

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

PRELIMINARY DECISION

ADL 233857

Alaska Electric and Energy Cooperative, Inc. dba Kenai Hydro, LLC

Application for Lease

AS 38.05.810(e)

This Preliminary Decision (PD) is the initial determination on a proposed disposal of interest in state land and is subject to written 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:

The Department of Natural Resources (DNR), Division of Mining, Land and Water (DMLW), Southcentral Regional Land Office (SCRO) has received a request from Alaska Electric and Energy Cooperative, Inc. (AEEC) dba Kenai Hydro, LLC (KHL; the applicant) to lease approximately 46.8 acres of land, more or less, for 55 years for the purpose of constructing, operating, and maintaining a hydroelectric facility (Grant Lake Hydroelectric Project) located near Moose Pass, Alaska. The location of the proposed project area is further described as being within Sections 6 and 7, Township 4 North, Range 1 East, Seward Meridian.

The applicant proposes to construct a long-term, hydroelectric facility infrastructure on state-owned lands on/in-between Grant Lake and the Trail Creek corridor, adjacent to Grant Creek. The associated infrastructure to be constructed on the proposed leasehold includes a powerhouse, penstock, tailrace, surge chamber, parking lot, detention pond, intake tunnel, intake, intake access road, transmission lines, and bypass weir. An access road to the powerhouse along with aerial transmission lines and communication and control cables will be included in a proposed easement authorization to access the proposed leasehold and transport the electricity produced from the site. The proposed easement (ADL 233782) is being adjudicated concurrently with the proposed leasehold by the SCRO's Easement Unit.

SCRO is considering the issuance of a 47 acre, more or less, 55-year public & charitable land lease for the construction, operation, use, and maintenance of a hydroelectric facility. SCRO would issue an Entry Authorization (EA) for construction of the lease site prior to lease issuance, along with a survey and appraisal, and any necessary studies prior to development.

Dependent Actions:

The following actions must be completed 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:

The applicant is proposing the creation of a 5-megawatt run-of-river hydroelectric facility that would use the waters of Grant Lake near the community of Moose Pass, Alaska. KHL is a wholly owned subsidiary of AEEC. KHL was issued a license from the Federal Energy Regulatory Commission (FERC) for this project on August 28, 2019. The renewable energy produced from the proposed project will be delivered to Homer Electric Association members for off-site use.

On February 2, 2021, KHL submitted an easement application, serialized as ADL 233782, to SCRO to authorize the proposed hydroelectric project in its entirety. After discussions between KHL and SCRO, ADL 233782 was updated to be the easement request, followed by the submittal of two additional applications, serialized as ADL 233856 and ADL 233857, on July 19, 2021. ADL 233856 being an easement request to authorize the intake infrastructure and portions of the intake access road, and ADL 233857 requesting a leasehold to authorize the powerhouse and associated infrastructure. On February 25, 2022, updated applications were received by SCRO for ADL 233782 and ADL 233857, with the closure request of ADL 233856. Changes to the application under ADL 233857 were to increase the boundaries of the proposed leasehold, including what was previously covered by the now closed ADL 233856 easement application, along with more accurately represented applicable land ownership within the project area. ADL 233857 currently requests to lease 46.8 acres, more or less of State lands.

The Grant Lake Hydroelectric Project spans across multiple landowners including the State of Alaska, the Kenai Peninsula Borough (KPB), and the Alaska Railroad Corporation (ARRC). KHL

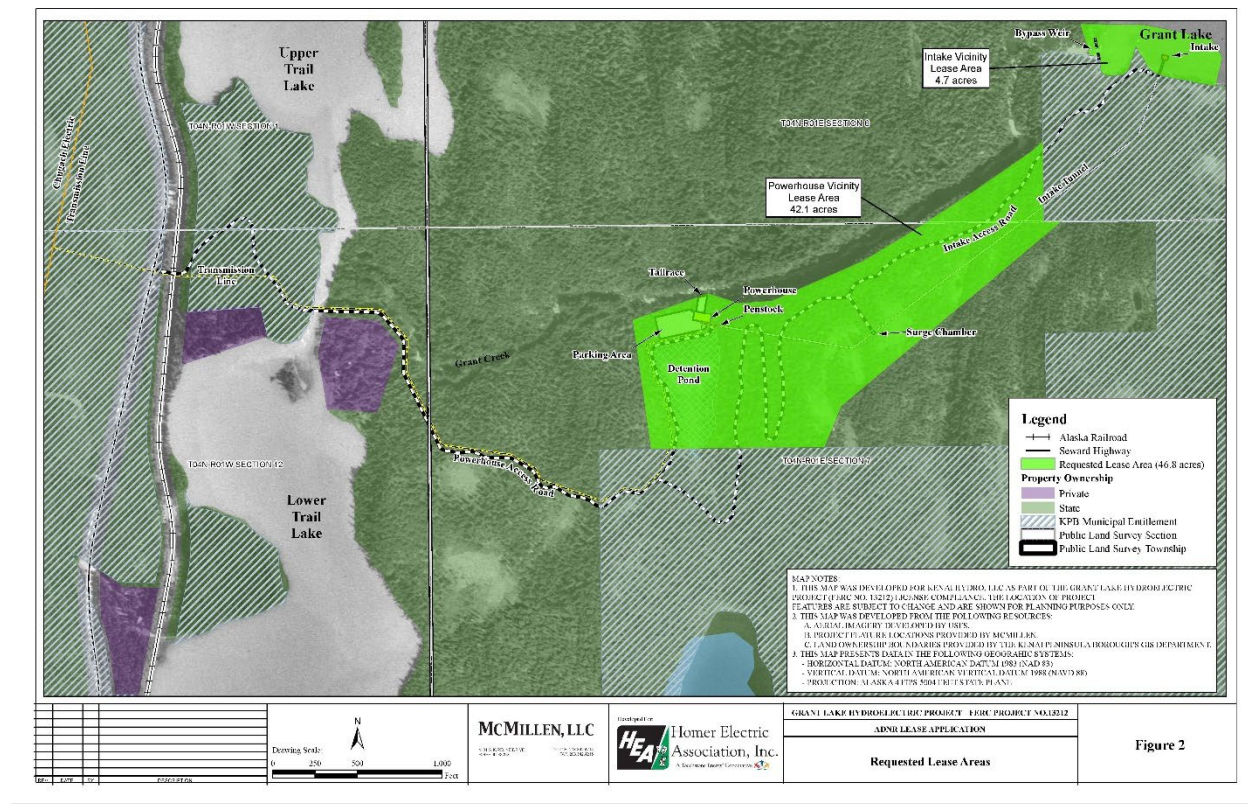
has been informed and is required to gain authorizations from each applicable land manager for the project to proceed as currently requested. This PD is specific to lands managed by SCRO and the leasehold request. To date, KHL has three active applications for the proposed use of DMLW-managed state lands:

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

Scope of Review:

The scope of this decision is to determine if it is the State’s best interest to issue ADL 233857. While this project spans over other land management jurisdictions, this decision only applies to the land that the State of Alaska owns, and SCRO manages.

Figure 1: Overview Map of Proposed Project Area



Authority:

This lease application is being adjudicated pursuant to AS 38.05.035(b)(1) and AS 38.05.035(e) Powers and Duties of the Director; AS 38.05.070(b) Generally; AS 38.05.810(e) Public and charitable use; and AS 38.05.945 Notice.

The authority to execute the PD, FFD, the EA, and the lease has been delegated to the Regional Managers of DMLW.

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 here-in, the 2001 Kenai Area Plan, as amended, SC-99-002A16, and other classification references described herein, and the casefile for the lease application serialized by DNR as ADL 233857.

Legal Description, Location, and Geographical Features:

The state land where this proposed lease is located is described as follows:

- **Legal description:** Located within Sections 6 & 7, Township 4 North, Range 1 East, Seward Meridian, Alaska
- **Geographical location:** Along the southern bank of Grant Creek, between Trail Lake Narrows and Grant Lake
- **Approximate Lat/Long:** 60° 27' 20" N, 149° 21' 2" W
- **Area geographical features:** Deciduous Forest/varying wetlands
- **Existing surveys:** None
- **Municipality/Borough:** KPB
- **Native Corporations/Federally Recognized Tribes:** Cook Inlet Region, Inc.
- **Size:** 47 acres, more or less

Title:

The State of Alaska holds fee title to the subject land under U. S. Patent No. 50-92-0639 dated September 21, 1992. A DNR Title Report (RPT-22 165) issued on February 11, 2022 from DMLW's Realty Services Section attests that aside from the usual reservations for ditches, canals, railroads, telegraph and telephone lines, and water rights, there is one other reservation within the proposed lease site:

The Grant is subject to the following: to the land described below, those segments 1,000 feet in width for the Iditarod National Historic Trail, reserved under the authority of Sec. 7(h) of the National Trail Systems Act of October 2, 1968, 82 Stat. 919, as amended November 10, 1978, 92 Stat. 3511, and Sec. 906(2) of the Alaska National Interest Lands Conservation Act of December 2, 1980, 94 Stat. 2371, 2442, 43 U.S.C. 1635.

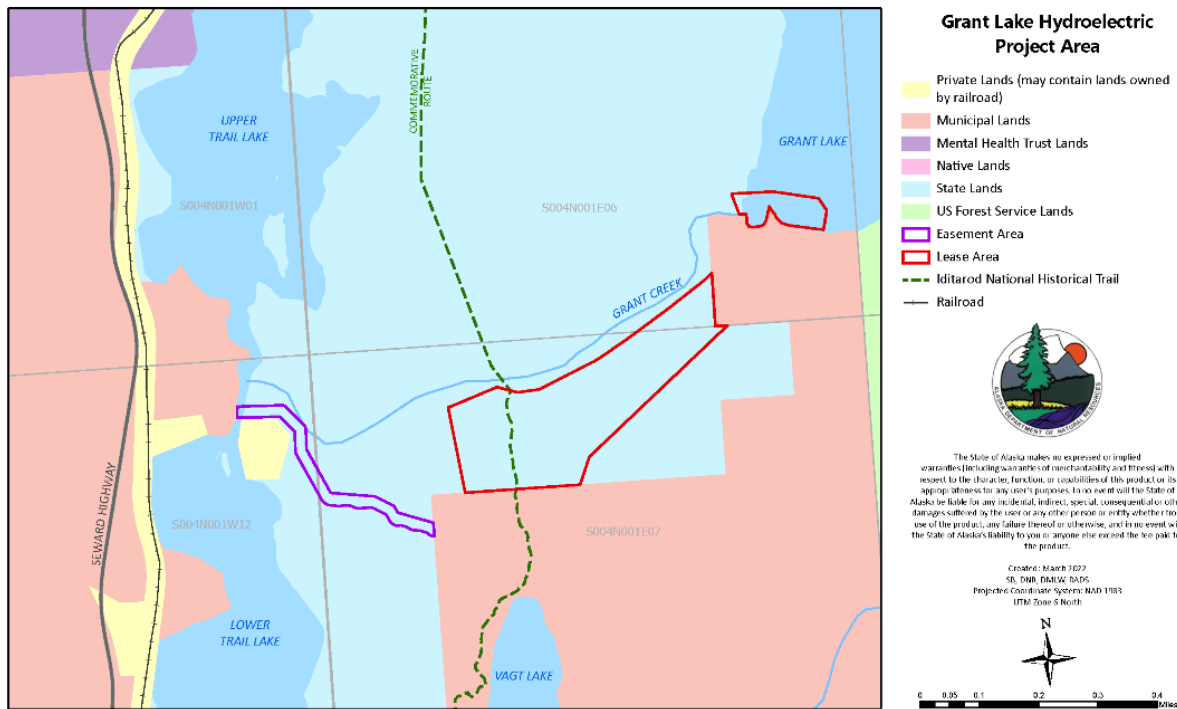
Third Party Interests:

One third party interest has been identified as being within the boundaries of the proposed leasehold. The Iditarod National Historic Trail (INHT) running North to South through the leasehold boundary in two forms, a 1000' wide corridor reservation in U. S. Patent No. 50-92-0639 along with a 100' wide temporary easement located within the 1000' wide corridor, serialized as ADL 228890-G, which is held by the United States Forest Service (USFS) for the purpose of constructing and maintaining the INHT.

The INHT easement runs North to South directly to the East of the proposed powerhouse, with one crossing of the intake access road and the intake tunnel/surge chamber crossing underneath the trail. ADL 233857 and ADL 228890-G should be able to conditionally co-exist with minimal impacts to the integrity of INHT as currently requested. SCRO concurs with conditions addressing mitigation measures found within KHL's FERC License #13212; specifically, conditions no. 19, 21, and 22, which directly require the minimization of adverse impacts to the INHT trail. KHL shall coordinate with SCRO and the DNR State Historic Preservation Office (SHPO), in conjunction with measures outlined in the Scenery Management Plan (condition no. 19 of FERC #13212), prior to construction, which shall address measures including, but not limited to, minimizing views of the project facilities from the 100' INHT trail, interpretive signage, safety-crossing signage, and light pollution produced from security lighting, along with other mitigation possibilities to a level that SCRO and SHPO deem acceptable.

No other land manager or landowner is within the direct boundaries of ADL 233857, however the hydroelectric project spans across lands managed by the State of Alaska, KPB, and ARRC. KHL is responsible for acquiring the appropriate authorizations from each applicable land manager and this project as a whole is dependent on KHL's ability to acquire the other applicable authorizations including, but not limited to, KPB, ARRC, and the State of Alaska Department of Transportation and Public Facilities (DOT&PF). This decision only represents lands managed by SCRO and the requested leasehold.

Figure 2: Requested Easement/Lease Boundaries, Land Ownership, and Third-Party Interests



Classification and Planning:

The proposed overall project falls within the boundaries of DNR’s 2001 Kenai Area Plan (KAP), Region 2, and is dependent upon a plan amendment being processed concurrently. This plan amendment would create a new unit, Unit 3800 – Grant Creek. State lands would be designated habitat, harvest, and public recreation and tourism. This transfers into a classification 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 that a small segment of Al Solar’s Mill Road crosses the unit. The east side of 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 INHT traverses the unit with special management intent which requires the trail be protected only by a 100-wide corridor where no industrial 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 INHT. Lands within Unit 3800 are no longer proposed additions to the Kenai River Special Management Area. As it is written, in accordance with 11 AAC 55.040(c), ADL 233857 does not conflict with the proposed KAP amendments and is dependent on the adoption of the proposed plan amendments.

The 2001 KAP has required 100' building setbacks for infrastructure adjacent to anadromous waterbodies as outlined in Chapter 2 of the KAP. However, these setbacks have exceptions for "uses that must be in or adjacent to the waterbody in order to function...". Given the nature of a hydroelectric facility such as ADL 233857, KHL will not be subject to the building setbacks as infrastructure including, but not limited to, the intake structure, bypass weir, and tailrace is needed to be located below the ordinary high-water marks of Grant Creek and Grant Lake respectively to function properly.

This decision for ADL 233857 is being noticed to the public concurrently as the proposed Area Plan amendments to the Kenai Area Plan, serialized as SC-99-002A16, more information regarding the amendments can be found on the Alaska Public Notice webpage.

Traditional Use Findings:

An additional consideration is required under AS 38.05.830 for the sale, lease or other disposal of land not located within an organized borough. The consideration must include the effect that the disposal may have on the density of the population in the vicinity, and the potential for conflicts with traditional uses that may result from the disposal. If necessary, the commissioner will develop a plan to resolve or mitigate conflicts.

The proposed site is located within KPB and therefore, pursuant to AS 38.05.830 a traditional use finding is not required.

Access:

For the larger portion of the proposed leasehold, legal access is secured via Section Line Easements between Sections 1 & 12 of Township 4 North, Range 1 East, Seward Meridian followed by Sections 6 & 7 of Township 4 North, Range 1 East, Seward Meridian, traveling eastwardly from the Seward Highway. For the intake portion of the leasehold on the waters of Grant Lake, legal access is obtained by the navigable waters of Grant Lake.

KHL has submitted an easement application with SCRO for the issuance of a portion of the proposed access road to the proposed leasehold site, the proposed easement (ADL 233782) is concurrently being adjudicated to this proposed lease (ADL 233857). The proposed access road will run eastwardly from the Seward Highway at approximately Milepost 26.9, crossing the railroad and the Trail Creek Narrows with the construction of a bridge, and continuing Eastwardly to the leasehold. This will be the primary access to the leasehold during construction and long-term operation and use of the hydroelectric facility. KHL has been informed that they will need to seek the appropriate authorizations from ARRC, DOT&PF, and KPB to authorize the portions of the project which cross the lands under their respective management. Portions of the project are dependent on KHL's ability to obtain appropriate authorizations from these other agencies.

For more information regarding the proposed access easement (ADL 233782), please refer to the Preliminary Decision which is concurrently out for public notice and can be found on the Alaska Public Notice webpage during the same notice period as this decision.

Access Along Navigable and Public Waters:

Nearly all shore and tide lands in the State of Alaska are subject to an Along easements (AS 38.05.127 and 11 AAC 51.045). The purpose of this easement is to uphold the constitutional right of the public to have free access to, and use of, the State’s waterways. SCRO has determined that, due to safety concerns, an easement will not be reserved within the proposed leasehold.

Pursuant to AS 38.05.127 (a)(1), a navigable water determination of Grant Creek is required to take place prior to lease authorization. SCRO shall consult with the DMLW Public Access Assertion and Defense Unit, and the results of the determination will be found within the FFD and addressed accordingly.

Public Trust Doctrine:

Pursuant to AS 38.05.126, all authorizations for this site will be subject to the principles of the Public Trust Doctrine; specifically, the right of the public to use navigable waterways and the land beneath them for navigation, commerce, fishing, hunting, protection of areas for ecological studies, and other purposes. These rights must be protected.

Agency Review:

An agency review was conducted on October 28, 2021. The deadline for agency comments was November 29, 2021. Between the agency review and this PD, KHL submitted updated applications with changes to the 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; their previous comments are still valid and will be seen on the following pages.

The following agencies were included in the review:

- DNR DMLW – Mining
- DNR DMLW – Water
- DNR Division of Agriculture
- DNR Division of Parks and Outdoor Recreation (DPOR) Office of History and Archaeology/State Historic Preservation Office
- DNR DMLW – Land Conveyance Section
- DNR DMLW – Realty Services
- DNR DMLW – Public Access Assertion and Defense Unit
- DNR DMLW – Survey Unit

- DNR Division of Oil and Gas (DOG)
- DNR DOG – State Pipeline Coordinator Services
- DNR Division of Forestry (DOF)
- DNR DOF – Kenai Area Office
- DNR Natural Resource Conservation and Development Board
- DNR Parks & Outdoor Recreation
- DNR Division of Geological and Geophysical Surveys
- Department of Commerce, Community and Economic Development
- Department of Fish and Game (ADF&G) Division of Habitat
- ADF&G Division of Wildlife Conservation – Access Defense
- Department of Transportation and Public Facilities (DOT&PF) – Bridge Design
- DOT&PF – Statewide Right-of-Way
- Alaska Mental Health Land Trust Office
- Department of Environmental Conservation (DEC) – Commissioners Office
- DEC – Solid Waste Program
- Department of Environmental Conservation – Drinking Water Program
- Department of Environmental Conservation – Division of Water – Wastewater
- DEC – Alaska Pollutant Discharge Elimination System Program
- DEC – Contaminated Sites – Anchorage
- Kenai Soil and Water Conservation District
- National Oceanic and Atmospheric Administration (NOAA) Habitat Conservation
- NOAA Marine Mammal Specialists
- NOAA – National Marine Fisheries Service – Regional Administrator
- National Park Service – Anchorage
- United States Department of Interior – Bureau of Land Management and United States Fish and Wildlife Service
- United States Army Corps of Engineers
- United States Coast Guard
- United States Department of Agriculture Forest Service
- United States Environmental Protection Agency
- KPB
- KPB – Kenai River Center

SCRO received 9 total comments during Agency Review, the comments are seen below along with SCRO’s response to each.

Comment: from the DNR DPOR Office of History & Archeology - *The Office of History and Archaeology (OHA) has reviewed the subject project (received October 28, 2021) for conflicts with cultural resources pursuant to Section 41.35.070 of the Alaska Historic Preservation Act.*

Following our review, we offer the following comments: State law requires all activities requiring licensing or permitting from the State of Alaska to comply with the Alaska Historic Preservation Act (AHPA), which prohibits the removal or destruction of cultural resources (historic, prehistoric, and archaeological sites, locations, remains, or objects) on land owned or controlled by the State. This also includes reporting of historic and archaeological sites on lands covered under contract with or licensed by the State or governmental agency of the State. The Grant Lake Hydroelectric Project has a Programmatic Agreement and an Historic Properties Management Plan (HPMP) that outlines measures to comply with Section 106 of the National Historic Preservation Act. For many projects, actions taken to comply with Section 106 are sufficient to meet the State's needs under the AHPA. As written, our office has reservations and recommends that these documents be reviewed by DMLW to ascertain whether the documents or their substantive measures can be used to assist with fulfilling the State of Alaska's obligations under the AHPA. Preliminary comments and recommendations from our office on these documents are provided here for consideration by DMLW.

The Programmatic Agreement does not reference the AHPA and only provides a role for the DNR/DMLW to participate in the federal process rather than providing an avenue for DNR/DMLW to pursue additional requirements in the State's interests. The HPMP identifies an area of potential effects, known cultural resources within that area, and management measures for those considered historic properties under the National Historic Preservation Act. Please note that the HPMP requires actions by the Grant Lake Hydroelectric Project on State lands, such as cultural monitoring and installation of public interpretation that is not currently included in the project's lease and/or easement applications.

In addition, our office is concerned that adoption by the State of the federal assessment and treatment of the Iditarod National Historic Trail (INHT) will not ensure compliance under the AHPA. The Iditarod National Historic Trail (INHT) easement runs generally north-south through the proposed lease area, ADL 233587. The INHT easement and subsequent trail improvements or development are the result of a multi-agency project to implement recommendations in the Iditarod National Historic Trail Seward to Nome Route Comprehensive Management Plan and create a continuous INHT pathway connecting Seward with the Crow Pass Trail (Pathway). One of the goals of the Pathway is to establish a pedestrian and mushing friendly route to recreate a wilderness experience in locations where the historic Iditarod Trail route has been developed as either the Alaska Railroad or the Seward Highway. The Pathway remains incomplete as the last pending trail segment is located across the proposed lease area. Construction of this section has been on hold for at least ten years due to concerns from the Pathway Project lead agency about placing the trail in a non-compatible location if the Grant Lake Hydroelectric Project moved forward.

The Office of History and Archaeology finds that the INHT corridor, as established by its easement, is a cultural resource of importance to the State of Alaska. We believe that the proposed project would diminish the cultural values of the resource and could jeopardize the completion of the Pathway without consideration of necessary measures to enable the INHT's co-existence with

the proposed lease through avoidance and minimization, but development of a Memorandum of Agreement may be necessary to mitigate adverse effects. We recommend consulting with our office and other INHT stakeholders to develop these measures under the AHPA. Our office notes that the HPMP references a license condition as a management measure for the Pathway, but this condition was not developed in cooperation with OHA or DMLW and does not incorporate compliance with the AHPA.

No other cultural resources are known within the lease area. Should inadvertent discoveries of cultural resources occur during the duration of the project, our office should be notified so that we may evaluate whether the resources should be preserved in the public interest (as specified at Section 41.35.070[d]).

Response: Following the submission of OHA's comment, KHL updated their application to adjust the boundaries of the leasehold to incorporate much of the area previously applied for under the access easement (ADL 233782). As a result, SCRO analysis suggests that the 1000-foot INHT corridor reserved in the original patent from BLM is within the project area as currently proposed by this lease application. 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 100-foot easement for the INHT trail segment in the project vicinity in order to preserve the trail.

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 project area to encourage preservation and educate the public about the history of the Alaska Railroad, Seward-Moose Pass Trail, Solars 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: From the Alaska Department of Fish & Game - *The Alaska Department of Fish and Game (ADF&G) has reviewed the proposed applications from Kenai Hydro, LLC for authorizations for the construction and long-term use of a hydroelectric facility near Moose Pass, AK.*

ADF&G has no objection to the issuance of this easement, however, we would like to note that additional ADF&G Fish Habitat Permitting will be required before construction of this project. An ADF&G Fish Habitat Permit will 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.

During construction of the transmission line; if any equipment or any part of transmission line infrastructure is operated or placed below Ordinary High Water (OHW) of the Trail Lake system or Grant Creek, an ADF&G Fish Habitat Permit will be required. Additionally, an ADF&G Fish Habitat Permit may also be required for the intake structure, bypass weir and pump system as Grant Lake contains native fish such as stickleback and sculpin species.

Response: KHL will be informed of this comment through this decision and is required to follow all other laws and regulations for applicable authorizations related to the proposed project that is outside the authority of SCRO including, but not limited to, appropriate permitting from ADF&G.

Comment: From the Alaska Department of Environmental Conservation – Solid Waste Program - *ADEC has no record of any solid waste landfill in the proposed area. If any solid waste is encountered or created during construction or operations it must be removed and disposed of at a landfill permitted to accept that type of waste.*

Response: KHL will be informed of this comment through this decision.

Comment: From the DNR Statewide Abatement of Impaired Lands - *The SAIL Section conducted a desktop review of the readily available information to identify environmental concerns that could impact the proposed use. No environmental concerns were identified in this review. It should be noted that a desktop review cannot provide the same level of detail and investigation as a site visit. Please feel free to reach out to the SAIL Section if any assistance is needed to identify which stipulations are appropriate to address the use of any fuels and/or hazardous materials on the site.*

Response: SCRO acknowledges the comment.

Comment: From the United States Bureau of Land Management - *BLM has reviewed the project location and has no interests in this project area.*

Response: SCRO acknowledges the comment.

Comment: From the DNR Land Conveyance Section - *No objection*

Response: SCRO acknowledges the comment.

Comment: From the DNR Realty Services - *This ADL does not yet have a title report. The listed legal description for this project area is on a portion of the land (S4N1E7) covered in a report for ADL 233782 dated 2/23/2021 that covered the general project area for the Power House Access Road, Intake Access Road, Intake Tunnel, and Lease Area. This means you have an up-to-date report for this project area, just not in a report for ADL 233857 specifically. If your procedure requires a title report for this new ADL, then you will need to request one.*

Response: A new title report request was made on November 3, 2021, after receiving this comment, the information from this report was used in the Title section of this PD.

Comment: From the DNR Survey Section - *1. Public and Charitable use leases under Sec. 38.05.810 located within a municipal platting authority are subject to the local platting authority.*

For .810 leases within the unorganized borough the lease has historically been platted, and it is good land management practice, and a survey should be required in nearly all instances, however legally a survey is not required.

2. Kenai Peninsula Borough Code does not appear to require a platting action for leases.

a. KPB code 20.10.030 Violations and remedies, states that 'no person shall transfer, sell, offer to sell, or enter into a contract to sell land that must be subdivided under this ordinance until an approved final plat has been recorded. For purposes of this provision the term "transfer" means transfer of ownership and does not include a lease, license or permit.' A lease of land can occur without requiring any type of plat to be approved by the platting authority.

3. If the decisional process requires a survey, than several additional comments are warranted, including the following:

a. The Intake Structure, Concrete Bypass Weir, Diversion Pipe, Intake Tunnel, and Surge Chamber are all permanent improvements associated with the Hydroelectric Project structures and should be considered for inclusion within the lease tract boundaries, rather than an Easement for operations.

b. Legal Access must be platted to the lease parcel, this may affect the requested Private Exclusive Easement of ADL 233856.

i. The legal access will need to cross the ARRC ownership!

c. The lease tract boundary should be clearly described in the decision as either common to the OHW of Grant Creek or a defined setback.

d. The survey costs for the requested 11.1 acre tract could be reduced by minimizing the number of angle points in the tract boundary.

i. Subject to adjustment for a. above.

e. Grant Lake and Grant Creek must be considered under Public and Navigable waters for purposes of determining 127 To and Along Public Access Easements.

i. If 127's are not to be reserved due to safety or other concerns then it must be addressed in the decision.

ii. The Tailrace, Intake, or Bypass Weir structures might block 127 PAE. Alternative PAE might be necessary.

**a follow up comment was submitted from DNR Survey Section shortly after the first submittal still during the Agency Review period*

1. KPB in the past has not allowed unsurveyed remainders, so its 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. What ever KPB determines to be the parent parcel will affect survey costs and the survey costs will likely be greater than most everyone is expecting.

2. It appears that the Iditarod National Historic Trail might go right through the middle of the proposed lease. Rerouting the National Historic Trail should be a consideration for how long that would take and if it is possible.

Response: Following the receipt of the DMLW Survey Section comments, KHL updated the boundaries of the leasehold application resulting in the majority of the intake related infrastructure, intake access road, and intake tunnels to be included under ADL 233857. It should be noted that as a result, the easement application ADL 233856 has been closed. A DMLW approved survey is

required prior to lease issuance and the applicant will need to coordinate with DMLW Survey Section for survey instructions before commencing activities. KHL is aware they must be granted the proper authorizations for the portions of the project that are not located within DMLW managed lands and have been directed to coordinate with the respective landowners to gain these authorizations. As a condition of the proposed Entry Authorization (EA), KHL will be required to obtain the applicable authorizations from KPBB, ARRC, and DOT&PF prior to construction. KPBB has been included on the agency review and has not informed SCRO of any platting concerns at this time. KHL will be informed by this decision on the likely greater than anticipated survey costs due to the platting requirements of the local platting authority. After consultation with applicable agencies regarding the 1000' INHT corridor reservation, no reroute will be necessary, and the USFS and SCRO will continue to work together to issue the 100' wide easement for the purpose of the INHT.

Comment: From the Alaska Mental Health Trust Land Office - *No Comment.*

Response: SCRO acknowledges the comment.

Lease Discussion:

Proposed infrastructure and acreage:

KHL plans to construct multiple buildings within the boundaries of the proposed leasehold related to the infrastructure of the hydroelectric project. Two parcels are proposed to most effectively authorize the project as requested. One being the majority of the infrastructure, which is approximately 42.1 acres, more or less, that will contain the Powerhouse, Penstock, Tailrace, Detention Pond, Surge Chamber, Parking Area, Intake Tunnel, a portion of the Transmission lines and communication cables, and Intake Access Road to access the infrastructure situated south of Grant Creek. The second parcel, approximately 4.7 acres, more or less, being located on Grant Lake directly for the purpose the Intake Structure and Bypass Weir.

To allow for unforeseen development changes and flexibility during construction, SCRO is recommending a larger authorization footprint of 47 acres, more or less, during the EA period to construct this project. Once construction is finished, the final survey to be approved by DMLW will depict the actual long-term lease acreage. The final acreage amount will be determined in coordination with DMLW Survey Section and the applicant, but will exist within the bounds of Figure 1 of this PD. Once the final leasehold boundary and acreage is determined by survey post-construction, the appraisal will occur to determine the fair market value to set the annual lease fee.

As currently requested, the proposed leasehold will intersect with a portion of the INHT and a 100' wide temporary easement (ADL 228890-G) granted to the USFS by SCRO for the purpose of the INHT. It has been determined by DMLW, BLM, & USFS that the 100' INHT easement would not

require a reroute and that infrastructure associated with the Grant Lake Hydroelectric Project would be permissible within the 1000' corridor.

Grant Type and Grantee:

The lease application under ADL 233857 has been applied for by the Alaska Electric & Energy Cooperative (AEEC), dba Kenai Hydro LLC (KHL) for a public and charitable lease under AS 38.05.810(e). A lease under this statutory authority “*may be negotiated with a licensed public utility or a licensed common carrier...*”. A desktop analysis shows that AEEC is the holder of the Certificate of Public Convenience and Necessity (CPCN), which is a type of regulatory compliance certification that prescribes an authorized service area and scope of operations for public utilities. CPCNs are administered by the Regulatory Commission of Alaska (RCA) in which AEEC’s CPCN is serialized as No. 640.

It is noted that KHL is not listed on CPCN No. 640 nor does KHL hold certification with RCA under its own Limited Liability Company (LLC) namesake. Although AEEC has applied as “doing business as” KHL, it is unclear whether CPCN No. 640 would extend authorization to KHL as a licensed public utility for the proposed project, despite being the named holder of the FERC license No. 13212.

AEEC is a qualifying entity for a lease under AS 38.05.810(e). A lease resultant from this process would need to be issued to a qualifying entity which will be determined in SCRO’s FFD. It should be noted that the public notice of this decision will be sent to representatives under RCA and FERC.

The proposed lease will be subject to the terms of SCRO’s standard lease document (available for review upon request), and any stipulations based, in part, upon the following considerations.

Development Plan:

The Development Plan (DP) attached to this decision (Attachment A) and submitted February 25, 2022, is under consideration by SCRO. Should the proposed lease be granted, it is anticipated that the DP will need to be updated throughout the life of the lease as activities and/or infrastructure are added or subtracted. 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.

Hazardous Materials and Potential Contaminants:

Per the submitted DP, paints, chemicals, fertilizers, pesticides, oil and grease, explosives, diesel (2,000-3,000 gallons) and gasoline fuel (1,000 gallons), lube oil skids that will contain turbine lube oil (30-50 gallons), hydraulic power units will contain hydraulic fluid (30-50 gallons), and a step-

up transformer that will contain insulating mineral oil (800 gallons) are all anticipated to be used during construction, on site, and/or during operation of the project. Along with several construction portable toilets that will have a tank size of approximately 60 gallons.

The storage of the hazardous tanks will be within the proposed powerhouse parking site (see development plan for approximate location). Only amounts of hazardous materials necessary to construct or operate the project will be kept on site. Storage tanks will be visually tested for leaks before entering the site and on a weekly basis.

The use and storage of all hazardous substances must be done in accordance with existing federal, state, and local laws. Debris (such as soil) contaminated with used motor oil, solvents, or other chemicals may be classified as a hazardous substance, and must be removed from the lease site and disposed of in accordance with state and federal law.

Lease Performance Guaranty (bonding):

In accordance with AS 38.05.035 and AS 38.05.860, the applicant will be required to submit a performance guaranty for the proposed lease site, as outlined below. SCRO is reserving the right to require a reclamation bond due to noncompliance issues during the term of the lease or near the end of the life of the project.

- **\$764,000.00 Performance Bond:** This bond will remain in place for the life of the proposed lease. The bond amount is based upon the level of development, amounts of hazardous material and/or substances on site, and the perceived liability to the State. This bond will be used to ensure the applicant's compliance with the terms and conditions of the lease issued for their project. This bond amount will be subject to periodic adjustments and may be adjusted upon approval of any amendments, assignments, reappraisals, changes in the DP, changes in the activities conducted, or changes in the performance of operations conducted on the authorized premises, and as a result of any violations to one or more of the authorizations associated with this project.

Insurance:

The applicant will be required to submit proof of liability insurance to SCRO, with the State of Alaska listed as a "NAMED" insured party. The applicant will be responsible for maintaining such insurance throughout the term of the EA and the lease.

Survey:

In accordance with AS 38.04.045, the applicant must complete an approved survey according to the requirements and standards of DMLW's Survey Section prior to lease issuance. The draft

survey must be submitted for review to the Survey Section within **three years** of issuance of the survey instructions. If the submitted survey is accepted by DMLW, the measurements identified will be used to accurately calculate the total acreage and location of the leasehold with its associated infrastructure. A survey instruction fee per 11 AAC 05.240 may be applicable.

Entry Authorization:

SCRO is proposing to authorize entry onto state land through the issuance of an EA for ten years while the applicant is completing the required survey and appraisal for the lease site, along with the construction of the proposed infrastructure. The proposed EA term would begin on the effective date of the FFD, and the effective date of the FFD will also be the start date of the lease term.

The estimated annual fee for the proposed EA is \$11,280.00. Should the report indicate that the value of the land is greater than anticipated, the shortfall must be remedied before the lease will be issued.

After the issuance of the proposed EA, but prior to construction, the applicant is required to provide copies of applicable and approved authorizations from ARRC, KPB, and DOT&PF for the means of long-term access and use across the respective lands of those who manage them.

Compensation and Appraisal:

In accordance with AS 38.05.840, State-owned land may only be leased if it has been appraised within two years before lease issuance. SCRO has coordinated with the DMLW Appraisal Unit, and the applicant will be required to provide a formal appraisal of the lease site before the proposed lease will be issued. Once the appraisal has been approved by DMLW, the annual lease fee will be set at the fair market value of the proposed lease site. Furthermore, in accordance with AS 38.05.105, the proposed EA and lease will be subject to reappraisal at five-year intervals after the issuance of the proposed authorization.

Subleasing:

Subleasing is permissible through AS 38.05.095, if the proposed lease is approved. A sublease is defined as improvements not owned by the lessee that are located within the leasehold on the land or located on structures owned by the lessee. A sublease pertaining to the proposed lease includes but is not limited to, user agreements, license agreements, communication site agreements, or any contracts between the lessee and other commercial entities. All potential subleases must first be approved in writing by SCRO. Depending on the activity of any potential subleases, SCRO is reserving the right to reevaluate the need for further agency review and/or public notice before making a determination on the appropriateness of the proposed sublease. Sublease compensation to the State will be determined by SCRO according to AS 38.05.073(m), under the authority of AS 38.05.075(a) Leasing Procedures. In any case, the sublease fee for commercial activities will not be less than 25% of the annual fee paid to leaseholder by the sublessee.

Assignment of Lease:

The proposed lease, if issued, may be transferred or assigned to another individual or corporation only with written approval from DMLW. A lease will not be assigned to an entity if that entity does not meet the statutory requirements of the lease, or if the lessee is considered not to be in “good standing” with DMLW or any other agency authorization. DMLW reserves the right to amend the terms of the lease prior to assignment.

Reclamation:

In accordance with AS 38.05.090(b), all lessees must restore their lease site to a “good and marketable condition” within 120 days after termination of the lease. What level of reclamation constitutes as being “good and marketable” is at the discretion of SCRO.

Public Notice of the Preliminary Decision:

Pursuant to AS 38.05.945, 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 office located within 25 miles that service populations of 25 or more. Courtesy notices will also be mailed or emailed to neighboring property owners within one mile of the project area, permit/lease holders, and other interested parties on April 8, 2022, for a 30-day public comment period.

Comment(s):

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.

**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: Cole Hendrickson
550 West 7th Avenue, Suite 900C
Anchorage, AK 99501-3577
Email: cole.hendrickson@alaska.gov
Fax: (907) 269-8913

Questions about the lease portion of this project can be directed to Cole Hendrickson at (907) 269-8555.

If public comments result in significant changes to the Preliminary Decision, additional public notice will be given. To be eligible to appeal the Final Finding and Decision, a person must provide written comments during the Preliminary Decision comment period per AS 38.05.035(i)-(m).

Signature page follows

Recommendation:

DMLW 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. SCRO considered three criteria to determine if this project provided the best interest to the State and the development and enjoyment of its natural resources. The criteria include direct economic benefit to the State, indirect economic benefit to the State, and encouragement of the development of the State's resources. This authorization provides a direct economic benefit to the State with the collection of fees for ADL 223857 and an indirect economic benefit through the encouragement and development of the State's resources by providing a long-term, renewable energy source. The authorization of this lease is in the State's best interest as it will provide economic development and advance Alaska's renewable energy sources. It is recommended that SCRO issue a 55-year lease for the Grant Lake Hydroelectric Project.



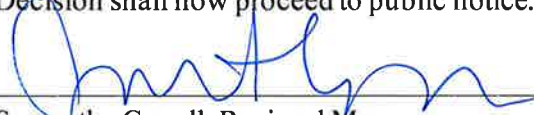
Cole Hendrickson, Natural Resource Specialist
DMLW Southcentral Regional Land Office

4/7/2022

Date

Preliminary Decision:

It is the determination of DMLW that it may be in the State's best interest to issue a public & charitable land lease for 55 years for the Grant Lake Hydroelectric Project, as described above. Upon authorization of the lease, the applicant will be required to pay the annual lease fee of **\$11,280.00**, submit a **\$764,000.00** performance bond, and provide proof of liability insurance. This 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.

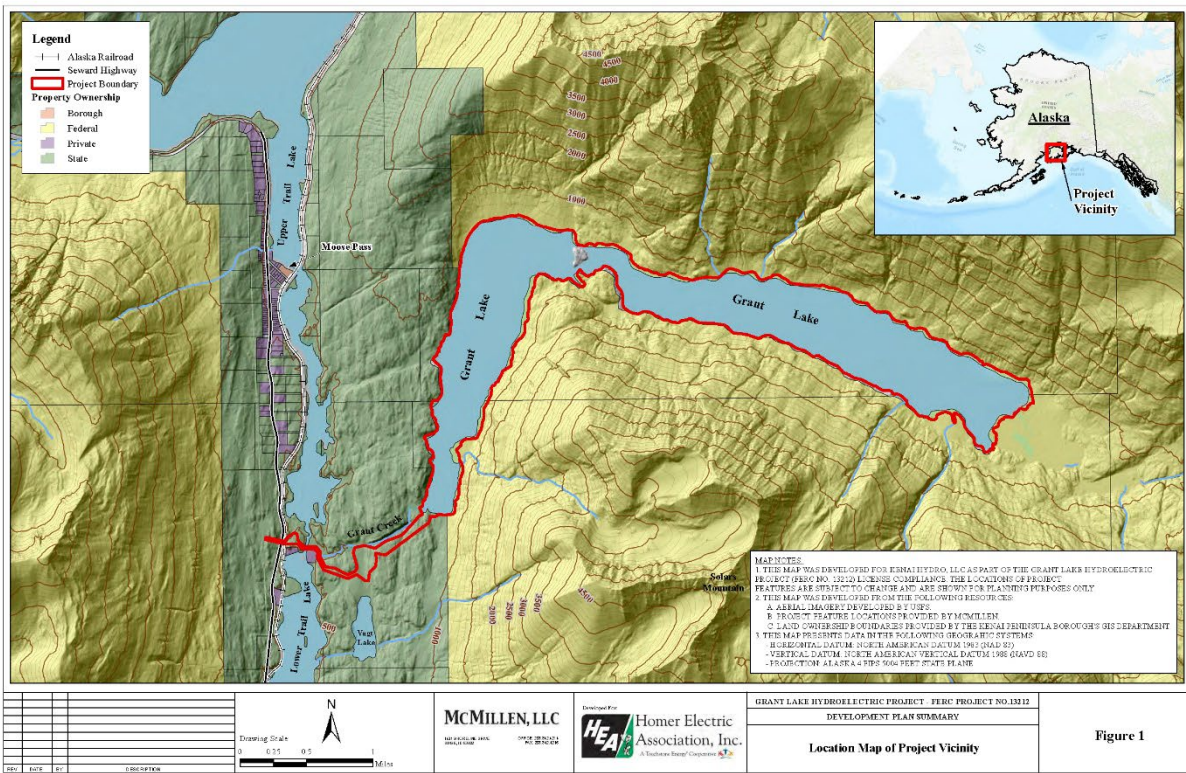
1.1. Location

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.

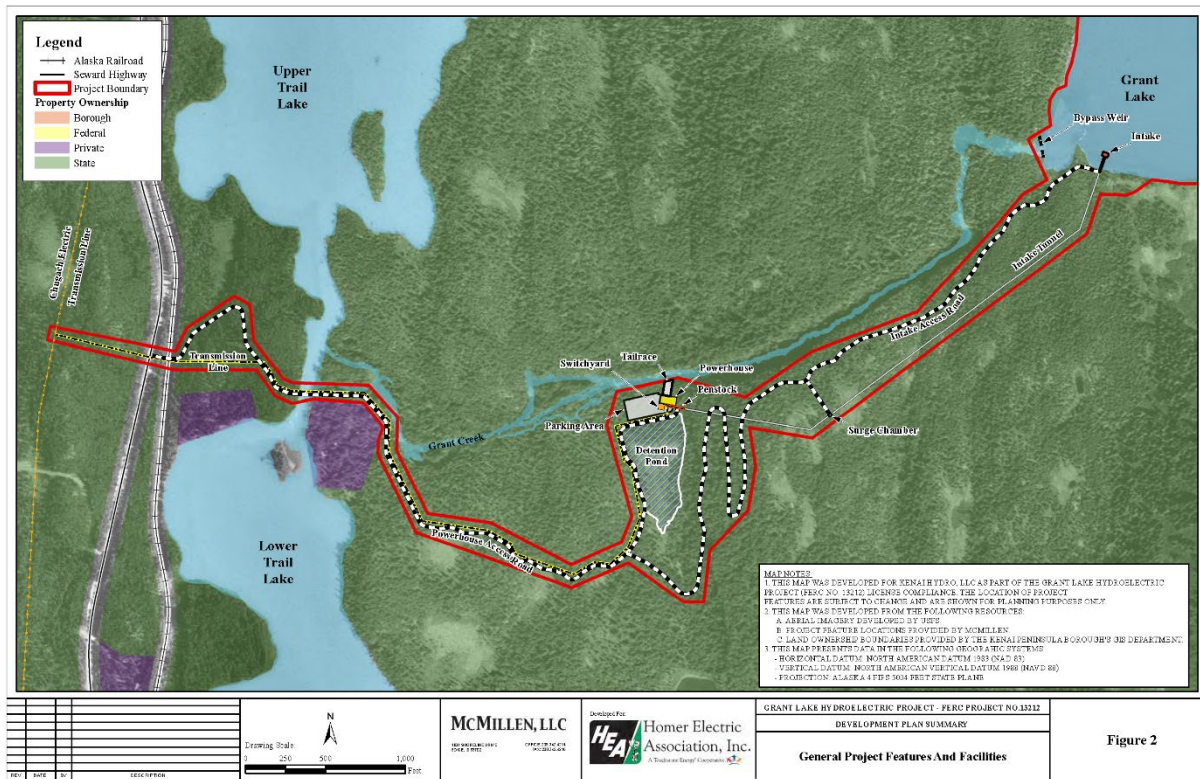
1.2. Project Description

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



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

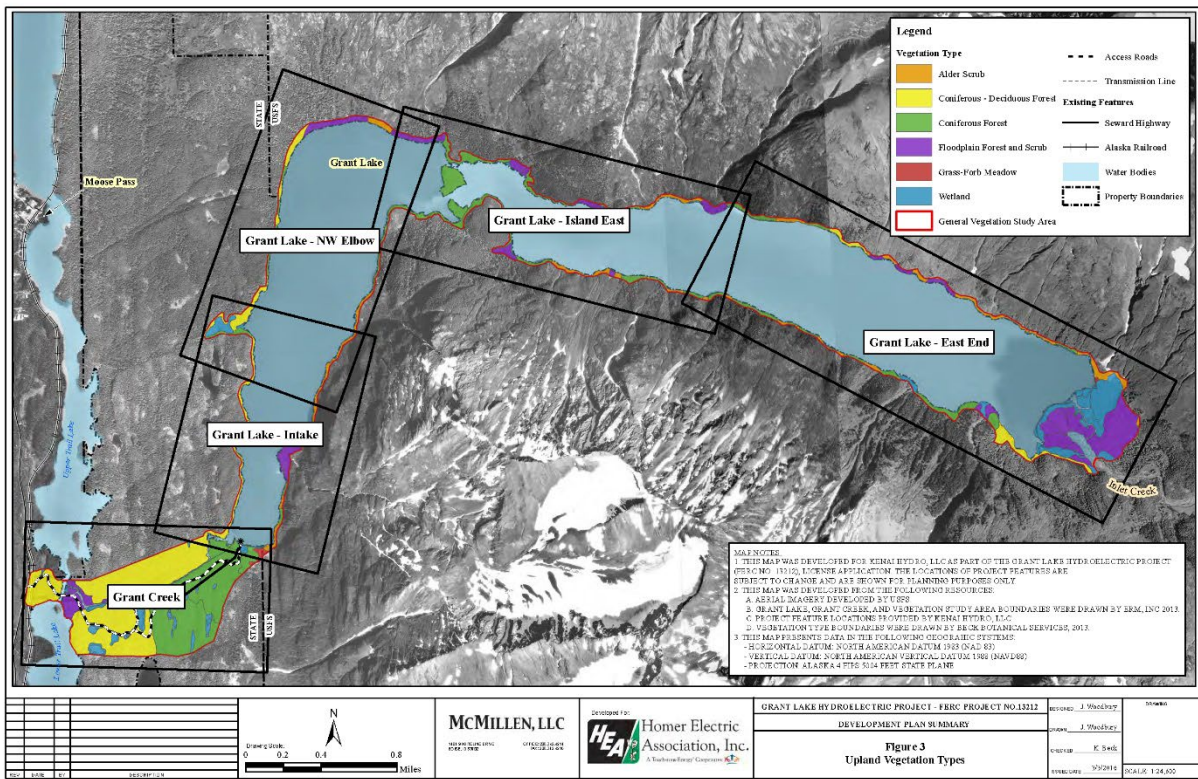
3.1. Terrain/Ground Cover

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).

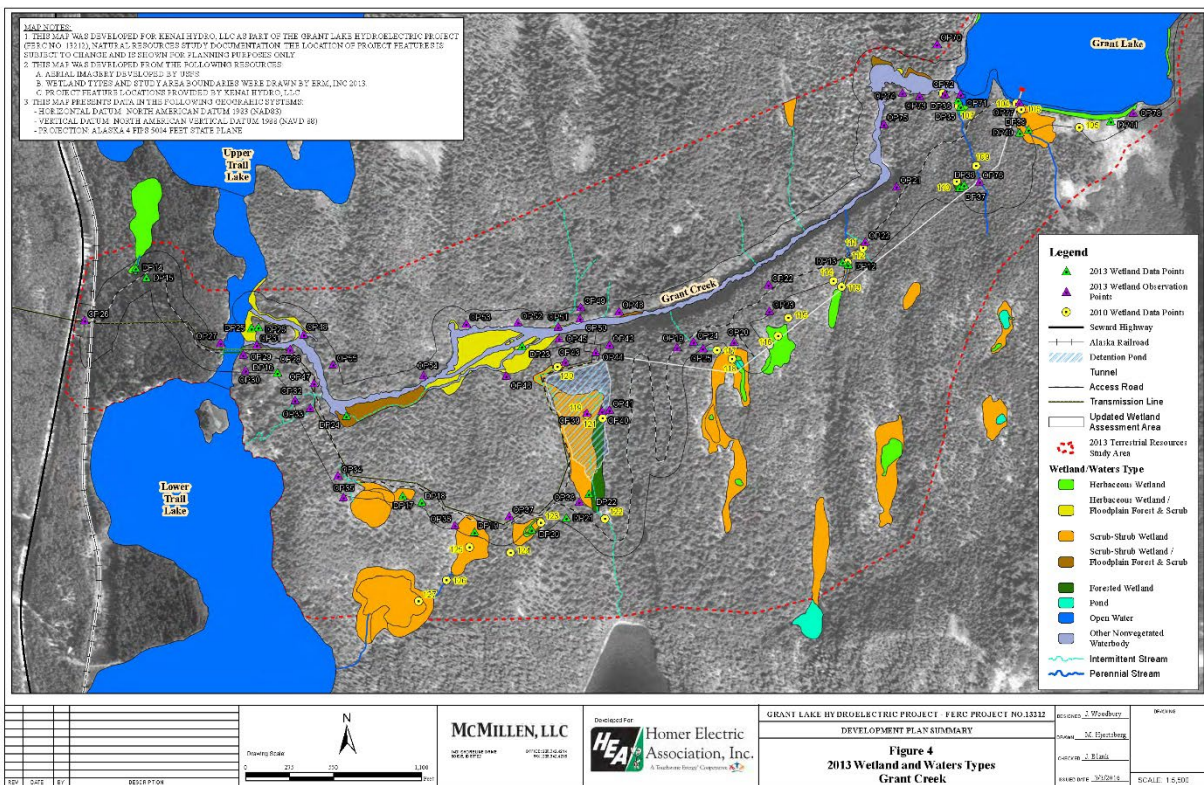
3.2. Site Access

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

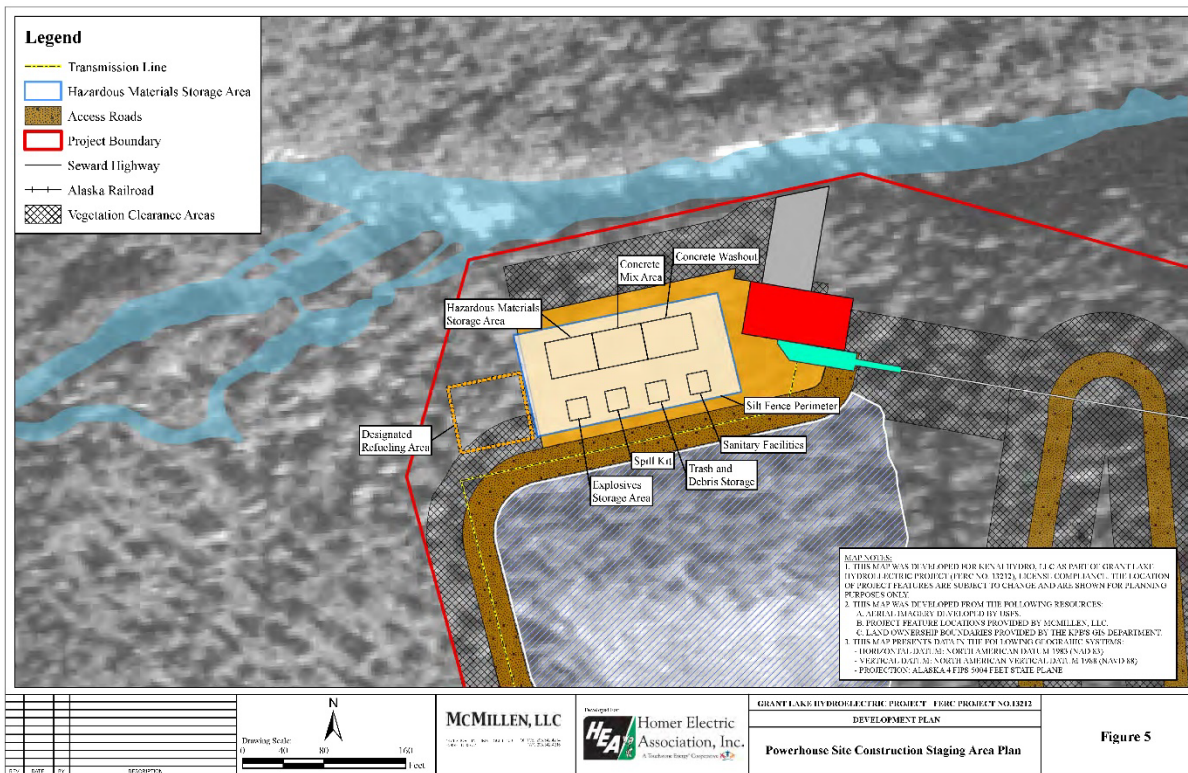


Figure 5

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

- 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.