

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
SOUTHCENTRAL REGIONAL LAND OFFICE

Preliminary Decision

ADL 233782

Alaska Electric and Energy Cooperative, Inc. d.b.a. Kenai Hydro, LLC
Public Access Easement
Grant Lake Hydroelectric Facility

This Preliminary Decision (PD) is the preliminary interest finding on a proposed disposal of interest in state land and is subject to comments received during the public notice period. The public is invited to comment on this PD. The deadline for commenting is **May 9, 2022**. Please see the Comments section of this decision for details on how and where to send comments for consideration. Only the applicant and those who comment have the right to appeal the Final Finding and Decision (FFD).

PROPOSED ACTION

On February 25, 2022, the Department of Natural Resources (DNR), Division of Mining, Land, and Water (DMLW), Southcentral Regional Land Office (SCRO) received a final application for an easement from Alaska Electric and Energy Cooperative, Inc. d.b.a. Kenai Hydro, LLC (KHL; the applicant) across State-owned, DMLW-managed lands near Moose Pass, Alaska. SCRO proposes to issue an indefinite public access easement approximately 2,400 feet long, 100 feet wide and approximately 5.5 acres in size to DMLW or the Kenai Peninsula Borough (KPB) to authorize a 110-foot single lane bridge spanning the Trail Creek Narrows, a 24-foot wide access road, an aerial transmission line, and communication and control cables. The easement as proposed is intended to provide access to and adjoin with a proposed leasehold serialized as ADL 233857, which proposes two discrete leasehold parcels of irregular shape with an approximate total area of 47 acres.

Staff's research and recommendations concerning the creation of this easement and any changes from the applicant's request are discussed below.

DEPENDANT ACTIONS

The following actions must occur prior to issuance of any authorizations described in the Proposed Action section above:

- Kenai Area Plan Amendment, SC-99-002A16
- A change to 11 AAC 96.014(b)(15) removing these lands from the "Kenai River Special Management Area Proposed Additions" special use area.

SC-99-002A16 is being processed separately from, but concurrently with, this proposed action. Any changes to 11 AAC 96.014(b)(15) would be proposed and processed after the completion of this plan amendment process.

BACKGROUND

Kenai Hydro, LLC (KHL), a limited liability company wholly owned by Alaska Electric and Energy Cooperative, Inc., is proposing to develop a 5-megawatt run-of-river hydroelectric facility located between Grant Lake and Trail Creek in Moose Pass, AK. KHL was granted a license (No. 13212) for the Grant Lake Hydroelectric Project (the Project) by the Federal Energy Regulatory Commission (FERC) on August 28, 2019. To date, KHL has three active applications for the proposed use of DMLW-managed state lands:

- ADL 233782 – Easement application for portions of the proposed transmission line, communication and control cables, access road, and bridge;
- ADL 233857 – Lease application for the parking area, detention pond, powerhouse, penstock, tailrace, surge chamber, intake tunnel, bypass weir, and portions of the access road, transmission line, and communication and control cables;
- LAS 27264 – Water Rights application for the reservation of instream flow.

Two previous versions of the easement application associated with ADL 233782 were submitted on February 2, 2021, and July 19, 2021. Both applications were subsequently amended to redesign the boundaries of the proposed easement and remove portions of the proposed infrastructure that would later be included in the current lease application, ADL 233857. An additional easement application serialized as ADL 233856, was submitted by KHL on July 19, 2021, which requested authorization to construct the intake, penstock, and tailrace. ADL 233856 was later closed after the applicant amended their lease application to include those portions of the proposed infrastructure. Application fees previously paid to DNR associated with ADL 233856 will be applied to the total balance of fees considered by this decision.

The easement SCRO proposes to issue differs from KHL's request in regard to term, grant type, and grantee. Further analysis of these changes is documented within the 'Easement Discussion' section of this document.

Additional portions of the intake tunnel, access road, transmission line, and communication and control cables are proposed to be located on lands managed by the KPB and are outside the scope of this decision.

SCOPE OF DECISION

The scope of this decision is to determine if it is in the State's interest to create an easement for the proposed use. The scope of administrative review for this authorization is limited to (1) reasonably foreseeable, significant effects of the uses to be authorized; (2) applicable statutes and regulations; (3) facts pertaining to the land or resources; and (4) issues that are material to the determination that issuing the authorization is in the interest of the State of Alaska. All other aspects of the applicant's proposed project are outside the scope of this decision.

STATUTORY AUTHORITY

This easement application is being adjudicated pursuant to AS 38.05.850, the Alaska Land Act as amended, and AS 38.05.127.

ADMINISTRATIVE RECORD

The administrative record for the proposed action consists of the Constitution of the State of Alaska, the Alaska Land Act as amended, applicable statutes and regulations referenced herein, the 2001 Kenai Area Plan as amended, SC-99-002A16, other classification references described herein, and the casefile for the application serialized by DNR as ADL 233782.

LOCATION INFORMATION

Geographic Location

The applicant has requested that DMLW authorize an easement near Moose Pass, AK.

Meridian Township Range Section

The applicant has applied to use State-owned, DMLW-managed lands within Section 7, Township 4 North, Range 1 East, Seward Meridian, and Section 12, Township 4 North, Range 1 West, Seward Meridian.

Other Land Information

Municipality: KPB

Regional Corporation: Cook Inlet Region, Inc. (CIRI)

FIGURE 1 – Overview Map of Proposed Project Area

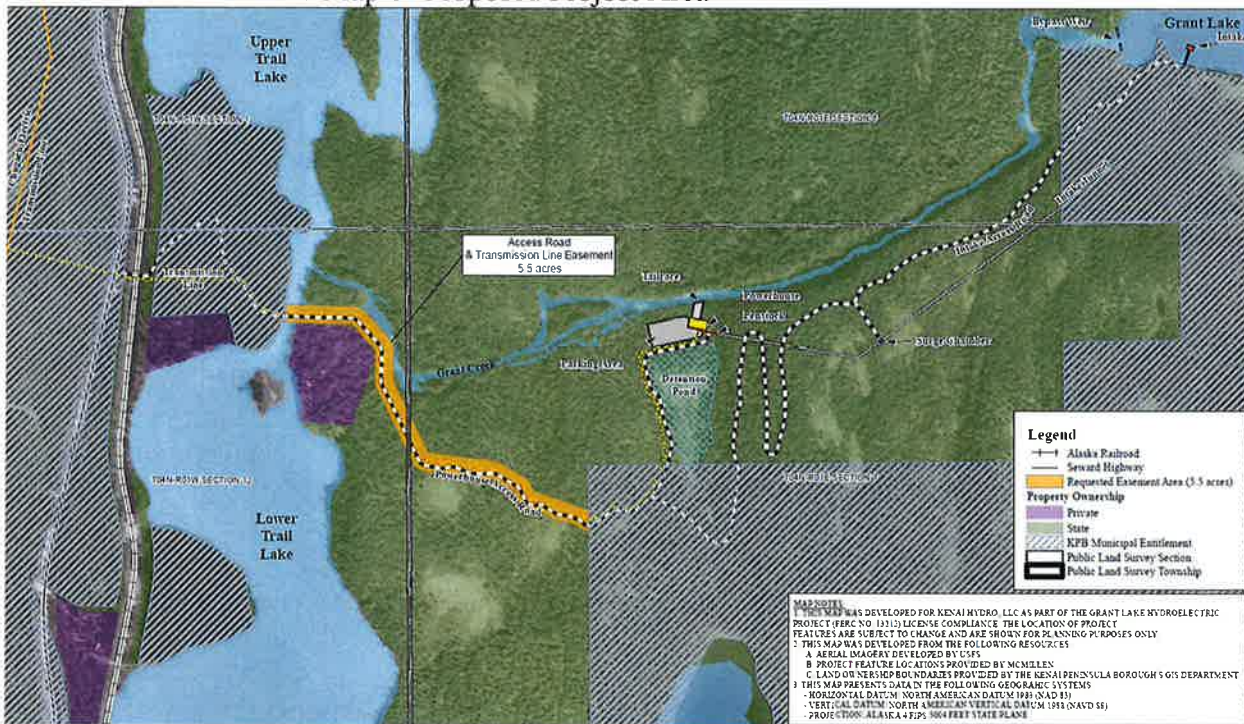
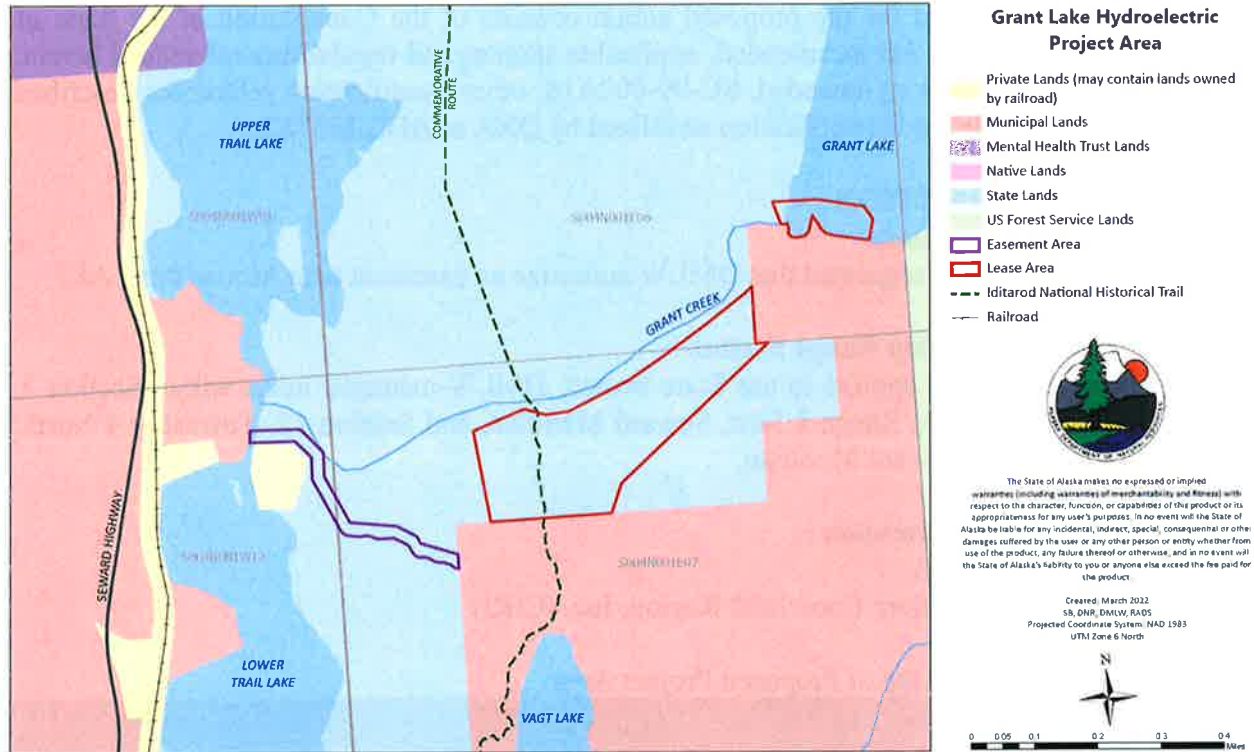


FIGURE 2 – Requested Easement/Lease Boundaries, Land Ownership, and Third-Party Interests



TITLE

The State of Alaska holds title to applicable portions of lands within Section 7, Township 4 North, Range 1 East, Seward Meridian, and Section 12, Township 4 North, Range 1 West, Seward Meridian, per Patent Number 50-92-0639. The associated DNR land acquisition casefile is NFCG 13.

The boundaries of the proposed easement cross navigable waters located within state lands. The State of Alaska continues to hold title to lands beneath navigable waterways within its jurisdiction, including under any navigable waters in the sections referenced above on the basis of the Equal Footing Doctrine, the Submerged Lands Act of 1953, and AS 38.04.062 (Identification of State Submerged Lands) irrespective of how ownership is reported herein.

THIRD PARTY INTERESTS

There are no known third-party interests within the proposed boundary of ADL 233782.

PLANNING & CLASSIFICATION

The proposed project falls within the boundaries of DNR’s 2001 Kenai Area Plan (the Plan), Region 2, and is dependent upon a plan amendment being processed concurrently. This plan amendment would create a new unit, Unit 3800 – Grant Creek. Lands within Unit 3800 would be designated habitat, harvest, and public recreation and tourism, which convert to classifications of Wildlife Habitat Land and Public Recreation Land. The plan notes that this unit is to be retained in state ownership and managed to protect habitat and public recreation values, and notes that a small segment of Al Solar’s Mill Road crosses the unit. The east side of the Trail River and Lake system serve as a brown bear movement corridor. The lower reaches of Grant Creek are

anadromous. Moose and mountain goat use lands within the unit as winter habitat. The Iditarod National Historic Trail (INHT) traverses the unit with special management intent for this unit which requires the trail be protected only by a 100-wide corridor where no development may occur, with the exception of the minimum amount of infrastructure necessary to support the proposed Grant Lake Hydro Project. It further notes that any Grant Lake Hydro Project development near the INHT shall be mindful of the trail's recreational and historical purpose and mitigate by providing visual screening or other means that enhance recreational and historical experience of the trail. Lands within Unit 3800 are no longer recommended to be added to the Kenai River Special Management Area. A secondary plan amendment to the Kenai River Comprehensive Management Plan (KRCMP) is being processed concurrently to remove the lands within Unit 3800 from the associated special use designation, serialized as ADL 226527.

Management guidelines located in the 'Trails and Access' section of Chapter 2 note that DNR should keep trails available for public use and should not authorize lands that foreclose the ability of the public to use important trails. The Plan further notes that when DNR issues authorizations along the INHT the authorization will be subject to the 1000-foot corridor reserved in patent to the Bureau of Land Management (BLM). While the current route of the INHT does not intersect the proposed project area for the easement considered by this decision, it is worth noting that the applicant's development plan accounts for an INHT crossing of the associated leasehold and was developed in coordination with the U.S. Forest Service (USFS).

Management goals outlined in the 'Fish and Wildlife Habitat and Harvest' note that DNR should maintain existing areas noted as important for habitat in public ownership and ensure access to public lands and waters. The Plan further notes that all land use activities should be conducted with appropriate planning and implementation to avoid or minimize adverse impacts on fish and wildlife and the associated habitats. To that end, the applicant has incorporated previous Alaska Department of Fish & Game (ADF&G) comments received as part of the FERC review process in the current development plan for the proposed project. Current ADF&G comments are outlined below in the 'Agency Review' section of this decision, but generally note that the agency does not object to the project as proposed provided that the appropriate Fish Habitat Permits are obtained. As the lands within the proposed easement boundary will be retained in public ownership, and as the applicant has worked with ADF&G to implement recommendations for mitigation measures, the easement as proposed is not inconsistent with the Wildlife Habitat Land classification for Unit 3800.

Nothing in the Plan prohibits the authorization of the proposed easement. However, the easement requested by KHL is intended to authorize placement of access and utility infrastructure which will support power generation within the proposed leasehold and is contingent upon the issuance of the lease. The lease will require both a Plan amendment and regulatory change to authorize, which are being processed by DMLW Resource Assessment and Development Section (RADS) and DMLW Program Support concurrently with the lease and easement applications.

ACCESS

The proposed project site is not currently accessible by road. The applicant ultimately desires to construct an access road and transmission line from the Seward Highway at approximately Milepost 26.9; this road and transmission line would cross Alaska Railroad Corporation (ARRC) and KPB lands before reaching State lands and is necessary for this project. Therefore, construction may not occur until KPB authorizes construction of related access and utility infrastructure on KPB managed lands, and ARRC provides a final authorization for KHL to construct/improve a crossing of the Alaska Railroad. Furthermore, KHL will be required to obtain an Approach Road Permit from DOT&PF and a Utility Permit from DOT&PF and ARRC prior to connecting the proposed road and associated utilities to the DOT&PF-managed right-of-way.

AGENCY REVIEW

Agency review of the application was conducted from October 28, 2021, to November 29, 2021. Between the agency review and this PD, KHL submitted updated applications with changes to the proposed project area, development plan, and associated maps. The updated materials were used in the creation of this PD. In order to allow the below mentioned agencies an opportunity to comment on the updated information, this PD will be sent directly to the agencies that were contacted during the first agency review. Their new comments, if any, will be included in the FFD, the comments previously submitted are still valid and will be seen on the following pages.

The notice was sent to the following recipients.

State of Alaska:

- DNR Division of Parks & Outdoor Recreation (DPOR); Permitting and the Office of History and Archeology (OHA)
- DNR DMLW; RADS, Survey Section, Land Conveyances Section (LCS) and Contract Initiation and Revenue Recovery, Realty Services Section (RSS), Mining Section, Water Section, Public Access Assertion and Defense Unit, Statewide Abatement of Impaired Lands (SAIL)
- DNR Division of Geological and Geophysical Surveys
- DNR Division of Forestry; Kenai Office
- DNR Division of Oil & Gas; Permitting, State Pipeline Coordinators Section
- DNR Mental Health Land Trust Office (MHTLO)
- DNR Spatial Case Information Management System
- Department of Environmental Conservation (DEC) Division of Water; Wastewater, Alaska Pollutant Discharge Elimination System Program
- DEC Division of Environmental Health; Drinking Water Program, Solid Waste Program
- DEC Division of Spill Prevention; Contaminated Sites
- ADF&G; Wildlife Conservation, Access Defense Program, Habitat
- Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs
- Department of Transportation and Public Facilities; Bridge Design, Statewide Right-of-Way
- Alaska Railroad Corporation

- Kenai Soil and Water Conservation District

Federal

- U.S. Army Corps of Engineers (USACE)
- U.S. Coast Guard
- U.S. Fish & Wildlife Service
- USFS
- BLM
- National Oceanic and Atmospheric Administration; Habitat Conservation, National Marine Fisheries Service
- National Park Service
- Environmental Protection Agency

Local

- Kenai Peninsula Borough; Land Management Division
- Kenai River Center

Agency Review Comment & Response

A total of 22 comments were received during the agency review and are summarized below:

Comment: On October 28, 2021, DEC Contaminated Sites Program commented to note that there were no known conflicts with contaminated sites but noted that DEC must be contacted if contamination is discovered, or spills occur.

Response: SCRO acknowledges the comment.

Comment: On October 29, 2021, DMLW LCS noted their non-objection to the Project.

Response: SCRO acknowledges the comment.

Comment: On October 29, 2021, DEC Solid Waste Program commented to note that there were no records of any solid waste landfill within the project area but noted that if any solid waste is discovered or created during construction or operation that it must be disposed of at a landfill permitted to accept that type of waste.

Response: SCRO acknowledges the comment.

Comment: On November 9, 2021, the DMLW Survey Section commented to note that *“an additional easement for the powerline (ADL 233782) might be necessary if the access road is platted under legal access to the lease tract. The powerline easement could probably be surveyed under a Record of Survey, but would be separate from the platting action, but may overlap the lease tract to completely document. Access and the powerline easements will cross ARRC lands. KPB in the past has not allowed un-surveyed remainders, so it’s possible that the aliquot parts which make up the parent parcel may have to be surveyed. This could include the entire section or might include those lands excluded from the KPB municipal entitlement approved lands. Whatever KPB determines to be the parent parcel will affect survey costs and the survey costs will likely be greater than most everyone is expecting.”*

Response: Following the receipt of the DMLW Survey Section comments and related comments on the associated lease application (ADL 233857), KHL amended the boundaries of the leasehold to incorporate elements which were previously intended to fall within the boundaries of the easement. ARRC was included in the agency review and their comments are outlined later in this

section. KPB also submitted comments during the agency review period but were silent on plating concerns. Additional comments relevant to DMLW Survey Section's input are expected following public notice of this PD in response to KHL's amended application.

Comment: On November 15, 2021, BLM commented to note that they had no interests within the project area.

Response: SCRO acknowledges the comment.

Comment: On November 16, 2021, DMLW SAIL commented to note that there were no known environmental concerns within the project area.

Response: SCRO acknowledges the comment.

Comment: On November 23, 2021, OHA commented to note that state law requires activities requiring authorization from the State of Alaska to comply with the Alaska Historic Preservation Act (AHPA). AHPA prohibits the removal or destruction of cultural resources and requires reporting of historic and archeological sites on lands managed by the State. OHA noted that KHL has a Programmatic Agreement and an Historic Properties Management Plan (HPMP) which outlines measures to comply with Section 106 of the National Historic Preservation Act, but cited concerns that the current Programmatic Agreement does not reference AHPA. The HPMP requires actions by KHL related to cultural monitoring and installation of public interpretation signage that is not currently included in the easement application.

OHA further noted concerns that adoption by the State of the federal assessment and treatment of INHT would not ensure compliance under AHPA. OHA finds that the INHT corridor is a cultural resource of importance to the State of Alaska and recommends that KHL consult with OHA and other INHT stakeholders to enable the INHT's co-existence with the Project. Should inadvertent discoveries of cultural resources occur during the duration of the Project, OHA must be notified to evaluate whether the resources should be preserved in the public interest.

Response: SCRO appreciates the comment. Following the submission of OHA's comment KHL amended their application to adjust the boundaries of the leasehold to incorporate much of the area previously applied for under ADL 233782. As a result, SCRO analysis suggests that the 1000-foot INHT corridor reserved in the original patent from BLM is outside of the project area as currently proposed by this easement application and is therefore outside the scope of this decision. Additionally, relocation of the INHT was considered as part of the Environmental Impact Statement which preceded issuance FERC License No. 13212 but was not recommended. DNR has confirmed with both BLM and the USFS that there is no intention by either agency to relocate the INHT and that there are no objections to the current project as proposed. SCRO has and will continue to work with USFS to issue a long-term easement for the INHT trail segment in the project vicinity.

SCRO concurs that KHL should continue coordinating with OHA as necessary to minimize any adverse effects and ensure the beneficial co-existence of the Project and the INHT. Furthermore, SCRO supports the HPMP recommendation to include multiple installations of interpretative panels in the vicinity of the proposed project area to encourage preservation and educate the public about the history of the Alaska Railroad, Seward-Moose Pass Trail, Solar's Sawmill, Grant Lake Trail, Commemorative INHT and the Case Mine District. KHL will be required to coordinate with

OHA to develop appropriate interpretive signage for the historic sites outlined in the HPMP. KHL will be required to coordinate with OHA in the event that potential cultural resources are discovered during the construction and/or operation of the Project.

Comment: On November 22, 2021, USACE commented to note that a Section 404 permit pursuant to the Clean Water Act would be required if the project would result in discharge or dredged and/or fill materials into waters of the U.S. USACE noted that they had no record of a current permit request from the applicant.

Response: KHL was informed of the requirement to work directly with the USACE to evaluate what authorizations may be necessary for the proposed project.

Comment: On November 22, 2021, ADF&G provided a non-objection to the proposed authorization but noted that additional ADF&G Fish Habitat Permitting will be required before construction of this project. Specifically, an ADF&G Fish Habitat Permit will be required for the construction of the 110-foot single lane bridge across the narrows of Upper and Lower Trail lakes, as this lake system has been documented as important spawning, rearing and migration habitat for sockeye salmon, Chinook salmon, pink salmon, and coho salmon. An ADF&G Fish Habitat Permit will also be required for the construction of a fish exclusion barrier, temporary cofferdams, and bank stabilization below ordinary high water as Grant Creek has been documented as important spawning, rearing and migration habitat for sockeye, coho, and Chinook salmon.

Response: SCRO appreciates the comment and advises KHL to work with ADF&G directly to ensure that all necessary authorizations are obtained.

Comment: On November 23, 2021, MHTLO noted that the proposed project did not impact any Alaska Mental Health Trust Lands.

Response: SCRO acknowledges the response.

Comment: On November 29, 2021, KPB commented to note the following:

"1) KPB has municipal entitlement lands within the project area. KPB anticipates working with HEA through KPB approval processes.

2) KPB would be interested in reviewing the proposed changes to the Kenai River Comprehensive Management Plan as the borough desires to recognize the values and best management practices that the KRCMP highlights and as the value of KPB lands is protected by ensuring that the character and quality of the area remains high with features befitting the scenic qualities of the area.

3) KPB is interested in access to KPB land, including land along the INHT and at Grant Lake near the project intake, and suggests that common use of travel way and utility easements be allowable in the future, and that use is not unnecessarily restricted along the routes to minimize the need for separate route finding and increasing the amount of infrastructure to serve the common purposes of access and utilities along the general portions of the routes and water crossings."

Response: SCRO appreciates the comment.

1) KPB municipal entitlement lands were noted and subsequently clearly defined in KHL's amended application received on February 25, 2022.

2) Proposed amendments to the KRCMP will be publicly noticed by RADS and is outside the scope of this decision.

3) SCRO concurs that consolidation of access routes is a desirable goal as a second bridge crossing of the Trail Creek Narrows is unlikely and would result in duplicative efforts to provide access to KPB and DMLW lands west of Trail Lakes. Furthermore, as ARRC does not allow new at-grade crossings of the railroad if within two miles of an existing crossing, future efforts to establish public access would face significant hurdles. The ability to access, utilize, and potentially develop public lands is in the best interest of the public particularly in light of the existing recreational values related to the INHT and associated historic sites in the area. In light of these concerns, SCRO recommends that the proposed authorization be granted as a perpetual public access easement. Further analysis of this point is located within the 'Easement Discussion' section of this PD.

DOT&PF and ARRC Comment and Response

On November 19, 2021, DOT&PF and ARRC provided a joint response to note that *"The action(s) proposed by the applications filed with DNR DMLW do not identify how the applicant proposes to address comments previously sent by DOT&PF and ARRC in July 2020 regarding the Draft Construction Plan. DOT&PF and ARRC comments are restated below. DOT&PF and ARRC advise that all matters concerning access and utility crossings should be coordinated with both agencies"*. The joint agency comments are summarized below:

Comment: The Alaska Policy on Railroad/Highway Crossings Revised September 1988 (Crossing Policy) outlines requirements for new and existing railroad crossings. As outlined in Section 4.3, a Diagnostic Team (DT) study and report will be required for the proposed crossing. After an onsite meeting between the DT members, a DT report will be drafted by the applicant and reviewed, prior to signature, by the participating parties and agencies. The request for development of a diagnostic team can be made through the ARRC Chief Engineer.

Response: KHL has been made aware of the requirement to participate in a DT study and has been directed to work with DOT&PF and ARRC directly. As the connection to DOT&PF managed right-of-way and the railroad crossing are required prior to the construction of the proposed access road on KPB and DMLW-managed lands, KHL may not construct the proposed access road and associated infrastructure until a DT report has been approved by DOT&PF and ARRC.

Comment: According to Section 4.5 of the Crossing Policy, new at-grade crossings are not allowed if within two miles of an existing crossing. The proposed crossing location identified in the DMLW applications is approximately 0.1 miles from the existing ARRC crossing (Permit No. 9173) for a private driveway. The applicant needs to coordinate with ARRC and the private permit owner of the crossing to determine if an agreement can be made to share the existing crossing, consolidate at a new crossing, and/or take ownership and maintenance responsibilities of a crossing.

Response: SCRO acknowledges the comment. KHL has been made aware of Section 4.5 of the Crossing Policy and SCRO has been informed by KHL that they intend to work directly with DOT&PF and ARRC to identify a crossing location and coordinate construction activities, if authorized.

Comment: DOT&PF and ARRC require utility permit prior to the placement of a utility within either agencies' respective transportation corridors.

Response: SCRO acknowledges the comment. SCRO has been informed by KHL that they intend to work directly with DOT&PF and ARRC directly to obtain all necessary authorizations.

Comment: Regarding the proposed utility crossings, both agencies jointly submitted the following recommendations and request for additional information:

- 1) The designed crossing appears to span both the highway and railroad. Utility poles may not be permitted within the DOT nor ARRC ROW at identified crossing location.
- 2) Overhead clearance shall be at minimum 27 feet and 6 inches at midpoint/loaded cable in accordance with Table 1130-1 of the Alaska Highway Preconstruction Manual or greater if required by other code/regulation. What is the transmission voltage of this line?
- 3) Will the crossing be designed and constructed as a double dead-end structure?
- 4) Crossing shall be designed to align perpendicular to the highway center line.
- 5) Utility crossings of ARRC ROW must meet requirements of ARRC Technical Standards.

Response: Joint comments regarding recommendations related to utility crossings of the highway and railroad have been provided to the applicant. KHL will be responsible for providing additional information to DOT&PF and ARRC as requested prior to obtaining the necessary authorizations. KHL's current application details plans for a 115-kV transmission line.

Comment: ARRC does not generally issue leases or easements through operating lands or right-of-way. If our standard right-of-way permit does not provide the level of interest required to cross the right of way, ARRC is available to discuss what avenues might be available to move this important project forward. The process will require that all comments provided by ARRC have been addressed and are consistent with our Technical Standards for Roadways, Trails and Utilities in Railroad Right-of-Way.

Response: SCRO acknowledges the comment. SCRO has been informed by KHL that they intend to work with ARRC directly to obtain all necessary authorizations.

Comment: Prior to completing design or beginning construction activities for the proposed Powerhouse Access Road, an Approach Road permit with DOT&PF is required. The application process is outlined in the link below. A reimbursable services agreement of \$5,000 will be required for DOT&PF staff time for DT participation, review of DT report drafts, and permit review including construction and traffic control plans. DOT&PF staff time may exceed the initial permit application fee and will be the responsibility of the applicant. An application for Approach Road permit must include stamped construction plans for the access road that meet the requirements of the 2020 Highway Preconstruction Manual. The construction plans should include, but are not limited to, the following: Survey data of existing roadway and railroad features, alignment and profile of proposed access road including vertical and horizontal curves, landing size, approach radii, cross sections, and signing and striping plans. Additionally, the application should identify that all applicable sight distance minimums are being met for the proposed approach road. Design vehicle should be identified for construction and maintenance of the facility.

Response: SCRO acknowledges the comment. SCRO has been informed by KHL that they intend to work directly with DOT&PF directly to obtain all necessary authorizations.

Comment: The applicant or their Contractor will be required to submit a construction traffic control plan for any proposed lane closures for review and approval by DOT&PF.

Response: SCRO acknowledges the comment. SCRO has been informed by KHL that they intend to work directly with DOT&PF to supply all required documentation necessary to obtain any required authorizations.

Comment: Access road design standards are outlined in the Alaska Highway Preconstruction Manual (HPCM) published December 1998, in accordance with requirements outlined in the 2020 HPCM.

Response: SCRO acknowledges the comment and has provided KHL with a link to an online copy of the HPCM as provided by DOT&PF.

Comment: DOT&PF does not approve the placement of gates in the highway right-of-way.

Response: SCRO acknowledges the comment.

Comment: Please be aware that DOT&PF is planning to add shoulders to this section of the Seward Highway within the next several years. Reference DOT&PF project Z546590000/0311031. Please contact DOT&PF project manager Chris Bentz for additional information regarding specific plans for upgrade of the roadway.

Response: SCRO acknowledges the comment. SCRO has been informed by KHL that they intend to work directly with DOT&PF to coordinate construction activities, if authorized.

Comment: DOT&PF & ARRC are concerned that the plan makes no provision for public use of the road. Specifically, DOT&PF and ARRC are not direct parties to any decision whether to allow public vehicular or pedestrian use of the proposed road. However, if the road is closed to the public vehicular or pedestrian use, the public will continue to utilize the road for access to adjoining recreational features. DOT&PF and ARRC expect that such unmanaged use will result in the haphazard parking of vehicles in the highway right-of-way and pedestrian crossing of the railroad, both of which would create an unacceptable safety issue within the transportation corridors. We therefore request that a parking area be established outside the roadway clear zone and railroad ROW.

Response: SCRO understands that questions related to public use of the road, connection with the Seward Highway, and the proposed crossing alignment of the Alaska Railroad will be considered in the multi-agency DT report. Evaluation of a potential parking area prior to completion of the DT report is premature and outside the scope of this decision.

No other comments were received.

ENVIRONMENTAL CONSIDERATIONS

Environmental contamination risk associated with this proposed easement is minimal. SCRO recommends that fuel, lubricants, and other hazardous materials be restricted to those necessary and be contained within tools and vehicles when equipment is necessary for construction and maintenance activities. No fuel or other hazardous materials are authorized to be stored on site following completion of the proposed construction. There are no other known environmental considerations or constraints in this location.

SCRO understands that the following environmental authorizations are required prior to construction of the proposed Project. Additional authorizations may be required by various agencies as development of the Project progresses. KHL will be required to obtain all necessary authorizations prior to construction of the Project.

A Fish Habitat Permit from ADF&G will be required prior to construction of the bridge across the Trail Lakes Narrows and any construction or infrastructure placed below ordinary high water of Grant Creek.

A permit from USACE will be required for any discharge of dredged or fill materials into wetlands pursuant to Section 404 of the Clean Water Act.

ECONOMIC BENEFIT & DEVELOPMENT OF STATE RESOURCES

In accordance with AS 38.05.850, DMLW considers if the requested authorization will provide the greatest economic benefit to the State and development of its natural resources. Specifically, staff assess both direct and indirect economic benefits and whether the proposed authorization encourages the development of the State's resources.

The proposed authorization will provide a direct economic benefit to the state through the operation of this hydro power generation facility which will promote conditions for economic development. In consideration of these factors, and because there are no competing requests for authorization within the proposed easement boundaries, staff advise that approval of this easement will provide the greatest economic benefit to the State.

EASEMENT DISCUSSION

Dimensions:

SCRO recommends that an easement 100 feet in width, approximately 2,400 feet in length, and approximately 5.5 acres in size be created to provide adequate space for construction of a 24-foot-wide access road, bridge, placement of an aerial transmission line, communication and control cables, and the maintenance activities associated with such infrastructure. KHL has not yet determined whether proposed communication and control cables will be installed as an under-run on the proposed transmission lines or buried along the roadbed. In either case, an easement 100 feet in width will provide sufficient space necessary for all proposed developments. Per KHL's current designs, the height of the transmission lines as proposed would be approximately 57 feet above ground level, not to exceed a maximum of 75 feet, and will intersect the existing transmission line to the west of the Seward Highway operated by Chugach Electric Association. The bridge spanning the Trail Creek Narrows would have a minimum clearance of 20 feet between the bottom of the bridge superstructure and Ordinary High Water (OHW) to ensure that boating access is uninhibited. The bridge is also subject to certification from the American Association of State Highway officials.

Term:

KHL has requested a term of 80 to 120 years or more to correspond with the operational lifespan of the proposed facility. However, SCRO recommends that the easement considered herein be granted for an indefinite term as the need for this easement can be expected to exist as long as the adjoining land requires access and utility service.

Diagnostic Team Study and Report:

DOT&PF and ARRC have indicated that a DT study and report will be required prior to any authorization to connect to the Seward Highway or cross the Alaska Railroad. DOT&PF has further noted that KPB will be an involved party in the DT study as the underlying landowner between the highway connection and state lands to the east. All three parties have provided agency comments which indicate a desire to see public access allowed on the proposed access road. Additionally, DOT&PF has noted that a restriction of public access would not necessarily deter members of the public from traversing the road by foot to access lands to the east of the highway, and that the applicant may need to construct a public parking area to mitigate the risk of vehicles parking within DOT&PF right-of-way.

The final DT report will consider various design alternatives for the proposed railroad crossing, including traffic control devices, adequate sight distance triangles, and potential measures to mitigate anticipated use by the public. Until a DT study has been completed and a report is signed by all parties, critical elements of the project design may be subject to change. The associated authorizations from DOT&PF, ARRC and KPB must align with, and connect to the Seward Highway and cross the railroad to reach the proposed project area, therefore, construction will not be allowed until a final DT report is approved.

Grant Type and Grantee:

KHL has requested that a private exclusive easement be granted to conform with the recommendations of FERC License No. 13212. Condition 103 states the following: "The project's access roads could provide a new route of access to Grant Lake. Kenai Hydro

proposes to restrict public access to Grant Lake via the project access roads by installing a gate and no trespassing signs. The final EIS analyzed an alternative that would allow the public to access Grant Lake via the project access roads, which included a parking lot and vault toilet to be constructed to accommodate public use. However, we note that under Kenai Hydro's proposal, which restricts public access to the project access roads, recreational users will continue to access Grant Lake via the existing Case Mine Trail and Saddle Trail. Therefore, this license does not require Kenai Hydro to provide public access to the project access roads, or construct the associated parking lot and vault toilet."

However, the area east of Trail Creek contains both KPB and DMLW managed lands with a high degree of recreational values related to the INHT and associated historic sites which will draw additional traffic to the area. As noted by DOT&PF and ARRC, a restriction of public access along the Project roads will likely result in unsafe vehicle congestion and parking within the Seward Highway right-of-way. In light of these concerns, SCRO has determined that the existing Case Mine Trail and Saddle Trail will not be sufficient to accommodate increased use of the area without establishing additional public access to the east of Trail Creek.

Additionally, KPB's comments during the agency review indicated that they are interested in access to KPB lands located beyond the proposed Project site and along the INHT and shore of Grant Lake and as such request that use not be unnecessarily restricted along the proposed access road. SCRO concurs that restriction of public access along the proposed easement would require construction of a secondary and duplicative route for KPB to fully utilize their lands to the west. Furthermore, were access to be restricted along the proposed Project access roads, it may be difficult or infeasible for KPB to construct a separate route to access their lands. Without common use of the proposed Project roads, such a route would require a second crossing across the Trail Creek Narrows and a second crossing of the railroad, which ARRC will not permit within two miles of an existing crossing.

Therefore, SCRO recommends that the authorization considered herein be a public access easement granted to either KPB or DMLW to be held in trust for the public. The public access easement would be specifically granted to facilitate public access along the proposed road as well as authorize the transmission line and communication and control cables proposed by KHL, thus balancing the public benefit of access with the proposed private development.

Potential obstruction of public access over navigable water:

KHL proposes to construct a 110-foot single lane bridge over Trail Creek, a waterbody which has been classified as navigable for purposes of title. KHL has noted that the proposed bridge will have a minimum clearance of 20 feet above OHW, to allow passage by boats. However, KHL must also design the Trail Creek bridge in a manner that will not prevent public access in any manner. Final bridge designs must allow passage by both watercraft and pedestrian use of the shoreline, including the ability to portage boats.

DEVELOPMENT PLAN

The Development Plan (DP) attached to this decision (Attachment A) and submitted February 25, 2022, is under consideration by SCRO. While the attached DP was included with the application for lease, ADL 233857, the DP also addresses infrastructure to be included in the proposed easement and is a comprehensive overview of the overall project. All updates must be approved, in writing by SCRO before any construction, deconstruction, replacement of infrastructure, or change in activity. SCRO reserves the right to require additional agency review and/or public notice for changes that are deemed by SCRO to be beyond the scope of this decision.

PERFORMANCE GUARANTY

A performance guaranty is intended to incentivize compliance with the terms and conditions of the entry authorization (EA) and easement. It also provides a mechanism for the State to ensure that the applicant shares in the financial burden in the event of noncompliance (including fee payment, survey, etc.), restoration (interim and final), and any associated costs after termination or expiration of the easement. Staff recommend that the applicant be required to submit a performance guaranty in the amount of \$7,500.00 to ensure completion of EA requirements. These funds will also serve as a survey deposit (per AS 38.05.860) and may be reduced one time during the term of the EA by an amount equal to payments made by the applicant to a licensed surveyor under contract for completion of an as-built survey in accordance with survey instructions issued by the DMLW Survey Section, as described herein. This performance guaranty shall remain in place during the term of the EA and will be subject to release upon the acceptance of a DMLW-approved as-built survey and the fulfillment of all terms, conditions and stipulations of this decision and the entry authorization. The performance guaranty may also be adjusted to reflect updates and changes in the associated project, and the applicant may be required to provide an additional performance guaranty if DMLW determines there is additional risk to the State. The performance guaranty may be utilized by DMLW to cover actual costs incurred by the State to pay for necessary corrective actions in the event the applicant does not comply with site utilization and restoration requirements and other stipulations contained in the EA. An additional performance guaranty may be required for an extension of the EA beyond the initial term proposed under this decision.

INSURANCE

Staff recommend that the applicant be required to submit proof of insurance in an amount the insurance company determines necessary to protect both the State and the applicant from risks associated with the planned activities under the EA and easement for ADL 233782. The applicant will be responsible for maintaining the necessary insurance during the term of the EA. The insurance may be adjusted to reflect updates and changes in the associated project and the applicant may be required to furnish additional insurance if DMLW determines there is additional risk to

the State. A certificate of insurance listing the State of Alaska, Department of Natural Resources as an additional insured on the policy, or other insurance acceptable to the State, must be submitted to DMLW prior to entry on state land and must be maintained throughout the term of the EA and easement.

SURVEY

Staff recommend that a DMLW-approved as-built survey is required to determine the proper location and acreage of installed improvements and the associated easement on State-owned, DMLW-managed lands. The survey must be produced in accordance with survey instructions provided by the DMLW Survey Section and stamped by a Professional Land Surveyor registered in the State of Alaska. The applicant will be required to request survey instructions prior to construction of the proposed improvements. A final easement will not be issued until the as-built survey has been approved by DMLW.

FEES

Staff find that the following fees are applicable to this request. These fees may be adjusted if regulation(s) or department fee schedule pertaining to the fee(s) change during the term of the EA and/or easement, and will be subject to non-sufficient fund and late payment penalty fees. All fees shall accrue from the effective date of the FFD.

- The applicant shall pay an annual interim land use fee of \$120.00 per acre rounded up to the nearest acre, with a \$240.00 minimum, totaling \$720.00, per 11 AAC 05.070(d)(2)(I) for the term of this EA. This fee is charged concurrently with any other land use fees that may be described herein.
- The applicant shall pay a one-time land use fee for a public easement of \$120.00 per acre rounded up to the nearest acre, estimated to be \$720.00, per 11 AAC 05.070(d)(2)(B). The total charge for this fee will be determined following DMLW's approval of an as-built survey document.

The applicant previously paid \$1,200.00 in application fees for ADL 233856, which was later incorporated into the proposed leasehold associated with ADL 233857. The \$1,200.00 previously collected will be applied to the total sum of the fees required by this decision.

The Grantee shall pay a fee for any late payments.

Additionally, the applicant shall pay applicable document recording fees prior to DMLW's execution and recordation of the easement document, pursuant to 11 AAC 05.200.

ENTRY AUTHORIZATION

An EA is an interim authorization issued when a survey is necessary prior to easement issuance. SCRO recommends that an EA be issued for a term ending ten years from the effective date of the FFD for the purpose of constructing, surveying, operating, and maintaining the infrastructure considered herein prior to DMLW's issuance of an easement. The EA may be revoked if the applicant has not supplied DMLW with a draft as-built survey within seven years of receiving survey instructions. An extension of the EA may be granted at the written request of the applicant if granting the extension is deemed appropriate by DMLW, and may be subject to applicable fees. If an extension is required, the applicant must contact DMLW no later than 30 days prior to the

expiration of the EA and certify there have been no changes to the approved development plan. SCRO recommends that EA not be granted until the following deliverables have been provided to DMLW, as described or recommended above:

- Land use fees;
- Proof of insurance;
- A performance guaranty.

Prior to commencing with the proposed project construction or any ground disturbing activities in excess of 11 AAC 96.020, KHL will be required to provide records of the following:

- Approach Road Permit from DOT&PF;
- Utility Permit from DOT&PF and ARRC;
- Authorization to construct the access road and utilities from KPB;
- Signed DT Report in coordination with ARRC, DOT&PF, and KPB.

PUBLIC NOTICE OF THE PRELIMINARY DECISION

This PD will be advertised for 30-day public comment period. Notice will be posted on the Alaska Online Public Notice System at <http://aws.state.ak.us/OnlinePublicNotices/Default.aspx> and the post offices located in within 25 miles that service populations of 25 or more. Public notices will also be mailed or emailed to neighboring property owners within one mile of the proposed project area, permit/lease holders, and other interested parties on April 8, 2022, for a 30-day public comment period.

COMMENTS

This decision is subject to both public and agency comments, and all written comments received by the comment deadline will be considered in the FFD. Pursuant to 11 AAC 02.010(d), DNR is restricting appeal rights to those who meaningfully participate as well as the applicant. If public comments result in significant changes to the Preliminary Decision, additional public notice will be given.

**Written comments about this project must be received in this office no later than
May 9, 2022, to be considered.**

To submit comments, please choose one of the following methods:

Postal: Department of Natural Resources
Division of Mining, Land and Water
Southcentral Regional Land Office
ATTN: Evan Dodd
550 West 7th Avenue, Suite 900C
Anchorage, AK 99501-3577

Email: evan.dodd@alaska.gov

Fax: (907) 269-8913

Questions about this project can be directed to Evan Dodd at (907) 269-7480.

Signature page follows

RECOMMENDATION

SCRO has completed a review of the information provided by the applicant, examined the relevant land management documents, and has found that this project is consistent with all applicable statutes and regulations. It is recommended that SCRO issue an indefinite public access easement for the Grant Lake Hydroelectric Project.



Evan Dodd, Natural Resource Specialist 3
DMLW Southcentral Regional Land Office

4/7/2022

Date

PRELIMINARY DECISION

It is the determination of the Division of Mining, Land and Water that it may be in the State's best interest to issue a public access easement to DMLW or KPB, as described above. Upon authorization of the easement, the applicant will be required to pay the annual interim land use fee of \$720.00, the one-time issuance fee of \$720.00, submit a \$7,500.00 performance bond, and provide proof of liability insurance. The Preliminary Decision shall now proceed to public notice.



Samantha Carroll, Regional Manager
DMLW Southcentral Regional Land Office

4/7/2022

Date

ATTACHMENTS

Attachment A – Development Plan

**Attachment A
Development Plan**

Grant Lake Hydroelectric Project (FERC No. 13212)

Development Plan

Kenai Hydro, LLC

February 2022

Attachment A Development Plan

GRANT LAKE DEVELOPMENT PLAN

TABLE OF CONTENTS

1 Introduction.....	1
1.1. Location	1
1.2. Project Description.....	1
2 Project Overview.....	4
2.1. Purpose.....	4
2.2. Approximate Boundaries of Lease Area.....	4
3 Site Description	4
3.1. Terrain/Ground Cover.....	4
3.2. Site Access	4
4 Buildings, Structures, and Utilities	7
4.1. Powerhouse	7
4.2. Penstock	7
4.3. Tailrace	8
4.4. Detention Pond.....	8
4.5. Transmission Line/Switchyard	9
4.6. Access Road.....	9
4.7. Grant Creek Diversion	9
4.8. Grant Lake Intake	10
4.9. Tunnel and Surge Chamber	11
4.10. Appurtenant Facilities	11
4.11. Site Utilities, Waste Disposal, and Hazardous Materials	12
4.11.1. Power Source	12
4.11.2. Water Supply	12
4.11.3. Solid Waste Disposal	12
4.11.4. Temporary Wastewater Disposal.....	13
4.11.5. Permanent Wastewater Disposal.....	13
4.11.6. Organic Waste.....	15
4.11.7. Spoils Disposal.....	15
4.11.8. Hazardous Materials	15
5 Staffing, Maintenance, and Operations	18
5.1. Parking and Storage Areas.....	18
5.2. Number of People Using the Site.....	18

Attachment A Development Plan

GRANT LAKE DEVELOPMENT PLAN

5.3. Maintenance and Operations.....	19
6 Site Closure and Reclamation Plan	19
6.1. Revegetation and Restoration of Disturbed Areas.....	19
6.2. Site Closure.....	20
7 Permits and Authorizations	20
8 References.....	22

List of Figures

Figure 1. Location map of Project vicinity.....	2
Figure 2. General Project features and facilities.....	3
Figure 3. Upland vegetation types.....	5
Figure 4. Wetland and Waters Types.....	6
Figure 5. Powerhouse site staging area plan.....	14

Attachment A

Development Plan

GRANT LAKE DEVELOPMENT PLAN

Acronyms and Abbreviations

ADF&G	Alaska Department of Fish & Game
APLIC	Avian Powerline Interaction Committee
APP	Avian Protection Plan
ARRC	Alaska Railroad Corporation
BGEPA	Bald and Golden Eagle Protection Act
cfs	cubic feet per second
ECM	Environmental Compliance Manager
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
GPS	global positioning system
HVAC	heating, ventilating, and air conditioning
INHT	Iditarod National Historic Trail
KHL	Kenai Hydro, LLC
kV	kilovolt
kW	kilowatt
MBTA	Migratory Bird Treaty Act
MCC	motor control center
MOU	Memorandum of Understanding
MW	megawatt
NAVD 88	North American Vertical Datum of 1988
Project	Grant Lake Hydroelectric Project
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Attachment A Development Plan

GRANT LAKE DEVELOPMENT PLAN

Development Plan Grant Lake Hydroelectric Project (FERC No. 13212)

1 INTRODUCTION

This document provides Kenai Hydro, LLC's (KHL's) proposed Development for the Grant Lake Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 13212. KHL, a wholly owned subsidiary of Alaska Electric & Energy Cooperative (AEEC) is applying to the State of Alaska's Department of Natural Resources (DNR), Division of Mining, Land, and Water (DMLW), Southcentral Region Office (SCRO) for issuance of a 55-year non-competitive lease under the authority of AS 38.05.810(e). Renewable energy produced from the Project will be delivered to Homer Electric Association (HEA) members for off-site use.

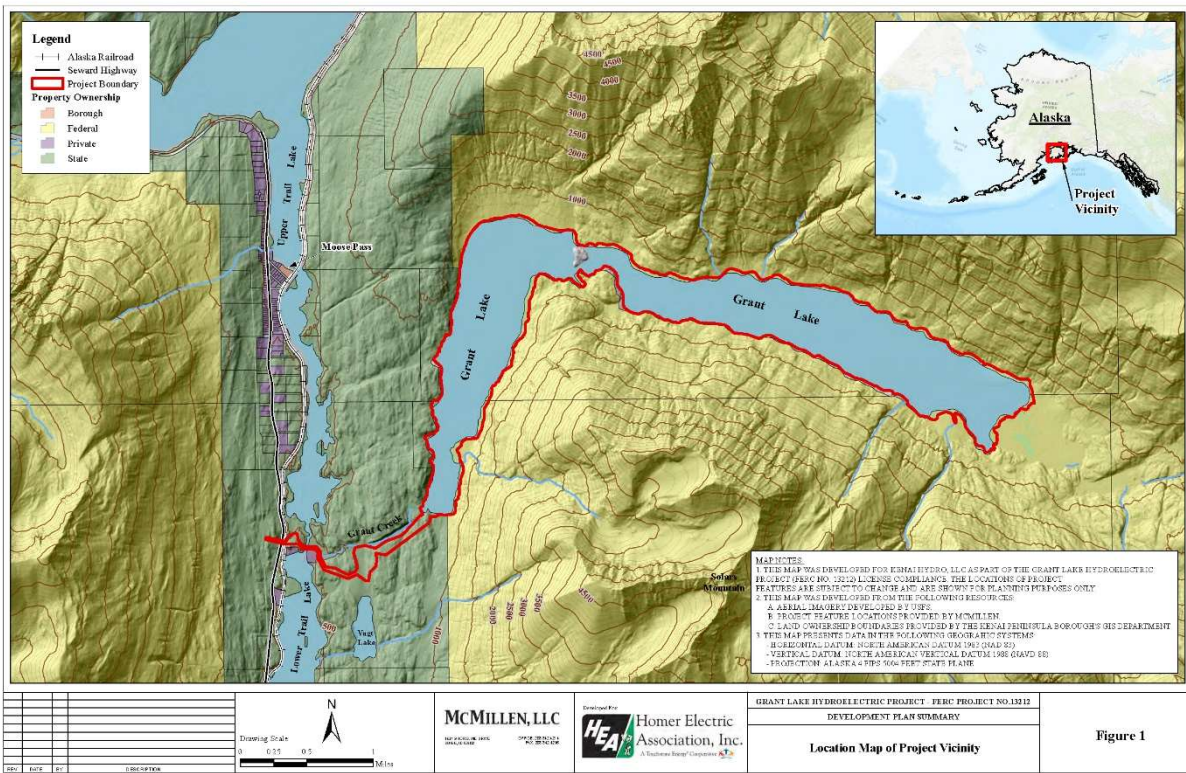
1.1. Location

The proposed Grant Lake Hydroelectric Project would be located near the community of Moose Pass, Alaska (population 219) in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska (population 2,693), and just east of the Seward Highway (State Route 9); this highway connects Anchorage (population 291,826) to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is located adjacent to the Seward Highway in the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a normal water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,667 acres. A map showing the location of the Project is provided in Figure 1.

1.2. Project Description

The Grant Lake Project would consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a switchyard, and an overhead transmission line. The powerhouse would contain two Francis turbine generating units with a combined rated capacity of 5 megawatts (MW) with a maximum design flow of 385 cubic feet per second (cfs). The general proposed layout of the Project is shown in Figure 2.

Attachment A Development Plan



Attachment A

Development Plan

2 PROJECT OVERVIEW

2.1. Purpose

The purpose of the Project is to (1) make steps towards reaching renewable energy goals set by HEA's Board of Directors and the State of Alaska Legislature and (2) diversify HEA's energy generation portfolio.

2.2. Approximate Boundaries of Lease Area

The requested lease area totals 46.8 acres and encompasses primary Project works including the powerhouse, penstock, detention pond, tailrace, parking area, portions of the powerhouse access road and transmission line, intake structure, tunnel, surge chamber, and weir (Lease Application Attachment 1, Figure 2). The requested lease area is anticipated to be large enough to fully construct and access all Project structures. The entire lease area is within Township 4 North, Range 1 East, Sections 6 and 7 of the Seward Meridian.

3 SITE DESCRIPTION

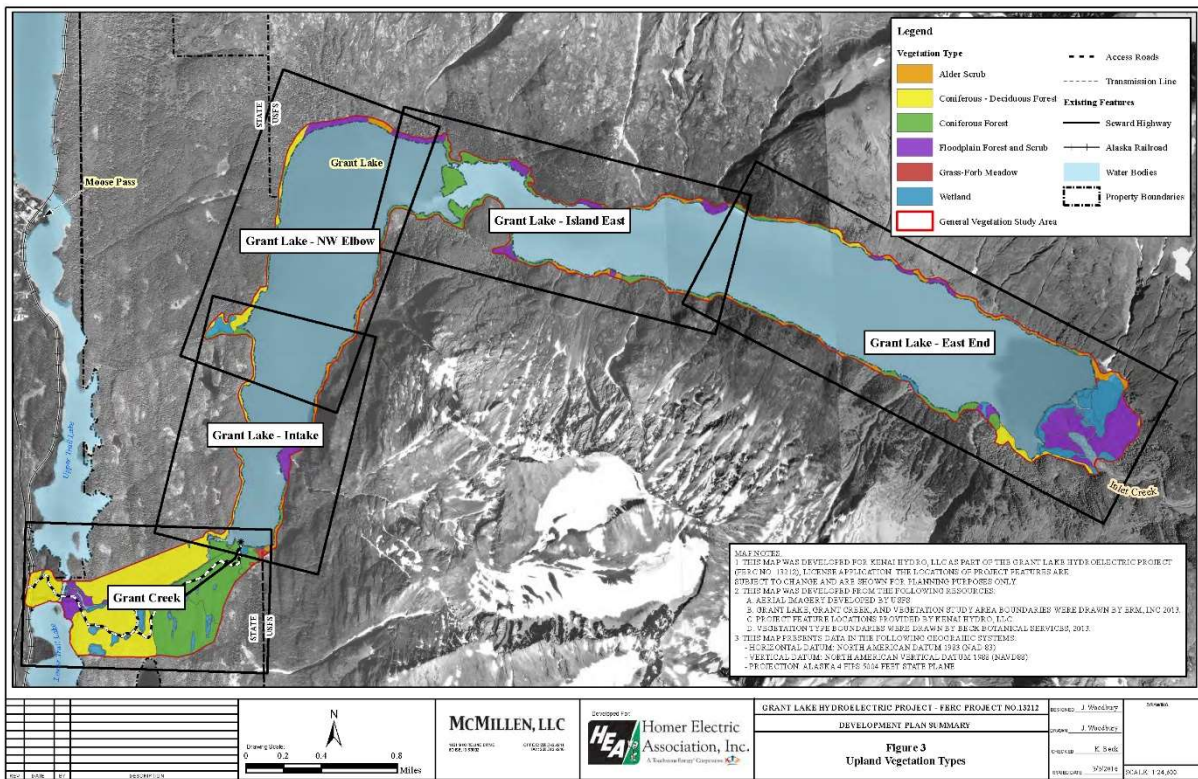
3.1. Terrain/Ground Cover

Other than the area designated as the Detention Pond, the terrain in the lease area was designated as Coniferous – Deciduous Forest in the upland vegetation studies that were completed as part of the FERC licensing process (Figure 3). The area designated as the Detention Pond is primarily Scrub – Scrub Wetlands with a small amount of Forested Wetlands on the slope to the east side of the detention pond as identified in the wetland studies that were completed as part of the FERC licensing process (Figure 4). The terrain / ground cover will be modified by the construction of the Powerhouse, Substation, Penstock, Tailrace, Detention Pond, portions of the Transmission Line, Access Road, and Parking Lot all described in the Lease Application and the Project Construction Plan (KHL 2020a).

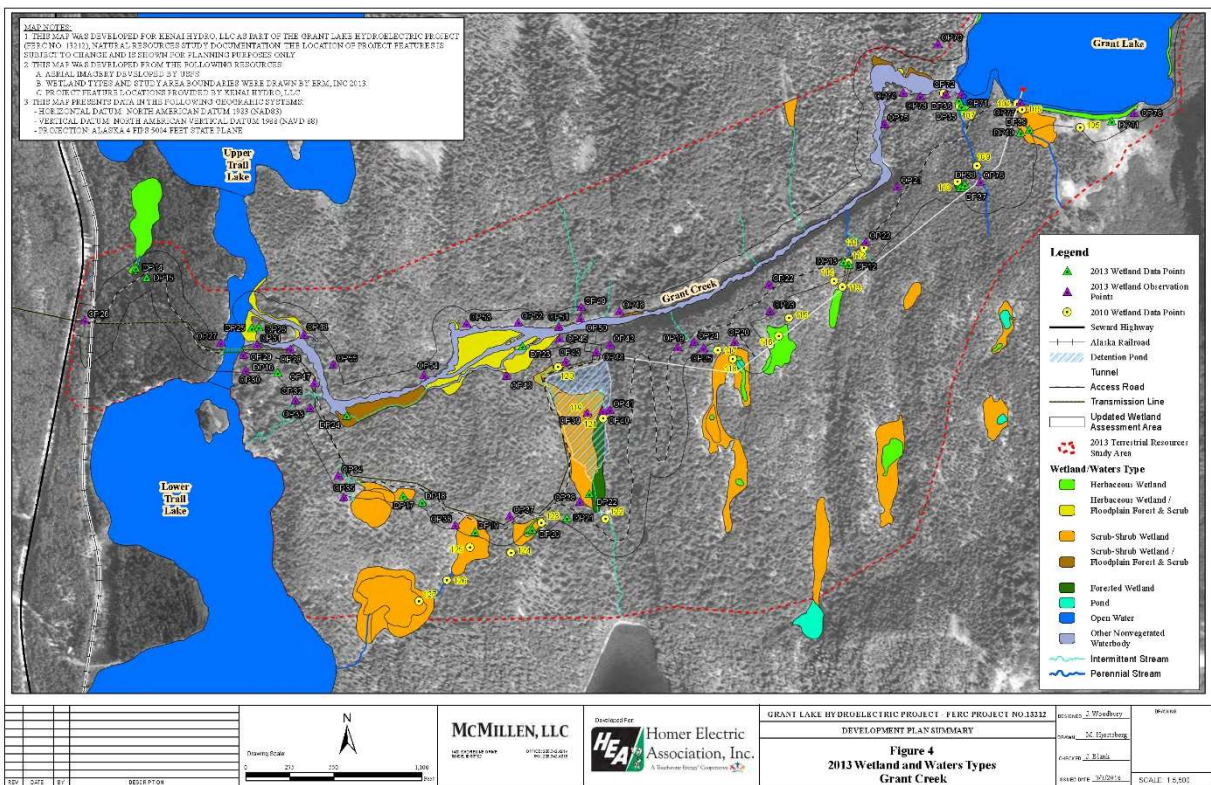
3.2. Site Access

No current access exists to the Lease area. As shown in Figure 2, an access road, permitted via a separate easements, would be constructed off of the Seward Highway to allow for access to the site.

Attachment A Development Plan



Attachment A Development Plan



Attachment A

Development Plan

4 BUILDINGS, STRUCTURES, AND UTILITIES

4.1. Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would lie at the top of the existing hill slope that occurs near the mouth of the Grant Creek canyon (Reach 5). This location was selected based on the ability to maintain the aquatic habitat of Grant Creek and for the presence of an existing rock outcrop that would provide an effective downstream portal location for the tunnel. The powerhouse would be located south of Grant Creek. A natural lower area is located immediately south of the proposed powerhouse site. The entire site is forested with areas of open meadow. The powerhouse concrete foundation would tie into the existing hillside with the majority of the powerhouse structure located on relatively flat ground. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center (MCC), communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad-mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

4.2. Penstock

A 72-inch-diameter steel penstock would extend 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48-inch-diameter pipes feeding each of the powerhouse turbines. The penstock, fitted with welded steel thrust rings, would be encased in concrete thrust blocks at the tunnel portal as well as at the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock, providing full

Attachment A

Development Plan

corrosion protection. An access manway would be provided on the exposed penstock section, allowing access for future inspection and maintenance.

4.3. Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 514 feet NAVD 88. The channel would continue to the south bank of Grant Creek. Each of the draft tubes would be gated, allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided, allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom width of 74 feet, side slopes of 2H:1V, and a channel depth ranging from 13 feet at the powerhouse to 8 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs, allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer would be placed in the channel to monitor the water level in the channel. A wildlife exclusion fence approximately 8 feet tall and constructed from steel posts with heavy gage woven wire would be installed at the tailrace channel. The fence would be located at the top of the bank on both sides of the tailrace channel. The fence would also cross the top of the tailrace barrier access deck, providing full exclusion of wildlife from the tailrace channel.

4.4. Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve were needed for the electrical transmission grid. To prevent a sudden increase in the water surface levels of Grant Creek as a result of the increased flows generated, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. The discharge associated with a spinning reserve event would be dispersed via the tailrace channel that flows into Grant Creek. The detention pond would be located immediately south of the powerhouse, and would be bordered by the access road. Storing additional powerhouse flows up to an elevation of 521 feet NAVD 88, the detention pond would have a capacity of approximately 15 acre-feet and a surface area of approximately 3.6 acres. The powerhouse would contain two generating units. The turbines would discharge into a splitter box located at the outlet of the turbine draft tubes. Isolation gates would be provided to route the turbine discharge to the detention pond when a unit was brought online to support a spinning reserve demand. Typically, when a turbine was brought online for spinning reserve, the turbine would operate for an average period of 15 to 20 minutes to meet the instantaneous demand. For example, assuming one turbine was allocated to spinning reserve, the turbine would divert the full 192.5 cfs of flow into the detention pond with a total of 173,250 cubic feet (cf) discharged during a 15-minute period. Once the spinning reserve demand was met, the unit would be brought offline and the detention pond flow released slowly back into the powerhouse tailrace.

Attachment A

Development Plan

4.5. Transmission Line/Switchyard

An overhead 115-kV transmission line would extend from the powerhouse to the existing 115-kV transmission line located on the west side of the Seward Highway. In addition to overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole-mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

4.6. Access Road

The Project requires an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a month and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse.

4.7. Grant Creek Diversion

The proposed Project would consist of a reinforced concrete intake structure located east of the natural lake outlet adjacent to the south shore. The Project would divert water up to a maximum of 385 cfs into the intake structure. Up to 385 cfs would flow to the powerhouse and up to 10 cfs would flow through the bypass system. The bypass system consists of a weir with an automated slide gate and pumps to provide up to 10 cfs of flow to the bypassed reaches of Grant Creek (reaches 5 and 6). When the lake level exceeds 703 feet NAVD 88, a maximum of 385 cfs could be diverted into the intake structure. Flow in excess of 385 cfs would then pass over the top of the bypass weir and into Grant Creek's natural outlet.

Attachment A

Development Plan

4.8. Grant Lake Intake

The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the south shore. The intake structure would consist of a reinforced concrete structure extending from approximately elevation 675 feet NAVD 88 up to a top deck elevation of 715 feet NAVD 88. The structure would have an outside dimension of 38 feet by 20 feet. The structure would include intake trashracks, selective withdrawal intake gates with wire rope hoist, and a vertical roller gate located on the water conveyance intake to allow isolation and dewatering of the tunnel. The intake would be divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 63 cfs to 395 cfs. The gate position within the water column would be set to deliver the required water temperature to Grant Creek below the powerhouse. The vertical roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power and control cabling would be extended from the powerhouse to the intake to operate the intake and bypass weir. The cabling would be buried to the side of the intake access road. Pressure transducers would be installed to monitor the water level at the lake as well as within the intake tower. An access bridge approximately 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88, thereby creating approximately 18,791 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake would be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at approximately elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

As part of Project development, KHL has conducted studies and collaborated with stakeholders on acceptable instream flow amounts through the bypass reach. As a result of Project operations, water would be utilized for power generation, effectively limiting flows in reaches 5 and 6 to some extent for the entirety of the year. A bypass weir and pump system would be utilized to provide minimum instream flows to Grant Creek. A concrete weir with a crest set at elevation 703 feet NAVD 88 at the outlet of Grant Lake would provide consistent water level control. The concrete weir would be approximately 100-feet in total length, spanning from the north shore to the south shore, and connecting in the middle to an existing island. An automated slide gate in the weir would provide bypass flows when lake levels remain at elevations above the bottom of the weir. When lake levels drop below the bottom of the weir a vertical turbine pump station would lift water from the drafted lake to a discharge location just below the concrete weir. Located at the intake structure, the pumps with a combined horsepower of 11 to 15 hp would provide bypass flow. The pumps would be sheltered from adverse weather conditions and the water would already be screened. A discharge pipe would be routed under the intake access bridge, and then be buried to its discharge location at invert El. 703 feet. The 16-inch diameter pipe would be approximately 400 feet long. The pump and weir combination would allow the minimum flow ranging from 5 to 10 cfs to be released at the top of reach 6. Under this proposed system, no reach of the creek would be dewatered. The water would be provided to maintain anadromous and resident passage in Reach 5 and provide persistent wetted habitat for any macroinvertebrate populations in Reach 6.

Attachment A

Development Plan

4.9. Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,350 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel would be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber would be located at the transition between the two tunnel slopes. This chamber would be approximately 10 feet in diameter and would extend from the tunnel invert elevation of 675 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber would provide a non-mechanical relief for hydraulic transients that could occur if a load rejection occurred at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The surge chamber outlet at the existing ground elevation would be fitted with a pre-fabricated steel structure that would span the chamber. The steel frame structure would be covered with wire mesh, providing a fully screened structure capable of allowing air in for the surge chamber, while also excluding wildlife and the public from accessing the surge chamber. A removable roof structure would be located on the steel outlet, allowing access to remove material from the rock trap that would be located in the tunnel directly below the surge chamber. The surge chamber cover structure would be painted to blend into the natural forest environment. During operations, if/when a load rejection at the powerhouse occurs, the pressure wave and associated volume of water would be contained within the surge chamber. As the wave dissipated, the water level in the surge chamber would decrease until it matched the level in Grant Lake.

The tunnel would transition to a 6-foot-diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure that transitioned from the 10-foot tunnel section to the 72-inch-diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface, with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

4.10. Appurtenant Facilities

The following pertinent mechanical and electrical equipment would be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake vertical roller gate used to isolate the tunnel and downstream generation facilities

Attachment A

Development Plan

- Bypass system consisting of a weir with an automated slide gate and pumps located in the intake structure to provide agreed upon instream flows to the bypass reach (reach 5 and 6).
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the Project used to monitor the water level in the reservoir, tunnel, and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank or septic system at the powerhouse
- Power and control cables extending from the powerhouse to the intake to supply electrical power and controls to the intake and bypass weir
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature
- Facility communications & controls cables (likely fiber-optic) will either be buried by the side of the powerhouse access road or installed as an under-run on the transmission line.

This equipment, along with other identified miscellaneous mechanical and electrical equipment, would be developed during the final design and included in the construction documents.

4.11. Site Utilities, Waste Disposal, and Hazardous Materials

4.11.1. Power Source

Construction activities will need generated electric power until construction of the transmission line is complete and power is established at the proposed powerhouse site. Power will initially be generated by diesel- or propane-powered generators. Fuel will be delivered by truck to the Narrows staging area for all fuel needs. After power has been established at the powerhouse site, power will be back fed to the tunnel portal to meet demands for tunnel construction. Power for the Project will be self-generated when the facility is generating power and will be backed up by an emergency generator. Critical loads are further backed up by batteries.

4.11.2. Water Supply

Non-potable water will be provided via a tap from the penstock. The water will be routed through a filter and used for utility water. Bottled water will be used for potable water.

4.11.3. Solid Waste Disposal

During construction, garbage will be collected daily and stored in bear-proof containers for weekly disposal to the Seward Transfer Facility or another approved disposal facility (Figure 5). Garbage will be transported from the site via trucks along the access roads.

Construction debris will be collected, contained and removed from the site via trucks along the access roads. Construction debris will be temporarily stockpiled and/or immediately removed from the site for disposal at the Seward Transfer Facility or another approved disposal facility.

Attachment A

Development Plan

GRANT LAKE DEVELOPMENT PLAN

Upon commencement of operations, it is anticipated that solid waste generation will diminish significantly. As such, all solid waste generated will be stored indoors, or outdoors in bear-proof containers, and removed from the site on a monthly basis consistent with the presence of operators on-site for routine maintenance activities.

All solid waste will be sorted per the requirements of the disposal facility. The Project Solid Waste and Wastewater Plan (KHL 2020c) provides additional detail regarding plans for solid waste disposal.

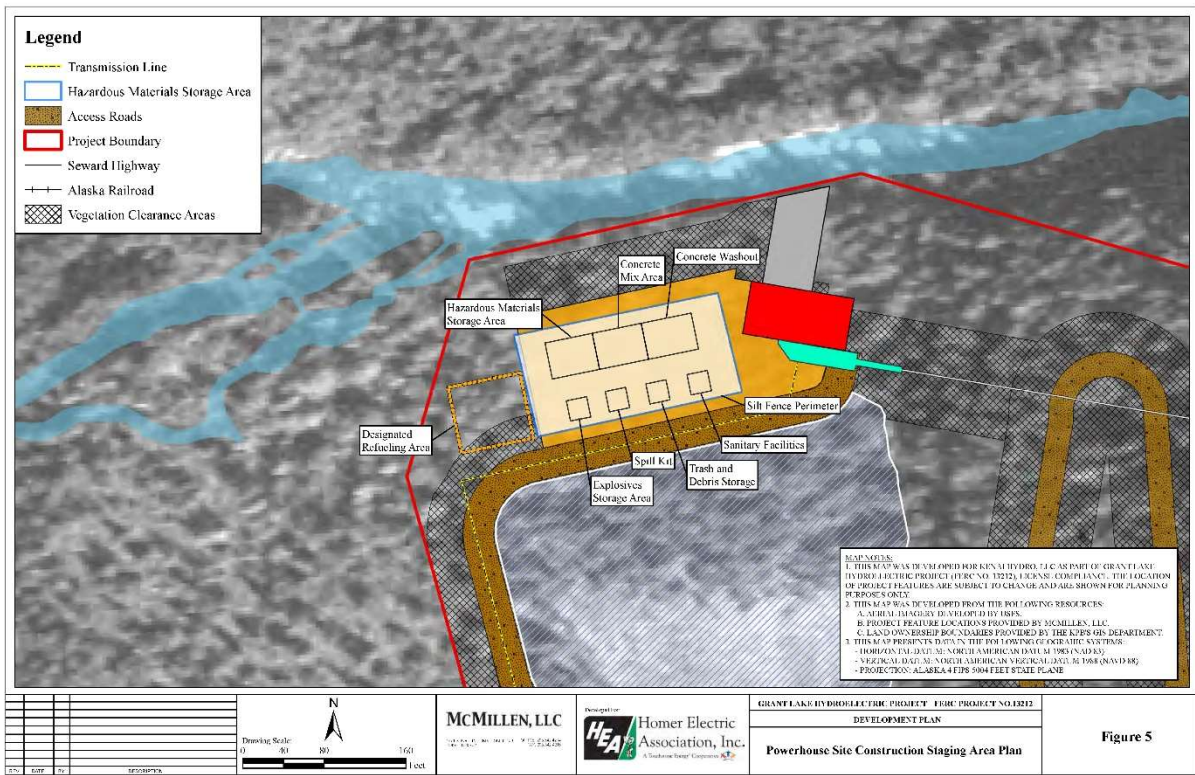
4.11.4. Temporary Wastewater Disposal

Contractors will be given the option of commuting to the Project on a daily basis or staying in a temporary camp located near the powerhouse site. All waste will either be captured in contained portable toilets and transported off site weekly or disposed of onsite using a pit privy design approved by the Alaska Department of Natural Resources (ADNR) (Figure 5). If utilized, portable toilets will be serviced and maintained in a safe and hygienic manor with waste transported for disposal to the City of Seward's sewage treatment plant. Portable toilets will be spaced appropriately and meet all Alaska DEC specifications and requirements as detailed in 18 AAC 72. The Project Solid Waste and Wastewater Plan (KHL 2020c) provides additional detail regarding plans for temporary wastewater disposal.

4.11.5. Permanent Wastewater Disposal

The powerhouse will have an approved DEC septic system, pit toilets pumped as needed, or an approved alternative. The Project Solid Waste and Wastewater Plan (KHL 2020c) provides additional detail regarding plans for permanent wastewater disposal.

Attachment A Development Plan



Attachment A

Development Plan

4.11.6. Organic Waste

Organic waste consisting of stumps, timber, limbs, brush, moss, and other vegetation will be generated during construction of the Project. If economically feasible, merchantable timber from state lands with a top diameter greater than 6 inches will be limbed and transported off site for commercial use. Non-merchantable timber, limbs and brush will be chipped on site and the chips will be used for permanent site stabilization. Moss and other vegetation will be contoured to the existing terrain and used to revegetate the powerhouse visual landform barrier and in small amounts adjacent to the access roads. The Project Solid Waste and Wastewater Plan (KHL 2020c) provides additional detail regarding plans for organic waste disposal.

4.11.7. Spoils Disposal

KHL has designed the Project to optimize the use of excavated materials by incorporating them into Project infrastructure, leaving minimal spoils. The majority of excavated materials will be used to construct necessary Project features. Remaining excavated materials will be used for permanent stabilization of the site. Soil that remains unused after construction will be contoured to the existing terrain slope and used to revegetate the powerhouse visual landform barrier and in small amounts adjacent to access roads. Rock spoils that remain after construction will be contoured to the existing terrain adjacent to the access roads or the visual landform barrier adjacent to the powerhouse. Storage of spoils, whether temporary or long-term, will be a minimum of 100-ft away from Grant Creek. The Project Spoils Disposal Plan (KHL 2020d) provides additional detail regarding spoils disposal.

4.11.8. Hazardous Materials

Hazardous materials will be stored at the powerhouse site, including paints, chemicals, fertilizers, pesticides, oil and grease, and explosives (Figure 5). The powerhouse site storage area will be secured so that the public, if in the area, will not be able to access these items. Containment and storage measures for hazardous substances and fuels will be used so that these materials are not accidentally introduced into the air, water, or ground, causing contamination. The Project Hazardous Materials Plan (KHL 2020b) provides additional detail regarding hazardous materials protocols.

4.11.8.1. Hazardous Materials Storage

KHL will store, maintain, and dispose of hazardous substances based on the following regulations:

- All materials stored on site will be stored in a neat, orderly manner in their appropriate containers.
- To the extent practicable, products will be kept in their original containers with the original manufacturers' labels. When storage in original containers is not feasible, hazardous substances shall be stored in containers, such as those approved by the U.S. Department of Transportation (DOT), which are chemically inert to and appropriate for the type and quantity of the hazardous substance.

Attachment A

Development Plan

GRANT LAKE DEVELOPMENT PLAN

- Containers of hazardous substances shall not be stored in locations or in a manner that results in physical damage to, or deterioration of, the container. Containers shall not be stored where they are exposed to heat sufficient to rupture the containers or to cause leakage.
- Containers used to package a substance which gives off toxic, poisonous, corrosive, asphyxiant, suffocant, or anesthetic fumes, gases, or vapors in hazardous amounts (e.g., fuming sulfuric acid, hydrofluoric acid, nitrous oxide, chlorine, or other compressed or liquefied toxic gases) shall not be stored in locations where it could be reasonably anticipated that employees would be exposed. This requirement shall not apply to small quantities of such materials kept in closed containers, or to tank cars or trucks.
- Substances which, when mixed: (1) react violently, (2) evolve toxic vapors or gases, or (3) become hazardous by reason of toxicity, oxidizing power, flammability, explosibility, or other properties, shall be considered incompatible. Incompatible substances shall be separated from each other in storage by distance or by partitions, dikes, berms, secondary containment or otherwise, to preclude accidental contact between them.
- Explosives shall be stored in accordance with federal regulations set forth in Occupational Health and Safety Administration (OSHA) regulations set forth in Code of Federal Regulations (CFR) 1910.109 at the minimum allowable distances set forth in Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Table 555.218. Explosives will be stored in the storage area near the proposed powerhouse in facilities provided by the contractor. The anticipated maximum amount of explosives stored at any one time will be less than 25,000 lbs. Access to the storage area will be restricted and only authorized personnel will be permitted entrance. Proper signage will be installed, and local authorities will be notified of the stored explosives.

Safety Data Sheets (SDS) will be available for all hazardous substances being bought, stored, handled, or used within the Project area, and will be located both at each location where hazardous substances are stored and in the Project trailer to comply with federal, state, and local laws and regulations.

For further details regarding hazardous materials storage, please see the Project Hazardous Materials Plan (KHL 2020b).

4.11.8.2. *Containment*

Storage locations will have secondary containment units so that if a leak occurs, it will be contained and not allowed to enter the surrounding environment. For fuel storage sites, the containment should have a minimum volume of 120 percent of the volume of the largest container stored in that site. Secondary containment should be maintained, clean, and free of water. Fuel containment sites and hazardous storage locations should be sited to minimize the chance of a discharge.

Attachment A

Development Plan

Hazardous substances will be stored and protected from rain and runoff to avoid contamination of soil or transfer to a water source. Along with utilizing the correct storage container, KHL will label, tag, or mark each substance with overall signage including the name of the substance, the hazard warning (e.g., corrosive, poison, etc.), and the manufacturer's contact information.

When hazardous materials are being handled or used during construction activities, spill kits will be readily available in the case of an unforeseen spill. Proper personal protective equipment will be used when handling the hazardous materials including gloves, boots, eyeglasses or goggles, and appropriate work attire. All hazardous materials will be contained in an appropriate container when transported.

For further details regarding hazardous materials containment, please see the Project Hazardous Materials Plan (KHL 2020b).

4.11.8.3. Spill Prevention Measures

KHL will ensure that all practicable measures are taken to minimize the potential for and consequences of a spill in the Project area (Figure 5). KHL will comply with applicable environmental and safety laws and regulations and will provide training to personnel to prevent spills. The proper use of materials, equipment, and storage greatly reduces the potential for contamination resulting from hazardous substance spills. The following construction practices will be implemented to minimize the potential for spills:

- An effort will be made to only store enough hazardous material products to complete the Project.
- Fuels and lubricating oils for vehicles or heavy equipment will not be stored near water or sensitive biological habitats. When terrain and conditions allow, storage of these types of materials will be at least 100 feet from these areas.
- All refueling of heavy equipment will be performed in specified non-smoking areas.
- Designated fueling areas will be provided with appropriate absorbent materials readily available. Spill pans and/or pads will be placed underneath connection points during refueling. There will be no refueling or changing of fluids in machinery or vehicles within 100 ft of the Ordinary High Water Mark of Grant Lake, Grant Creek, or tributaries. Care will be taken to properly secure spill pans and pads such that severe weather events (winds, rains) do not wash away or otherwise destroy employed prevention measures.
- Work practice controls will be utilized to prevent spills during refueling and maintenance operations that involve power tools, site vehicles, and equipment (this will include the use of spill pads to collect spilled materials). Work practices will include (but are not limited to) the following:
 - Ensuring that connections are tight where fluid is transferred;
 - Providing containment when decanting substances from one container to another;
 - Closing containers when not in use;
 - Following manufacturers' recommendations for proper use and disposal of materials;
 - Using proper equipment for the job; and
 - Minimizing refueling during rain events.

Attachment A

Development Plan

- During construction, oil pads or spill containment platforms will be placed underneath equipment and secured in place when the equipment is parked on-site.
- Construction materials will not be stockpiled near or on the bank of any waterway where they could be washed away by storm events.
- Storage areas will be secured so that the general public and/or wildlife cannot easily access hazardous materials.
- Storage containers will display labels that identify the contents of the container and whether the contents are hazardous. Copies of all SDS will be maintained and provided to any person upon request.
- Spill response kits will be provided in easily accessible locations in the Hazardous Material Storage Areas. Spill response kits shall contain a sufficient quantity of absorbent and barrier materials to adequately contain and recover potential spills of fuels or oils. These kits may include, but are not limited to, drip pans, buckets, absorbent pads, straw bales, absorbent clay, sawdust, floor drying agents, spill containment barriers, heavy plastic sheeting, plastic bags, shovels, and sealable containers.
- Construction activities will be performed by methods that will minimize entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes into streams, flowing or dry watercourses, lakes, wetlands, or underground water sources.
- Remediation procedures for the removal and clean-up of spilled hazardous materials will be completed in accordance with Homer Electric Association's (HEA's) Operations Procedure Manual (see the Project Hazardous Materials Plan (KHL 2020b, Appendix B)).
- Personnel will be trained to follow spill prevention procedures and to readily and effectively contain and clean up spills.
- Specific measures for spill prevention, reporting and cleanup will be discussed at job site briefings.

For further details regarding spill prevention measures, please see the Project Hazardous Materials Plan (KHL 2020b).

5 STAFFING, MAINTENANCE, AND OPERATIONS

5.1. Parking and Storage Areas

The parking area is located to the west of the powerhouse and will be used for storage and concrete mixing during construction (Figure 5). During operations, the parking area will be used for parking vehicles during monthly site inspections by HEA's O&M staff.

5.2. Number of People Using the Site

During construction, up to 70 people may be on site to participate in construction activities.

During typical operations, the facility would be unmanned and remotely operated and monitored from the existing HEA Dispatch Center, which is manned 24 hours a day, 7 days a week, 365 days a year. The site would be visited monthly for inspection, and planned and unplanned maintenance by HEA's existing roving O&M crew (typically one or two persons) that currently

Attachment A

Development Plan

maintains and operates HEA's backup thermal generation plants in Nikiski, Soldotna, and Seldovia.

5.3. Maintenance and Operations

The facility would be unmanned and remotely operated and monitored from the existing HEA Dispatch Center, which is manned 24 hours a day, 7 days a week, 365 days a year. The site would be visited monthly for inspection, and planned and unplanned maintenance by HEA's existing roving O&M crew (typically one or two persons) that currently maintains and operates HEA's backup thermal generation plants in Nikiski, Soldotna, and Seldovia. Depending on the scope of work involved contractors would be utilized for major overhauls and maintenance work, as well as, specialty work such as vegetation management, required environmental studies, etc.

6 SITE CLOSURE AND RECLAMATION PLAN

HEA plans to retain the Project and all associated structures through the duration of the requested lease term (55 years).

6.1. Revegetation and Restoration of Disturbed Areas

HEA proposes to revegetate areas disturbed by Project construction and operations. These areas include areas adjacent Project features, laydown areas for equipment and construction materials, as well as temporary vehicle use and parking areas (Figures 2 and 5). Revegetation efforts would restore areas to their previous upland vegetation type. Upland vegetation types in the Project area were surveyed and mapped as a part of vegetation studies of the Grant Lake Project area (Figure 4).

Revegetation of disturbed areas will occur upon completion of construction or ground disturbance. These areas would be documented in a manner similar to invasive plant infestations, described in Section 3.1. The following measures and BMPs regarding revegetation would be employed during construction and operation of the Project:

- Only weed-free materials (rock, mulch, straw, plant materials, native seed mixes) would be used for revegetation.
- During construction, native shrubs, forbs, soils, and vegetation mats would be salvaged from areas where plants were destroyed, for later use in revegetation. As much soil as reasonably possible would be kept with salvaged plant roots.
- Natural revegetation would be promoted when local seed source and site conditions were favorable for achieving revegetation objectives.
- When conditions were not favorable for natural revegetation, native plant sources would be used for revegetation stock.
- Preference would be given to using plant materials for revegetation from the local region to maximize adaption to the Project area, and to maintain local genetic composition.

Attachment A

Development Plan

Revegetated areas will be monitored on a prescribed schedule and restoration success will be evaluated based on a set of restoration success criteria as described below. The success of revegetation methods will be monitored monthly between April and September during construction and annually thereafter for 5 years. Annual revegetation monitoring will occur during the growing season (June-August) to optimize plant identification. One survey will occur per year between June and August following the completion of construction.

Successful revegetation is defined as a 60% reduction in disturbed, bare areas (due to natural regeneration or growth of revegetation) by the final year of monitoring. Any patches not meeting these criteria by the final year of monitoring will be revegetated again. If supplemental revegetation of any area is deemed necessary at the end of the 5-year monitoring period, vegetation monitoring of these areas will continue for two additional growing seasons, or until success criteria are met for two consecutive growing seasons.

6.2. Site Closure

As described above, HEA intends to operate the Project and retain all Project infrastructure through the duration of the requested lease term (55 years) and likely will apply for a second or third lease as hydroelectric plants can and have operated for more than 120 years. When the Project requires decommissioning in the future, HEA would remove all above-ground structures and dispose of them in accordance with local solid waste disposal regulations. The tunnel would be capped or gated on both ends and would remain in place to avoid additional site disturbance. The site would be regraded to remove bermed areas and ponds, then permanent erosion and sediment BMPs installed. Areas disturbed by Project construction and operations would be revegetated as described in Section 6.1 above.

7 PERMITS AND AUTHORIZATIONS

On August 28, 2019, Kenai Hydro, LLC (KHL) received its License for the Grant Lake Hydroelectric Project (Project) from the Federal Energy Regulatory Commission (FERC). Issuance of the license was the culmination of over 10 years of work and adherence to a rigid set of timelines, process requirements and feasibility assessments. The FERC licensing process requires the project proponent to participate in significant collaboration with state and federal agencies, Tribal corporations and the local public (stakeholders) throughout. Through this collaboration, an extensive and resource-specific set of multi-year studies were developed and implemented to assess the potential impacts associated with the development and long-term operation of the Project.

At the initiation of the formal FERC licensing process, KHL facilitated and participated in multiple years of dialogue with stakeholders and FERC dedicated to reaching agreement on the suite of studies that everyone agreed would adequately define both the existing environment in the Project area and the potential for that area to be impacted as a result of Project development and operations. Once the study program was agreed upon and all study plans were developed and approved by FERC, KHL spent approximately 1 year collaborating with requisite stakeholders and filing for all necessary natural resource permits required to conduct the studies. Permits required and attained for study purposes included but were not limited to:

Attachment A

Development Plan

- Multiple ADNR Land Use Permits
- ADFG Fish Resource Permits
- ADFG Fish Habitat Permits
- ADNR Archeology Permit
- Multiple USFS Special Use Permits

It is noteworthy that in addition to the aforementioned permits, KHL also proactively developed and distributed a water rights application and a draft 404 permit, to ADNR and the US Army Corps of Engineers, respectively.

Upon permit acquisition, KHL implemented a suite of aquatic, water resource, terrestrial, cultural and recreational studies over the course of a 3-year period. At the end of each study season, KHL met with stakeholders to discuss results, needs for any supplemental assessments and plans for the following study season. Once the study program was complete, a series of resource-specific study reports were developed by KHL, and reviewed/discussed with the stakeholders during a series of meetings. These post-study meetings were also utilized to collaboratively discuss and reach agreement on a series of mitigation and enhancement measures that the group felt justified incorporation into a FERC license. Concurrent with these discussions, KHL developed a Draft License Application (DLA) which they distributed to the stakeholders for review and comment in advance of finalization and ultimate filing with FERC to begin their National Environmental Policy Act (NEPA) review for the Project. Upon receiving comments on the DLA, KHL organized additional meetings with stakeholders to discuss any outstanding comments and ultimately revised the DLA in accordance with a majority of the technical and editorial comments received. The result of these revisions was a comprehensive Final License Application (FLA) that not only included study results and an associated Project impact assessment but also a preliminary design description, infrastructure-specific engineering drawings, Project land use information and maps (ownership, acreages, etc.), Project cost information and a suite of proactively developed management plans requested by stakeholders and intended to confirm the resource-specific impact assessments conducted during the licensing effort.

On April 18, 2016, KHL filed its FLA for the Grant Lake Hydroelectric Project. Upon response by KHL to an additional information request, FERC accepted the FLA for filing on July 19, 2016. This acceptance initiated FERC's NEPA assessment process during which, a comprehensive internal analysis of the application was conducted. In addition to a review of the application to assess the Project's merits and potential impacts to the natural environment, FERC is charged with confirming that the proposed Project adheres to all local, state and federal aspects of the following:

- Clean Water Act
- Coastal Zone Management Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Essential Fish Habitat

Attachment A

Development Plan

- Endangered Species Act

Once the review for the Project was completed, a draft Environmental Impact Statement (DEIS) was developed that provides FERC's evaluation of KHL's Project proposal as well as all potential alternatives associated with the licensing of the Project. This DEIS was publicly issued and comments were solicited. Upon receiving stakeholder comments, FERC reviewed responses and revised and finalized the document based upon stakeholder input that they felt was justified. The final EIS (FEIS) was issued by FERC on May 1, 2019 with a commitment to make a licensing decision based upon "all concerns relevant to the public interest". On August 28, 2019, per its authority under the Federal Power Act, FERC issued an original License to Kenai Hydro, LLC for the construction, operation and maintenance of the Grant Lake Hydroelectric Project and rights to that development on 1,688.7 acres of federal land on which Grant Lake resides. No objections to license issuance were received by FERC.

Since License issuance, KHL has obtained the following permits:

- All requisite permits to conduct pre-construction surveying, bathymetry and geotechnical assessments
- A state permit to conduct initial gravel monitoring in Grant Creek, per the License requirements

8 REFERENCES

Much of the information used in the preparation of this Development Plan was derived from the following KHL source documents:

KHL (Kenai Hydro LLC). 2016. Grant Lake Hydroelectric Project (FERC No. 13212), Final License Application. April 2016.

KHL. 2020a. Grant Lake Hydroelectric Project (FERC No. 13212), Construction Plan. September 2020.

KHL. 2020b. Grant Lake Hydroelectric Project (FERC No. 13212), Hazardous Materials Plan. October 2020.

KHL. 2020c. Grant Lake Hydroelectric Project (FERC No. 13212), Solid Waste and Wastewater Plan. August 2020.

KHL. 2020d. Grant Lake Hydroelectric Project (FERC No. 13212), Spoils Disposal Plan. August 2020.

KHL. 2020e. Grant Lake Hydroelectric Project (FERC No. 13212), Vegetation Management Plan. July 2020.

