In December 2014, the unemployment rate was 4.3%, slightly higher than the state average (3.7%,) IDOL 2015a). The largest employment sectors in the county have been mining, government, and agriculture. Employment in the services sector has seen steady growth within the county and as of 2014, represented 30% of total employment (IDOL 2015a). Within the county, relatively low

paying jobs in accommodation, food service, and retail trade are increasing in availability, while higher paying jobs in mining are generally decreasing due to continuing budget cuts within the federal government and reduction of operations at the Thompson Creek Mine, located in southern Custer County.

Alternative A – No Action, Direct/Indirect Effects

Under the No Action Alternative the project would not be constructed and there would be no direct or indirect socioeconomic effects within Custer County.

Alternative B – Applicant's Proposed Action, Direct/Indirect Effects

Under the Applicant's Proposed Action the project would be constructed. Construction work would create demand for goods and services that would be supplied from the local work force. Long term operation of the powerplant would create one new part time job. The production of clean, renewable energy would increase the reliability of local energy supplies.

Vegetation Resources

Affected Environment

Vegetation in the Big Lost River and Upper Salmon River watersheds varies by altitude and moisture regime. Valley bottoms include sagebrush and grassland ecotype in valley uplands. Riparian areas include mature cottonwood, alder, willow and shrubs. Cropland is associated with valley bottoms and generally displaces riparian vegetation and upland sagebrush/grassland vegetation. Sagebrush and grasslands extend into higher elevations and include aspen and juniper stands where soil moisture permits. Higher subalpine elevations feature lodgepole pine, Douglas-fir, whitebark pine, subalpine fir, and spruce. The highest elevations tend to be scree and barren rock with only lichen and shallow-rooted short grasses.

Figures 6 and 7 show the National Land Cover Database vegetation classes that occur near the powerhouse and substation tieline sites. According to the USGS National GAP Analysis database both project sites are within the Inter-Mountain Basins Big Sagebrush Steppe ecological system, which extends for some distance around both sites (USGS, 2011). This system is described as "open sagebrush steppe, which are habitats of mixed grassland with scattered shrubs, contain Wyoming or basin big sagebrush, bitterbrush or other western sage-like shrubs with usually between 10% and 25% cover".

The powerhouse site is located within BLM's Dickey grazing allotment and the substation tieline site is located within BLM's Warm Springs grazing allotment. Both allotments have been monitored periodically by BLM under its rangeland health assessment program. Upland health assessments suggest that most areas of sagebrush-steppe habitat on the allotments are in a condition that is functional and could support sagebrush-dependent species. Some combination of a dominant Wyoming or Mountain Big Sagebrush/bluebunch wheatgrass community is identified as common over approximately 56% of the allotments (BLM, 2006a; BLM, 2000).

Two BLM Special Status plant species, Welsh's buckwheat (*Eriogonum capistratum* var. *welshii*) and Meadow milkvetch (*Astragalus diversifolius*) have been found historically on the Dickey allotment. Welsh's buckwheat is associated with shallow, gravelly clay-loam soils on convex topographic positions. Welsh's buckwheat was last observed in the Dickey allotment in 1976 (Dickey Evaluation and Determination, 2006). Meadow milkvetch grows in moist alkaline meadows associated with spring-fed fen systems (e.g., Birch Creek, Summit Creek) and less commonly in other moist subirrigated meadows. Meadow milkvetch was last documented in the

Dickey allotment in 1947 (Dickey Evaluation and Determination, 2006). No BLM Special Status plant species have been identified historically within the Warm Springs allotment (Warm Springs Evaluation and Determination, 2000).

Both sites have been previously disturbed resulting in vegetation loss. The powerhouse site contains irrigation facilities (buried pipeline, a concrete hydraulic structure, two open ditches) and several light duty roads. The substation tieline site contains a crossing of the improved gravel access road for the Round Valley substation.

A vegetation inventory was performed by the Applicant at both sites on 12-May-2016. Tables 6 and 7 list all plants found at the two sites. No BLM special status plants or noxious weed infestations were found at either site during the inventory. Additionally, BLM conducted a plant clearance for sensitive plants at the powerhouse site on 18-Aug-2016. No sensitive plants or habitat were found. A database search of sensitive plants has been conducted for the entire project area and no known populations of sensitive plants exist within the proposed impact areas.

Alternative A – No Action, Direct/Indirect Effects

Under the No Action Alternative the project would not be built and there would be no change in the vegetation conditions at the project sites.

Alternative B – Applicant's Proposed Action, Direct/Indirect Effects

Under the Applicant's Proposed Action Alternative the project would be built. A total of 0.81 acres of shrub/steppe habitat would be disturbed by project construction (Table 3). Most of the disturbed vegetation would be restored by revegetation efforts following construction. The long term vegetation loss would be less than 0.1 acres, representing the footprint of the permanent facilities (powerhouse, substation, parking area and powerpoles). No BLM special status plant species would be disturbed because none are present. No noxious weed infestations would be spread because no Idaho noxious weeds are present at the sites. The introduction of noxious weeds would be prevented by adherence to Best Management Practices and through monitoring during the revegetation efforts. Overall, due to the small size of the long term impact area (<0.1 acre) the proposed project would have a negligible adverse impact on vegetation resources.

Figure 6. National Land Cover data for the powerhouse site vicinity.

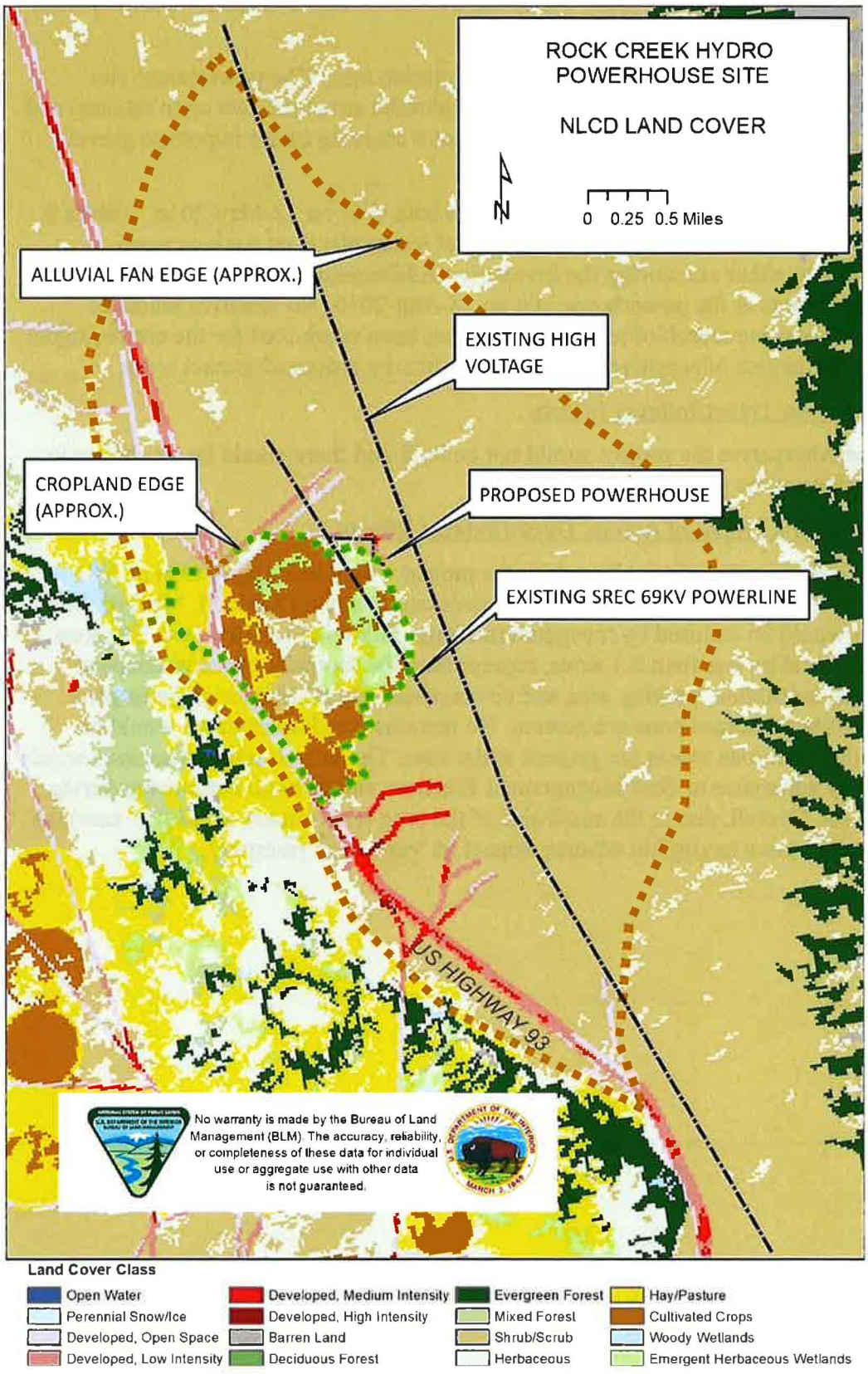


Figure 7. National Land Cover Database data for the substation tieline site vicinity.

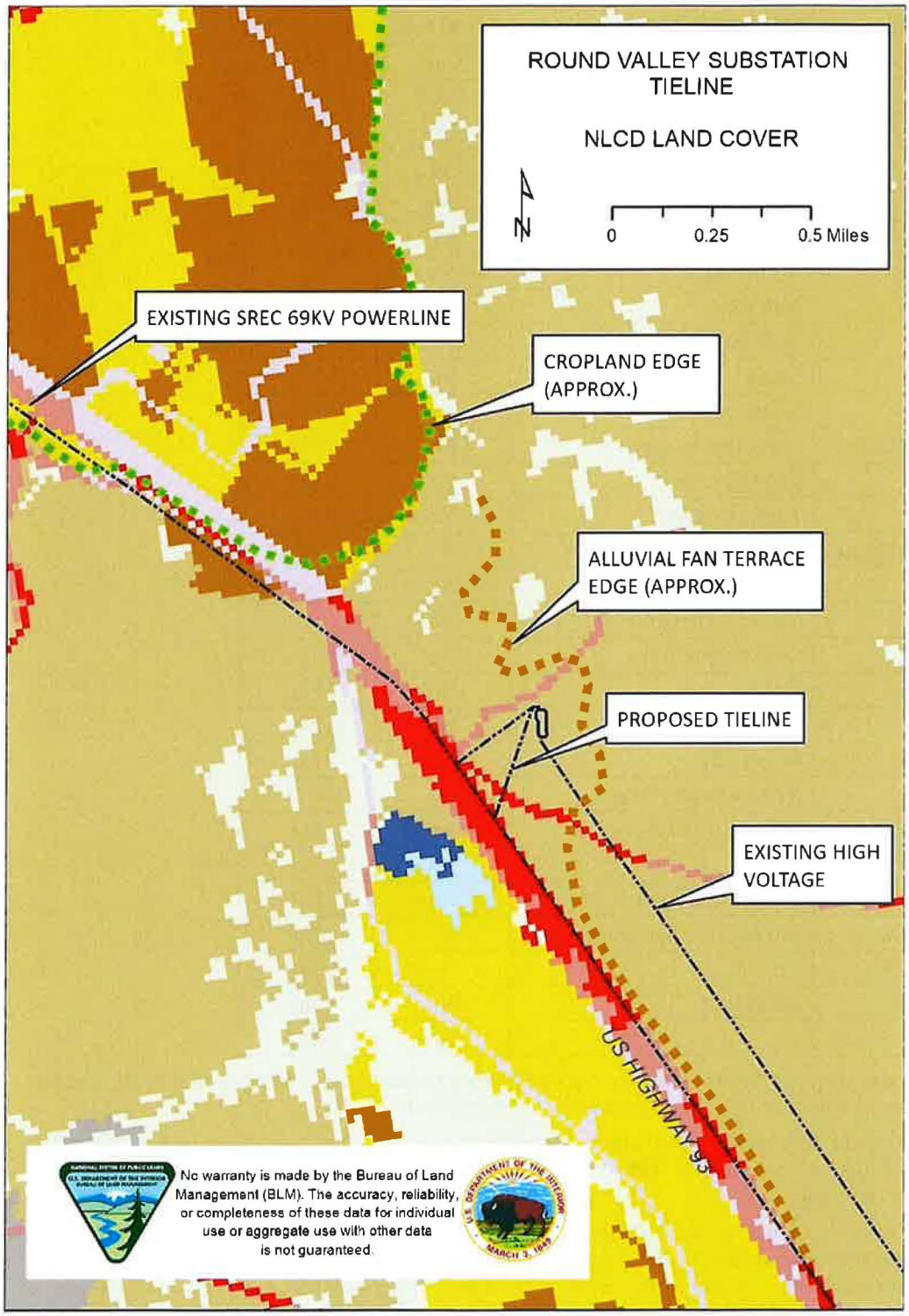


Table 6. Complete list of plants found within the powerhouse survey site.

SCIENTIFIC NAME	COMMON NAME	BLM SSS	ID WEED
Achillia millefolium	Yarrow	No	No
Alyssum alyssoides	Pale madwort	No	No
Antenarria parviflora	Small-leaf pussytoe	No	No
Arabis spp.	Rockcress	No	No
Artemisia tridentata	Big sagebrush	No	No
Astragalus spp.[1]	Milkvetch	No	No
Astragalus spp.[2]	Milkvetch	No	No
Astragalus spp.[3]	Milkvetch	No	No
Borage	Starflower	No	No
Carex spp.	Sedge	No	No
Castelleja spp.	Indian paintbrush	No	No
Ceratocephala testiculata	Curveseed butterwort	No	No
Chenopodium album	Lambsquarters	No	No
Chorispora tenella	Purple mustard	No	No
Chrysothamnus viscidiflorus	Yellow rabbitbrush	No	No
Delphinium spp.	Larkspur	No	No
Descurainia pinnata	Western Tansymustard	No	No
Ericameria nauseosa	Gray rabbitbrush	No	No
Erigeron spp.	Daisy	No	No
Haplopappus spp.	Asteraceae	No	No
Lomatium triternatum	Biscuitroot	No	No
Melilotus officionale	Yellow sweet clover	No	No
Pediocactus simpsonii	Mountain ball cactus	No	No
Phlox spp.	Phlox	No	No
Poa secunda	Sandberg bluegrass	No	No
Pseudoregnaria spicata	Bluebunch wheatgrass	No	No
Ribes spp.	Currant	No	No
Taraxicum officionale	Dandelion	No	No
UForb	----	No	No

[1]*Astragalus spp* (woody seed pod) has distinctly woody 2-celled seedpods (excludes *A. amblytropis*, *A. amnis-amissi*, *A. leptaleus* and *A. aquilonius)* and is short, <10cm (excludes *A. diversifolius*).

[2]*Astragalus spp* (purple flowers) consistently has pinnately compound leaves with 7 ovate-obovate leaflets (excludes *A. amblytropis* and *A. diversifolius*), the calyx is ~11mm (excludes *A. amnis-amissi* and *A. aquilonius)* and has a dark purple flower *(*excludes *A. leptaleus).*

[3]*Astragalus spp* (white flower) is a short, <10cm (excludes *A. diversifolius*) plant that has pinnately compound leaves with 9-14 linear-lanceolate leaflets (excludes *A. amblytropis*), the calyx is 2-3mm (excludes *A. amnis amissi* and *A. aquilonius*) with very short calyx teeth, much < ½ the length of the tube, (further excludes *A. diversifolius*) and the flower banner is 5-7mm (excludes *A. leptaleus*)

Table 7. Complete list of plants found within the substation survey site.

SCIENTIFIC NAME	COMMON NAME	BLM SSS	ID WEED
Chrysothamnus viscidiflorus	Yellow rabbitbrush	No	No
Ericameria nauseosa	Gray rabbitbrush	No	No
Atriplex confertiflora	Shadscale saltbush	No	No
Opuntia polyacantha	pricklypear	No	No
Sphaeralcea munroana	Munro's globemallow	No	No
Tetradymia cenescens	spineless horsebrush	No	No
Phlox sp.	Phlox	No	No
Hordeum jubatum	Foxtail barley	No	No
Leymus cinereus	Basin wild rye	No	No
Descurainea pinnata	Western tansymustard	No	No
Bromus tectorum	Cheat grass	No	No
Artemisia tridentate	Big sagebrush	No	No
Penstemon spp.	Beardtongue	No	No
Pediocactus simpsonii	Mountain ball cactus	No	No
Erigeron spp.	Daisy	No	No
Alyssum desertorum	Desert madwort	No	No
Agropyron cristatum	Crested wheatgrass	No	No
Halogeton glomeratus	Saltlover	No	No
Poa spp.	Bluegrass	No	No
Gutierrezia sarothrae	Broom snakeweed	No	No

Visual Resources

Affected Environment

The project area is managed by BLM under the provisions of Visual Management Class II (BLM, 1999). The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The powerhouse site (Figure 8) is located in the central part of an extensive alluvial fan complex that extends for about 7 miles on the east side of Highway 93, sloping gently downward from the Lost River Range mountain front. The site occurs within the widest part of the fan complex, where the distance between the highway and the mountain front is approximately 2.5 miles. Vegetation on the fan complex consists almost entirely of sagebrush steppe community. The central part of the fan is dissected by several shallow stream drainages that emanate from the mountain front and terminate at a large parcel (~ 800 acres) of irrigated cropland located at the base of the alluvial fan adjacent to the highway. The dominant visual feature looking toward the project area from highway viewpoints is the Lost River Range mountain front, which would be visible within the Foreground-Middleground Zone at any point within the upper Big Lost River valley. Secondary features creating visual contrast with the sagebrush expanse would be the irrigated cropland parcel and the stream drainages. Human activity would be apparent from all

eastward looking viewpoints along the highway due to the presence of the cropland, 10 – 15 buildings scattered within the cropland area, and two powerlines. One powerline is located within the Highway 93 right-of-way and the second is located on the alluvial fan about 5,000 – 6,000 feet east of and parallel to Highway 93.

Figure 8. Panoramic view of powerhouse site.



The visual setting of the substation tieline site is similar to the powerhouse site. The tieline site is located on another alluvial fan complex that extends for about 3 miles on the east side of Highway 93 just south of Challis, ID. This fan complex slopes gently downward for about 1 mile from the Lost River Range mountain front. The fan possesses a distinct terrace at its lower end that dominates the Foreground Zone (and blocks views of the mountain front) from viewpoints on the highway south of the proposed tieline site. To the north of the site Highway 93 bends to the west. Beyond the bend the northeastern side of the highway is bounded by a large parcel (~9,000 acres) of irrigated cropland flanking the town of Challis. The cropland parcel is the dominant visual feature of the Foreground Zone north of the site. Human activity would be apparent from all highway viewpoints due to the presence of the cropland, the existing substation, a powerline running continuously parallel to the highway, and an existing tieline extending from the highway powerline to the substation.

Alternative A – No Action, Direct/Indirect Effects

Under the No Action Alternative the project would not be built and the viewsheds would remain unchanged as described above.

Alternative B – Applicant's Proposed Action, Direct/Indirect Effects

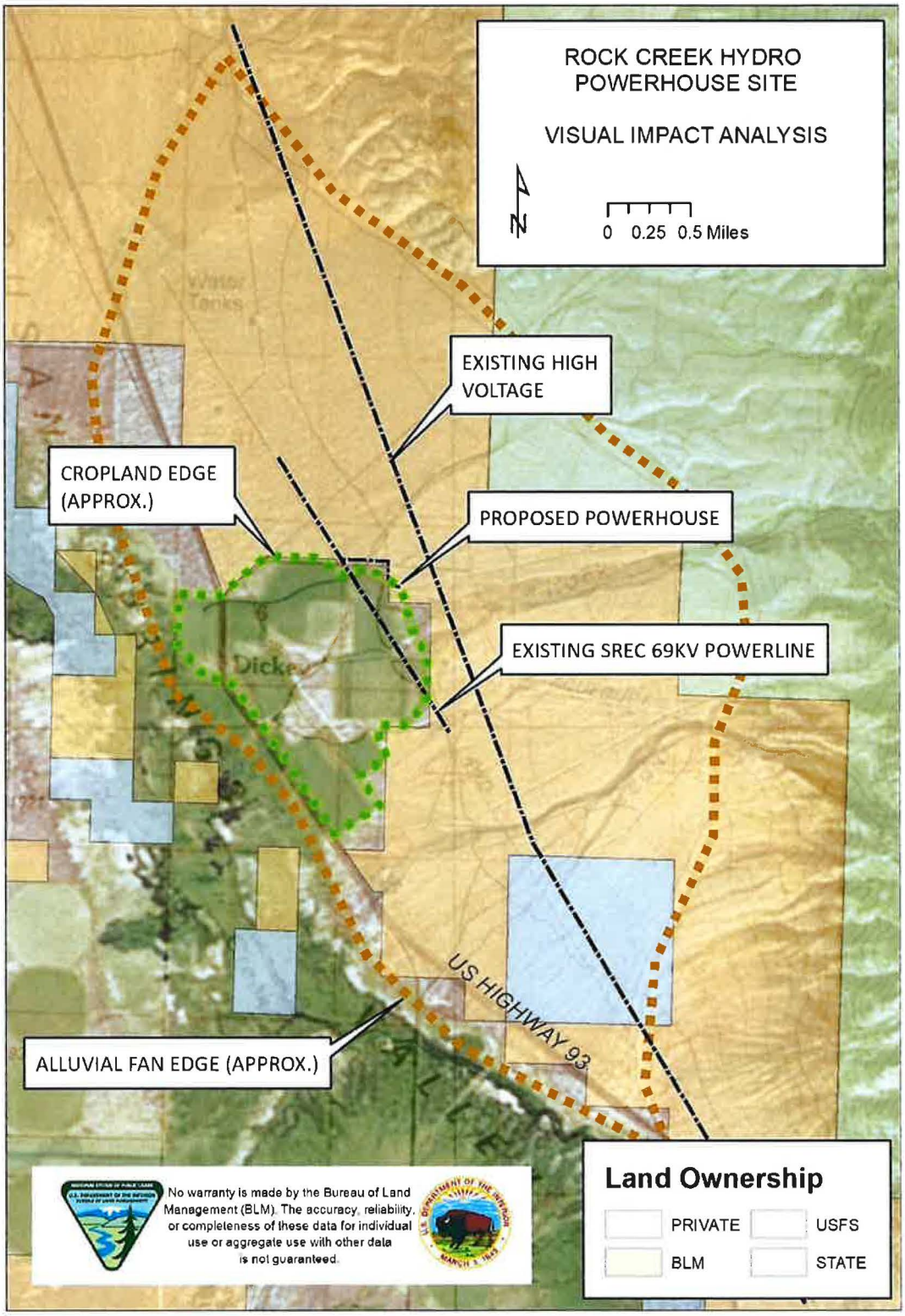
Under Proposed Action the viewsheds would be modified by the construction of project features. The new visual features at the powerhouse site would be the powerhouse building and about 2,000 ft of powerline. The new visual features at the substation tieline site would be the 1,500-ft tieline.

The powerhouse, if constructed, would be a metal building approximately 23-ft x 33-ft x 15-ft tall (Figure 9). The building would be colored to blend with the landscape but would be visible from the highway at the edge of the irrigated cropland. The building would be similar in size and shape to other buildings in the vicinity and, due to its close proximity to the irrigated cropland, would most likely appear to be associated with the agricultural operations. Similarly, the new powerline consisting of approximately 60-ft tall wooden powerpoles would be visible from the highway but would, from many viewpoints, be indistinguishable from existing powerlines in both the foreground (SREC 69 kV) and background high voltage line (see Figure 10). Overall the visual impact of the powerhouse site construction would be to modify some visual details but not to alter the overall mixed agricultural/shrubland character of the viewshed. The view of the mountain front would not be adversely affected.

Figure 9. Photograph of two powerhouses similar to the size of the proposed powerhouse and located in a similar setting. The right powerhouse shows a typical metal building colored to blend with the landscape.



Figure 10. Visual impact analysis for powerhouse site (see text).

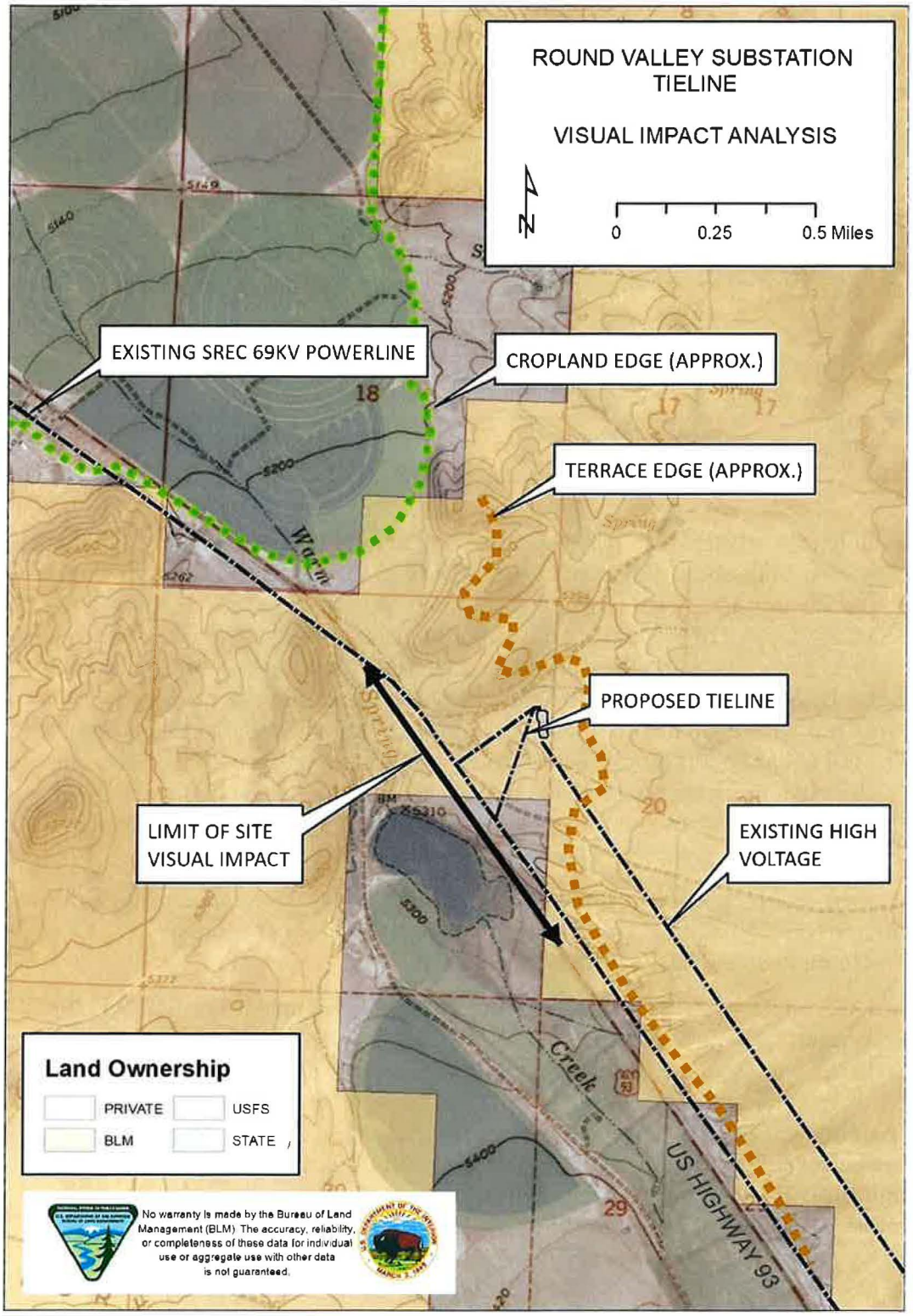


The substation tieline, if constructed, would be a line of 5 wooden powerpoles, approximately 60-ft tall, extending from the east side of Highway 93 up the alluvial fan slope for about ¼ mile to the existing Round Valley substation. The tieline would look similar to an existing tieline in the immediate vicinity that also extends from the east side of Highway 93 to the Round Valley substation (Figure 11). Approaching the project area from the north the tieline site is screened from highway views by topography and the dominant visual feature is the irrigated cropland in the Foreground Zone with the alluvial fan and mountain front visible in the Middleground Zone. Approaching on the highway from the south the dominant visual feature is the alluvial fan terrace in the Foreground Zone. The new substation and tieline site would only be visible from the highway for about one mile, a stretch that would also have continuous views of the SREC transmission line, the existing tieline, the substation and a high voltage line (see Figure 12).

Figure 11. Photograph of existing 69 kV tieline extending from Highway 93 to the Round Valley substation (seen in background). The proposed line would connect to the substation at the same location as the line shown in the picture.



Figure 12. Visual impact analysis for substation tieline site (see text).



Wildlife Resources

Affected Environment

There are three terrestrial wildlife species that are identified by U. S. Fish and Wildlife Service (FWS) for consideration under the Endangered Species Act (ESA) that have been documented or have the potential to occur in the BLM CFO (Table 8).

Table 8. Threatened, Endangered, Candidate and Proposed wildlife species with the potential to occur in the proposed project areas.

COMMON NAME	SCIENTIFIC NAME	STATUS	GENERAL HABITAT
Canada lynx	*Lynx canadensis*	Threatened	Conifer
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	Riparian
North American wolverine	*Gulo gulo luscus*	Proposed Threatened	Areas of deep, persistent, and reliable spring snow cover

There are nine Canada lynx Analysis Units (LAUs) comprising a total of approximately 5,500 acres of CFO-administered lands and a designated Canada lynx travel corridor, or linkage area which extends from the Sawtooth National Forest (White Knob Mountains) to the Salmon National Forest (BLM, 2006). All of the LAUs on BLM-administered lands are connected to LAUs on National Forest lands. Based on the Canada lynx Conservation Assessment and Strategy (Reudiger et al., 2000), BLM-administered lands within the CFO do not provide primary lynx habitat. No recent lynx presence is on record in any LAU on BLM-administered lands or along the linkage corridor. The IDFG has conducted snowtrack route surveys through the Salmon Region office since 2003, including a route initiated in 2004 that is closely associated with the CFO; an additional winter reconnaissance survey was conducted on the Challis National Forest near BLM-administered land. None of the surveyed routes have documented Canada lynx activities

Suitable yellow-billed cuckoo breeding habitat is defined as large blocks of riparian habitat with dense understory foliage (USFWS 2001). The proposed project area does not contain any potential, suitable breeding habitats for the yellow-billed cuckoo.

According to the USFWS Species Assessment and Listing Priority Assignment Form (2011) for North American wolverines, "wolverines do not appear to specialize on specific vegetation or geological habitat aspects, but instead select areas that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season (Copeland et al. 2010, entire). The requirement of cold, snowy conditions means that, in the southern portion of the species' range where ambient temperatures are warmest, wolverine distribution is restricted to high elevations, while at more northerly latitudes, wolverines are present at lower elevations and even at sea level in the far north (Copeland et al. 2010). Deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the contiguous United States (Aubry et al. 2007, pp. 2152-2156; Copeland et al. 2010, entire)." None of the habitat characteristics suitable for wolverines are present within the proposed project area.

The Canada lynx, yellow-billed cuckoo, and the wolverine will not be discussed further in this analysis due to a lack of suitable habitat and/or the lack of any known presence of these species within the project area.

Greater Sage-Grouse and Other BLM Type 2 Sensitive Species

Twenty-two BLM Type 2 Sensitive Species have the potential to occur in the vicinity of the project sites (Table 9). An additional seven species listed by Idaho Fish and Game as Species of Greatest Conservation Need may also occur in the vicinity of the sites.

Table 9. List of Idaho BLM Type 2 Sensitive Species and Idaho Species of Greatest Conservation Need with potential to occur in the project area.

COMMON NAME	SCIENTIFIC NAME	BLM TYPE 2 SENSITIVE SPECIES	IDAHO SGCN
Trumpeter Swan	*Cygnus buccinators*		X
Greater Sage-grouse	*Centrocercus urophosionus*	X	X
Common Loon	*Govia immer*		X
Western Grebe	*Aechmophorus occidentalis*		X
Bald Eagle	*Holiaeetus leucocephalus*	X	
Ferruginous Hawk	*Buteo regalis*	X	X
Golden Eagle	*Aquila chrysaetos*	X	X
Sandhill Crane	*Grus Canadensis*		X
Long-billed Curlew	*Numenius omericanus*	X	X
Black Tern	*Chlidonios niger*		X
Burrowing Owl	*Athene cuniculario*	X	X
Short-eared Owl	*Asia flamneus*	X	X
Common Nighthawk	*Chordeiles minor*		X
Loggerhead Shrike	*Lanius ludovicionus*	X	
Sage Thrasher	*Oreoscoptes montonus*		X
Sagebrush Sparrow	*Amphispizo belli*	X	X
Brewer's Sparrow	*Spizella breweri*	X	
Townsend's Big-eared Bat	*Corynorhinus townsendii*	X	X
Silver-haired Bat	*Lasionycteris noctivogons*	X	X
Hoary Bat	*Losiurus cinereus*	X	X
Western Small-footed Myotis	*Myotis ciliolobrum*	X	X
Long-eared Myotis	*Myotis evotis*	X	
Little Brown Bat	*Myotis lucifugus*	X	X
Long-legged Myotis	*Myotis volons*	X	
Yuma Myotis	*Myotis yumonensis*	X	
Pallid Bat	*Antrozous pallidus*	X	
Big Brown Bat	*Eptesicus fuscus*	X	X
Spotted Bat	*Eudermo moculoto*	X	
Pygmy Rabbit	*Brochylogus idohoensis*	X	X

Although the impact area of both project sites is sagebrush-steppe habitat, each site is adjacent to notable wetlands of high regional importance to migratory birds. The substation tieline site is immediately east of the Bar-D Reservoir, a large reservoir/wetland used by breeding and migratory waterfowl, waterbirds, shorebirds, raptors, and songbirds. The powerhouse site is within one mile of Chilly Slough, a 6,000-acre high-desert, spring-fed wetland that supports a wide variety of nesting and migrating birds. Approximately 500 breeding and 5,000 migrating mallards, gadwall, and cinnamon teal can occupy the wetland. Several BLM Type 2 Sensitive species and SGCN breed in or migrate through the wetland including, trumpeter swans and long-billed curlew.

The ARMPA for Idaho and Southwestern Montana is now the baseline plan for managing GRSG in Idaho and southwestern Montana in the following district offices: Boise, Twin Falls, and Idaho Falls in Idaho and Western Montana in Montana. The ARMPA adopts the management described in the Idaho and Southwest Montana Greater Sage-Grouse Proposed Resource Management Plan Amendment and Final Environmental Impact Statement (2015), with modifications and clarifications as described in the *Modifications and Clarifications* section of the record of decision (ROD).

In the event there are inconsistencies or discrepancies with previously approved RMPs, the ARMPA's decisions will be followed, unless there are more restrictive decisions in the existing plans. The BLM will continue to tier to statewide, national, and programmatic EISs and other NEPA and planning documents and will apply RDFs or other management protocols in other planning documents after appropriate site-specific analysis.

All future resource authorizations and actions in GRSG habitat will conform to or be consistent with the decisions contained in the ARMPA. All existing operations and activities authorized under permits, contracts, cooperative agreements, or other authorizations will be modified, as necessary and appropriate, to conform to this plan amendment within a reasonable time frame. However, the ARMPA does not repeal valid existing rights on public lands. A valid existing right is a claim or authorization that takes precedence over the decisions developed in this plan. If such authorizations come up for review and can be modified, they will also be brought into conformance with the plan amendment, as appropriate.

The Approved Resource Management Plan Amendment (ARMPA) is the result of the March 2010 US Fish and Wildlife Service (USFWS) 12-Month Finding for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered (75 *Federal Register* 13910, March 23, 2010; USFWS 2010a). In that finding, the USFWS concluded that the Greater Sage-Grouse (GRSG) was "warranted, but precluded" for listing as a threatened or endangered species.

The USFWS reviewed the status of and threats to the GRSG in relation to the five listing factors provided in Section 4(a)(1) of the ESA. The USFWS determined that Factor A, "the present or threatened destruction, modification, or curtailment of the habitat or range of the GRSG," and Factor D, "the inadequacy of existing regulatory mechanisms," posed "a significant threat to the GRSG now and in the foreseeable future" (USFWS 2010a). The USFWS identified the principal regulatory mechanisms for the BLM as conservation measures in RMPs.

The purpose of the ARMPA is to identify and incorporate appropriate measures in existing land use plans to conserve, enhance, and restore GRSG habitat by avoiding, minimizing, or compensating for unavoidable impacts on GRSG habitat in the context of the BLM's multiple use and sustained yield mission under FLPMA. Changes in management of GRSG habitats are necessary to avoid the continued decline of populations across the species' range. The ARMPA focuses on areas affected by threats to GRSG habitat identified by the USFWS in the March 2010 listing decision and in the USFWS COT 2013 report. One of the major threats to GRSG or their habitat on BLM-administered lands in the Idaho and southwestern Montana subregion was fragmentation of GRSG habitat due to infrastructure development, such as rights-of-way and renewable energy development.

GRSG habitat on BLM-administered lands in the decision area consists of lands allocated as priority habitat management areas (PHMA), important habitat management areas (IHMA), and general habitat management areas (GHMA). PHMA, IHMA, and GHMA are defined as follows:

PHMA—BLM-administered lands identified as having the highest value to maintaining sustainable GRSG populations. Areas of PHMA largely coincide with areas identified as priority areas for conservation in the USFWS's COT report. These areas include breeding, late brood-rearing, winter concentration areas, and migration or connectivity corridors.

IHMA—BLM-administered lands that provide a management buffer for PHMA and connect patches of PHMA. IHMA encompass areas of generally moderate to high conservation value habitat and populations but that are not as important as PHMA.

GHMA—BLM-administered lands where some special management will apply to sustain GRSG populations; areas of occupied seasonal or year-round habitat outside of PHMA or IHMA.

All parts of the Proposed Action are within the Challis Sage-Grouse Planning Area. The facilities would occur in functional sagebrush-steppe habitat that could support sagebrush-dependent species such as sage-grouse. The ARMPA has designated all potentially affected lands within the proposed powerhouse right-of-way as "priority habitat" (Figure 13) and all potentially affected lands within the proposed substation tieline right-of-way as "important habitat" (Figure 14). The nearest known lek (ID 7C026) to the powerhouse site occurs about 1.4 miles away. This lek had a high count of nine birds in 2001. However, additional surveys completed in 2012, 2014, 2015, and 2016 failed to detect any lekking activity. Five consecutive years of undetected lekking activity must be recorded before the management status of a lek site can be determined "unoccupied"; therefore, the status of lek 7C026 is currently "undetermined". The next nearest lek (ID 7C027) with an "occupied" status is approximately 3.75 miles north of the powerhouse and had a high count of 35 breeding males during the 2016 breeding season. The nearest lek to the substation tieline site is approximately 8 miles away.

Additionally, the entire powerhouse site occurs within acreage designated as a Sagebrush Focal Area (SFA). SFAs correspond to areas identified by the U.S. Fish and Wildlife Service as GRSG "strongholds" and are defined in the ARMPA as "a subset of priority habitat most vital to the species persistence within which we recommend the strongest levels of protection" (USFWS 2014).

SFAs are areas of highest habitat value for GRSG and are managed to avoid new surface disturbance for the following reasons:

- The contains high-quality sagebrush habitat and the highest breeding bird densities
- They have been identified as essential to conservation and persistence of the species
- They represent a preponderance of current Federal ownership
- In some cases, they are next to protected areas that serve to anchor the conservation importance of the landscape

Figure 13.GRSG Habitat Management Area designations near the powerhouse site. (Key: GHMA – General; IHMA – Important; PHMA/SFA – Priority/Sagebrush Focal Area).

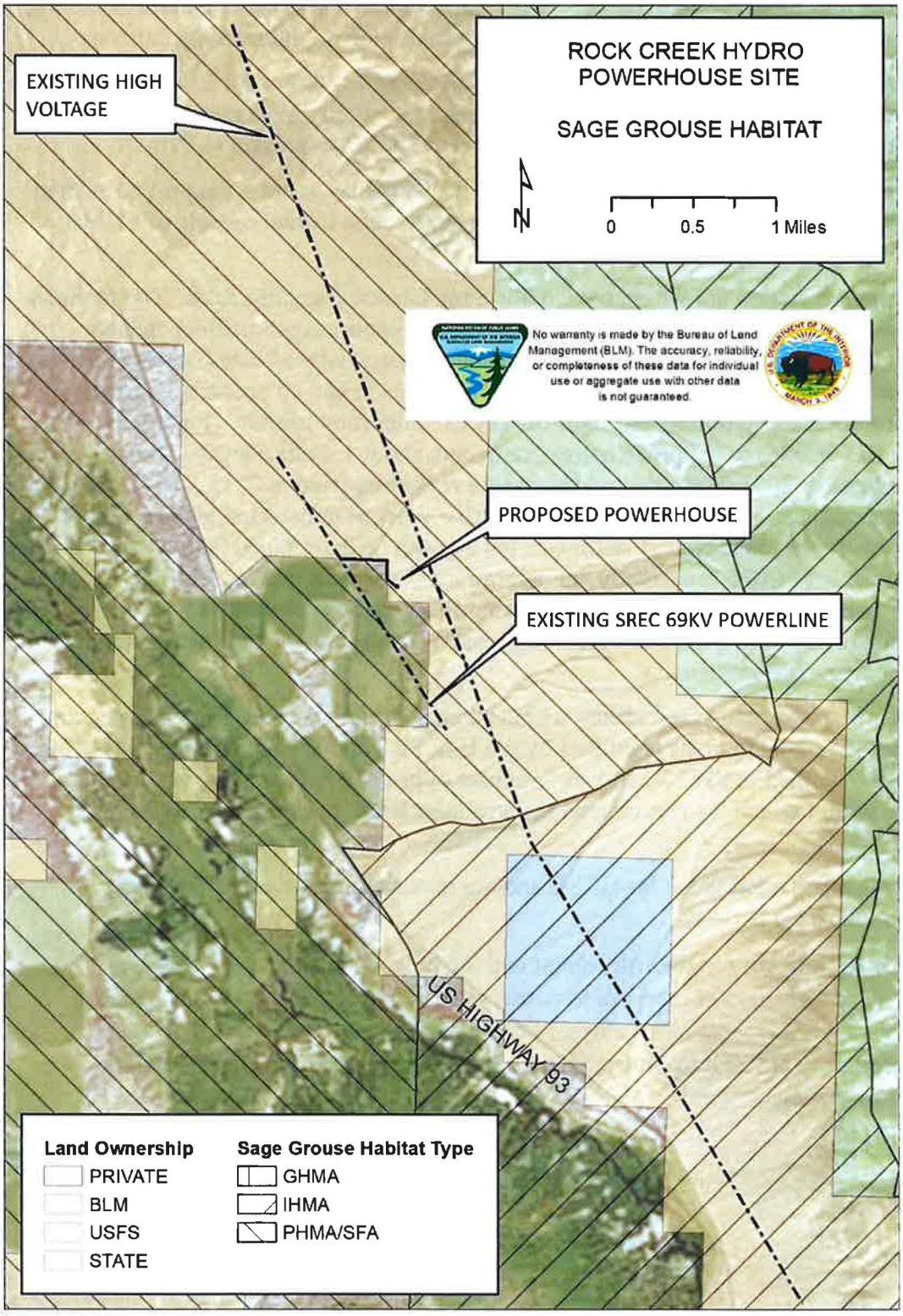
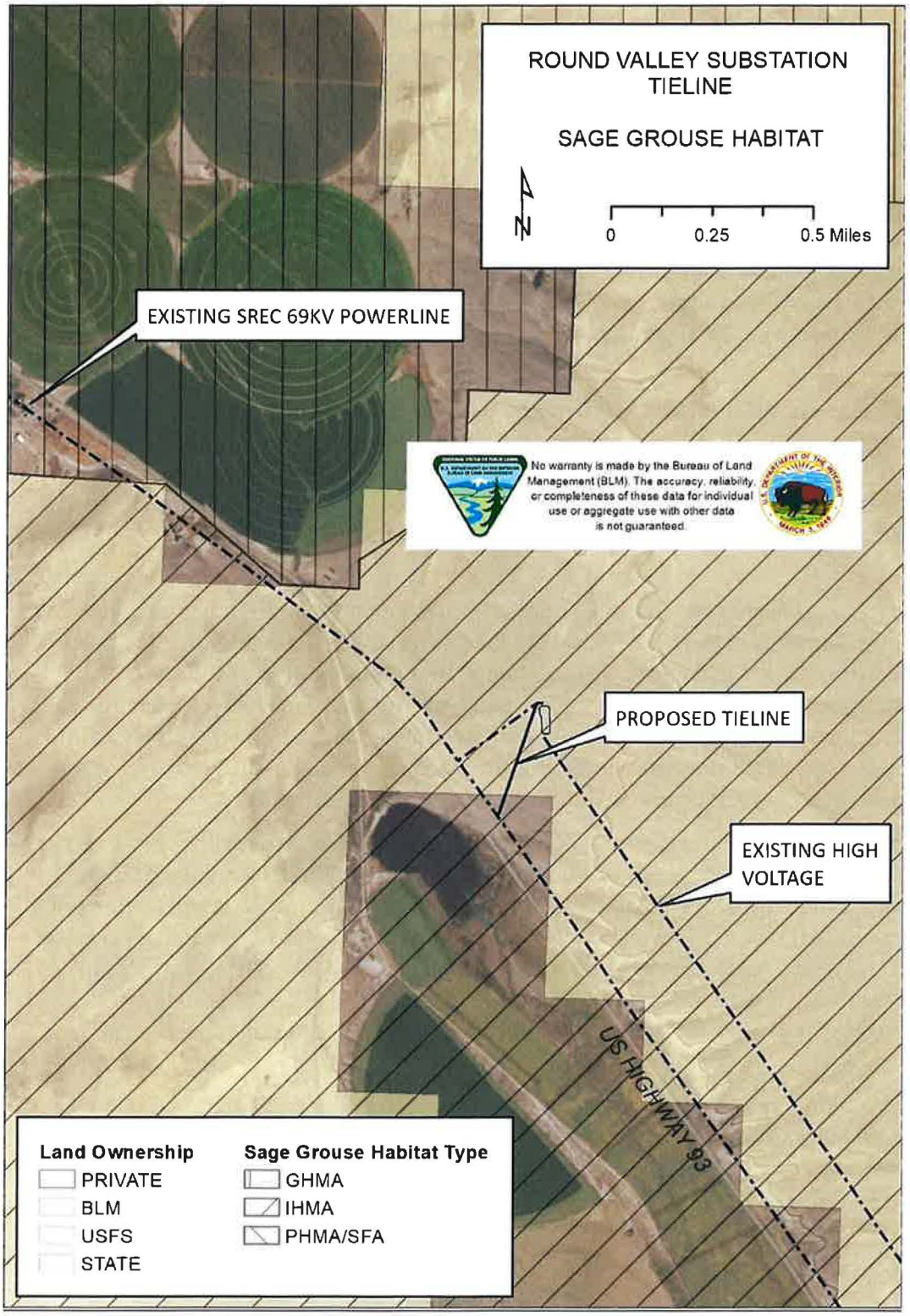


Figure 14. GRSG Habitat Management Area designations in the vicinity of the substation tieline site. (Key: GHMA – General; IHMA – Important; PHMA/SFA – Priority/Sagebrush Focal Area).



Alternative A – No Action, Direct/Indirect Effects

Under the No Action Alternative the project would not be built and there would be no change in the habitat available for sage-grouse or other special status species and no actions that could temporarily displace any sage-grouse or other special status species currently using the project area.

Alternative B – Applicant's Proposed Action, Direct/Indirect Effects

Construction activities at both the powerhouse and substation tieline site would have the potential to displace sage grouse or other special status species using the disturbance area and the surrounding area for about ¼ mile. This impact would occur during construction activities, estimated to be about six months at the powerhouse site and two weeks at the substation tieline site. Once construction is complete the amount of human activity at the sites would be minimal and would be unlikely to prevent sage-grouse or other special status species from using available habitat at each site.

Approximately 0.18 acres of priority/SFA habitat would be disturbed by construction at the powerhouse site. Revegetation efforts would recover some of this habitat so that the long term loss of priority/SFA habitat would be about 0.1 acres. Approximately 0.57 acres of important habitat would be disturbed by construction of the substation tieline site. Revegetation efforts would recover most of this habitat so that the long term loss of important habitat would be negligible.

The construction of new powerline at each site could increase the potential for avian predation by creating predator perching sites. The risk of avian predation already exists near both sites due to the presence of the SREC 69 kV and a high voltage line within about ¼ mile of the sites. However, the construction of new powerlines would cause an incremental adverse impact on sage-grouse. By installing anti-perching devices on all new powerpoles this incremental impact would be minimized or eliminated. This measure would also help reduce predation pressure on pygmy rabbits, another BLM Type 2 with the potential to occur in the project vicinity.

A secondary powerline concern is the tendency for sage grouse to avoid areas with visible vertical structures (like power poles), which could cause them to abandon traditional lek sites (IDFG, 2006). This avoidance behavior is presumably due to an association of these structures with avian predation. This secondary threat is not well understood or documented but would already occur at both project sites due to the presence of existing powerlines. The new powerlines would not substantially increase the total area subject to avoidance behavior. No lek sites are known to exist within 1.4 miles from the powerhouse site and within 8 miles of the substation tieline site.

Power line expansion associated with the project also has the potential to increase the risk of collision and electrocution of migratory and resident birds attracted to nearby wetlands. This impact will be mitigated by installing bird diverters on all new powerlines to increase their visibility to wildlife.

CHAPTER 4 – CUMULATIVE EFFECTS OF ALTERNATIVES

Cumulative impacts are defined as "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes other such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time" (40 CFR§ 1508.7).

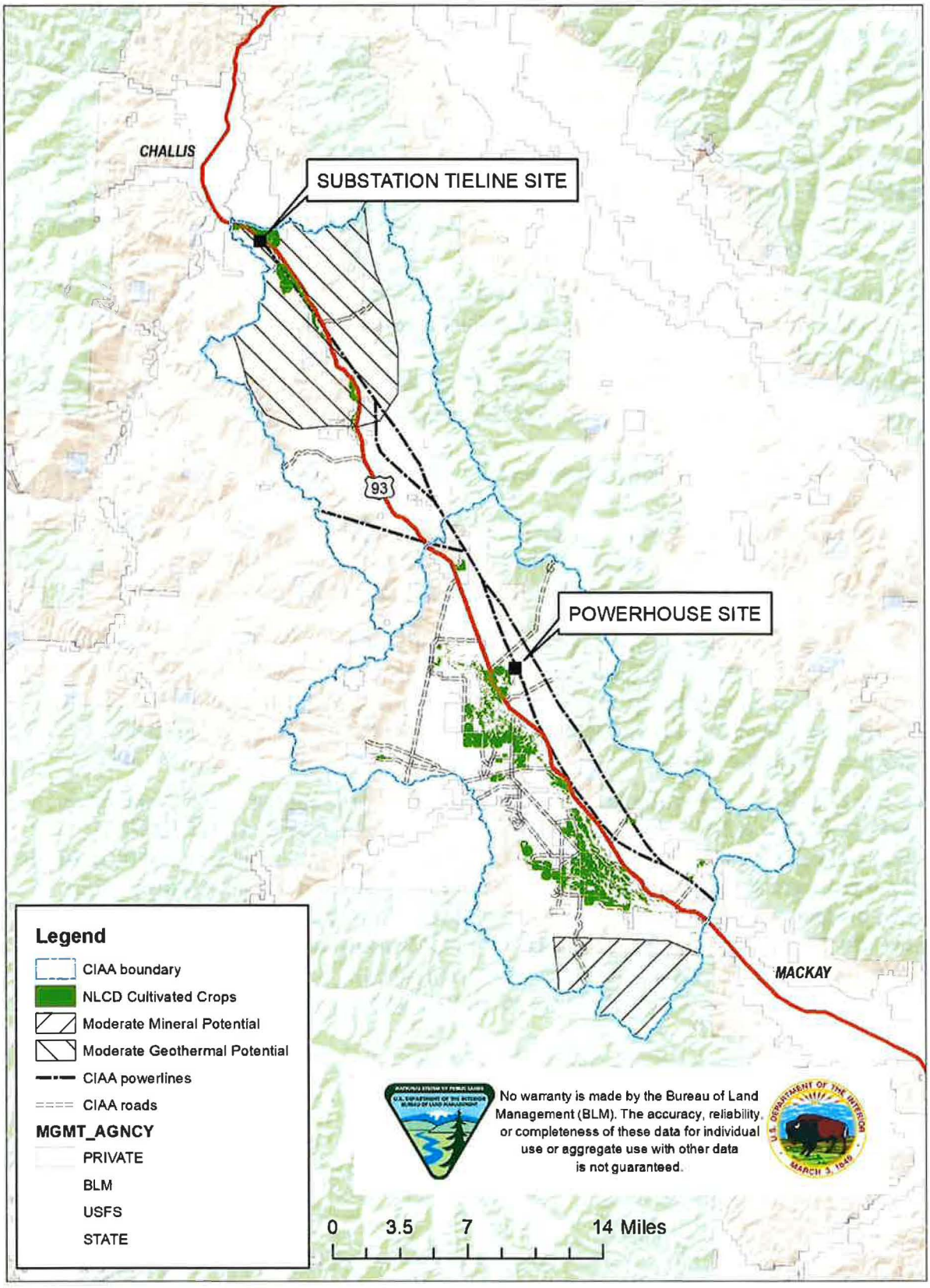
The BLM NEPA Handbook (H-1790-1) recommends an approach to NEPA's required cumulative effects analysis that starts with the identification of preliminary issues for analysis. Generally, the Handbook presents several steps in the cumulative effects analysis that, for each of these issues for analysis, the cumulative effects assessment should:

- Determine the geographic scope for the impacts analysis;
- Determine the temporal scope for the determination of past actions that contribute to cumulative impacts;
- Describe the effects of past and present actions within the geographic and temporal scope;
- Describe the effects of reasonably foreseeable actions within the geographic and temporal scope;
- Describe the interaction among the combined effects of the past, present, and reasonably foreseeable actions;
- Describe the interaction among the combined effects of the past, present, reasonably foreseeable actions with the effects of the proposed action and alternatives;
- Determine, as appropriate, if mitigation should be considered.

Cumulative impacts analysis for each resource impacted by the alternatives included a review of both the incremental contribution of past, present, and reasonably foreseeable actions, and if those impacts, when analyzed cumulatively, would be significant. Due to the infeasibility of quantitative analysis for many of the affected resources, cumulative effects are discussed qualitatively in the sections below.

The Upper Big Lost River and Warm Spring Creek sub-basins were chosen as the Cumulative Impact Area of Analysis (CIAA; Figure 15) for this analysis. Guidance from CEQ (1997) indicates that watersheds are commonly used for CIAA boundaries, and the watershed boundary is particularly appropriate for this analysis as activities occurring both up and downstream of the project could contribute to the cumulative impacts resulting from implementation of any of the alternatives. The CIAA encompasses approximately 301,224 acres in Custer County including 161,147 acres managed by BLM, 89,263 acres managed by the US Forest Service, 13,298 acres managed by the State of Idaho, and 37,517 acres of private land.

Figure 15. Cumulative Impact Area of Analysis (CIAA).



Past, Present and Reasonably Foreseeable Actions

Past, present, and reasonably foreseeable actions that have, or are anticipated to impact lands within the CIAA include livestock grazing, infrastructure development, and private land agriculture projects (Table 10).

Table 10. Past, present and reasonably foreseeable actions in the CIAA.

Type of Activity	Past and Present	Reasonably Foreseeable
Agricultural Development	Private lands in the CIAA totaling 37,517 acres are irrigated for hay and are typically grazed by livestock at some period during the year.	Use of private lands within the CIAA is not anticipated to change, although the conservation of water is expected to become increasingly important.
Infrastructural Development	106 miles of powerlines 223.3 miles of improved (2WD) roads No railroads community mineral material sites (sand, gravel, stone, etc.)	There are no new or proposed powerlines (other than the proposed action). There are no new or proposed roads. Low likelihood for geothermal development except for moderate area at north end of CIAA near Challis. Low likelihood for locatable mineral development except for moderate area at southern end of CIAA
Livestock Grazing	The CIAA overlaps with 15 active BLM grazing allotments. Many of the private lands in the lower elevation portions of the sub-basin are also utilized for livestock grazing, particularly during the winter months.	**BLM**- renewing/modifying grazing permits as they expire.

Cumulative Impacts Associated with Past Present and Reasonably Foreseeable Future Actions

Each of the past, present, and reasonably foreseeable actions contribute an incremental environmental effect that can be described using the same indicators as those in the Environmental Consequences section presented previously in this document. The accumulated effect(s) of these actions on each resource provides the baseline environmental impacts within the CIAA. The contribution of each of the alternatives, when combined with this baseline, describes the cumulative impact on the resource for each respective alternative.

Economic and Social Values

The CIAA contains approximately 38,000 acres of private lands. Most of these lands consist of small ranching operations that have been in the same family for multiple generations. People who

reside in the valley cite the slower pace of life, very low crime rate, high levels of independence, interpersonal trust and interaction, continuation of the ranching way of life, and the scenic vistas as reasons for residing within the valley. Reasonably foreseeable actions that may impact economic and social values in the CIAA would include the continued maintenance and improvement of small ranch operations, growth of recreation opportunities and resulting increase in visitors from outside the immediate area, and development of occasional small, non-agricultural commercial/industrial projects such as the Proposed Action.

The Proposed Action would constitute an additional use of the same land and water resources that have sustained residents of the CIAA since the late 1800's. The project is consistent with the scale of past and present activities in the CIAA, both economically and socially. When viewed in context of the existing baseline, implementation of this alternative would contribute beneficially to cumulative long term economic growth within the CIAA, while also being consistent with existing social values.

Under the No Action Alternative, there would not be either beneficial or adverse social or economic impacts. The social and economic climates would continue as they are currently; therefore, no cumulative impacts are anticipated to occur as a result of this alternative.

Vegetation Resources

Past and present land use and management have impacted vegetation across the CIAA. The conversion of native vegetation to cultivated lands under irrigation has resulted in a decrease in acreage of native vegetation, and a subsequent decline in the abundance of native species across lands where this has occurred. Historic grazing management (prior to 1950) resulted in widespread impacts to vegetation, including large areas of bare ground. Changes in grazing management over the last seven decades has repaired much of that damage, however there are still areas where vegetative impacts related to past activities is evident. Even with the past and present impacts, much of the vegetation across the landscape is in near native conditions, and exists as it would without the impacts of anthropogenic development. Reasonably foreseeable actions that could impact vegetation resources include the continuation and evolution of grazing management practices and continued maintenance and improvement of small ranch operations within the CIAA.

The proposed project footprint would contribute minimal effects, affecting approximately 0.81 acres within the 300,000 acre CIAA. Therefore, cumulative impacts to vegetation resources are expected to be minor as a result of the Proposed Action.

Under the No Action Alternative, impacts would accumulate over time as a result of past actions, continued grazing and agriculture use, and reasonably foreseeable actions; however, the No Action Alternative would not contribute additional impacts to vegetation resources.

Visual Resources

The CIAA contains approximately 38,000 acres of private lands. Private landowners engaged in farming and ranching have modified the natural landscape causing a change in the scenic details of the CIAA particularly in the valley bottoms. Cultivated crops have replaced native vegetation and numerous small farm and ranch buildings have been constructed. Infrastructure development has accompanied permanent settlement, consisting mainly of roads and powerlines to serve residents and to connect residents with larger population centers. Due to the openness of the terrain one or more of these anthropogenic features are visible from almost any point within the CIAA. Reasonably foreseeable actions that could impact visual resources include continued maintenance and improvement of small ranch operation, roads, and powerline infrastructure within the CIAA.

Under the Proposed Action the viewsheds would be modified by the construction of project features. The new visual features at the powerhouse site would be the powerhouse building and about 2,000 ft of powerline. The new visual features at the substation tieline site would be the 1,500 ft tieline. The new construction would be similar in size and location to existing infrastructure including roads, powerlines, and buildings and would contribute incrementally to the cumulative impact of anthropogenic features in the CIAA. However, the new construction would change only a few small details of the viewscape and not change the overall visual character. The project would contribute a one-time impact and would not contribute additional impacts over time.

The No Action Alternative would maintain the existing visual features unchanged for the present. The visual details within the CIAA would continue to evolve due to other reasonably foreseeable actions but the overall visual character of the CIAA would not change.

Wildlife Resources

Past and present actions within the CIAA have impacted wildlife to varying degrees, depending on species, primarily through the conversion of habitat and displacement. As lands have been converted from native vegetation to agricultural or other uses, wildlife habitat has decreased or become fragmented. Other activities, including the use of lands within the CIAA for recreation, can displace wildlife for short time periods. Reasonably foreseeable actions that could impact wildlife resources include the continuation and evolution of grazing management practices and continued maintenance and improvement of small ranch operations within the CIAA.

At the CIAA scale, the Proposed Action would have little effect on the baseline conditions resultant from the past, present, and reasonably foreseeable actions that have, or will, occur. The proposed project footprint would be approximately 0.81 acres, and therefore would have an infinitesimal impact on wildlife at the CIAA scale. Therefore, cumulative impacts to wildlife resources as a result of the Proposed Action are minimal to none and not measurable.

Under the No Action Alternative, impacts would accumulate over time as a result of past actions, continued grazing and agriculture use, and reasonably foreseeable actions; however, the No Action Alternative would not contribute additional impacts to wildlife resources.

CHAPTER 5 - SUMMARY AND CONCLUSIONS

The potential for impacts from the alternatives were evaluated for 5 affected resources. Impacts were identified from vegetation and wildlife habitat disturbance related to construction of facilities and alteration of the viewshed due to the presence of new structures. Impacts would be limited spatially (project area) and temporally (estimated 3–6 months construction period and 3-5 years anticipated to re-establish revegetation). The potential for adverse impacts, both short and long term, are limited by design features, BMPs, and stipulations incorporated by reference and included in this decision. The project would have a beneficial impact on local socioeconomic conditions through the production of clean renewable energy and increased reliability of local energy supplies, and by creation of demand for goods and services.

The proposed ground disturbing activities are all located in close proximity to existing roads or power lines. As a result, any indirect effects on sage-grouse habitat would be masked by the existing developments in the area. Additionally, the proposed substation location currently lacks sagebrush and is not providing ideal sage-grouse habitat. Nonetheless, impacts to a small amount of greater sage grouse habitat (0.81 acres), a BLM sensitive species, would require mitigation. The proponent will provide $1,000.00 in funding to a cooperative habitat improvement project on private lands adjacent to BLM land within important Sage grouse Habitat. Improvements are expected to include control of invasive weeds and seeding of native grasses, shrubs, and forbs. This funding, combined with additional compensatory mitigation funds provided by an unrelated action in the Challis Field Office, would allow for the treatment of approximately 10 acres. This is a net conservation gain of 9.19 acres. The Cooperative habitat improvement project is a collaboration between the private land owner, IDFG, Idaho Governor's Office of Species Conservation, NRCS and BLM to restore sage-steppe habitat on private lands in conjunction with restoration efforts on adjacent public lands.

CHAPTER 6 – CONSULTATION AND COORDINATION

Persons and Agencies Consulted

A scoping meeting was held in at the Challis FO on 15-Aug-2016. During this meeting project details were discussed with BLM resource specialists including lands and realty, fisheries, wildlife, visual, vegetation and cultural specialists.

After review of project details it was determined the project contained no bull trout habitat and would have no effects, direct or indirect, on bull trout. For this reason, no ESA consultation was required.

A further review of ESA listed terrestrial species determined that the project contained no potential or designated Critical Habitat for Canada lynx, yellow-billed cuckoos, or wolverines and would therefore have no effects, direct or indirect, on those species. For this reason, no ESA consultation was required for terrestrial wildlife.

The presence of greater sage grouse habitat within and around the action area triggered a review by the Idaho Office of Energy and Mineral Resources. In accordance with Executive Order No. 2016-03, of the Office of the Governor of Idaho, notification of this project was provided to the Office of Energy and Mineral Resources on August 11, 2017. This notice was directed to John Chatburn, Director by email.

Tribal consultation was initiated via letter to the Shoshone-Bannock Tribes dated 1/10/2017. A Class III intensive cultural resource inventory was conducted over the Area of Potential Effect of the project (BLM, 2016). No cultural resources were located. The Idaho State Historic Preservation Office has reviewed and concurred with these findings and determination of effect.

List of Preparers

This document was prepared by GeoSense LLC (Idaho Falls, ID) based on input provided by the following BLM resource specialists:

Section of EA	Specialist
Existing and Potential Land Uses/ Access/ Prime and Unique Farmlands/ Environmental Justice	Joni Cain, Realty Specialist, Project Lead
Soil Resources/ Wastes, Hazardous or Solid	Kyra Povirk, Assistant Field Manager
Paleontological Resources/ Cultural Resources/ Tribal Treaty Rights and Interests/ Native American Religious Concerns	Steven Wright and Julie Rodman, Archaeologist
Vegetation/Range Resources	Kyra Povirk, Assistant Field Manager
Floodplains/Wetland and Riparian Zones/ Water Quantity and Quality	Michael D. Whitson, Geologist/Hydrologist
Fishery Resources/TES Fishes and Designated Critical Habitat	Laura Hardin, Fisheries Biologist
Wildlife Resources/ Focal Special Status Animal Species/ Migratory Birds	Mark D. Howell, Wildlife Biologist
Economic and Social Values	Michael D. Whitson, Geologist/Hydrologist

Section of EA	Specialist
Recreational Use/ Visual Resources/ Wilderness/ WSA/ Wild and Scenic Rivers	Georgina Pearson, Outdoor Recreation Planner

CHAPTER 7 – REFERENCES

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APPENDIX A - Conformance Review: 2015 Greater Sage-Grouse Resource Management Plan Amendment