ALASKA ENERGY AUTHORITY

DIXON DIVERSION PROJECT OVERVIEW

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National Hydropower Association
Alaska Regional Meeting
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ALASKA
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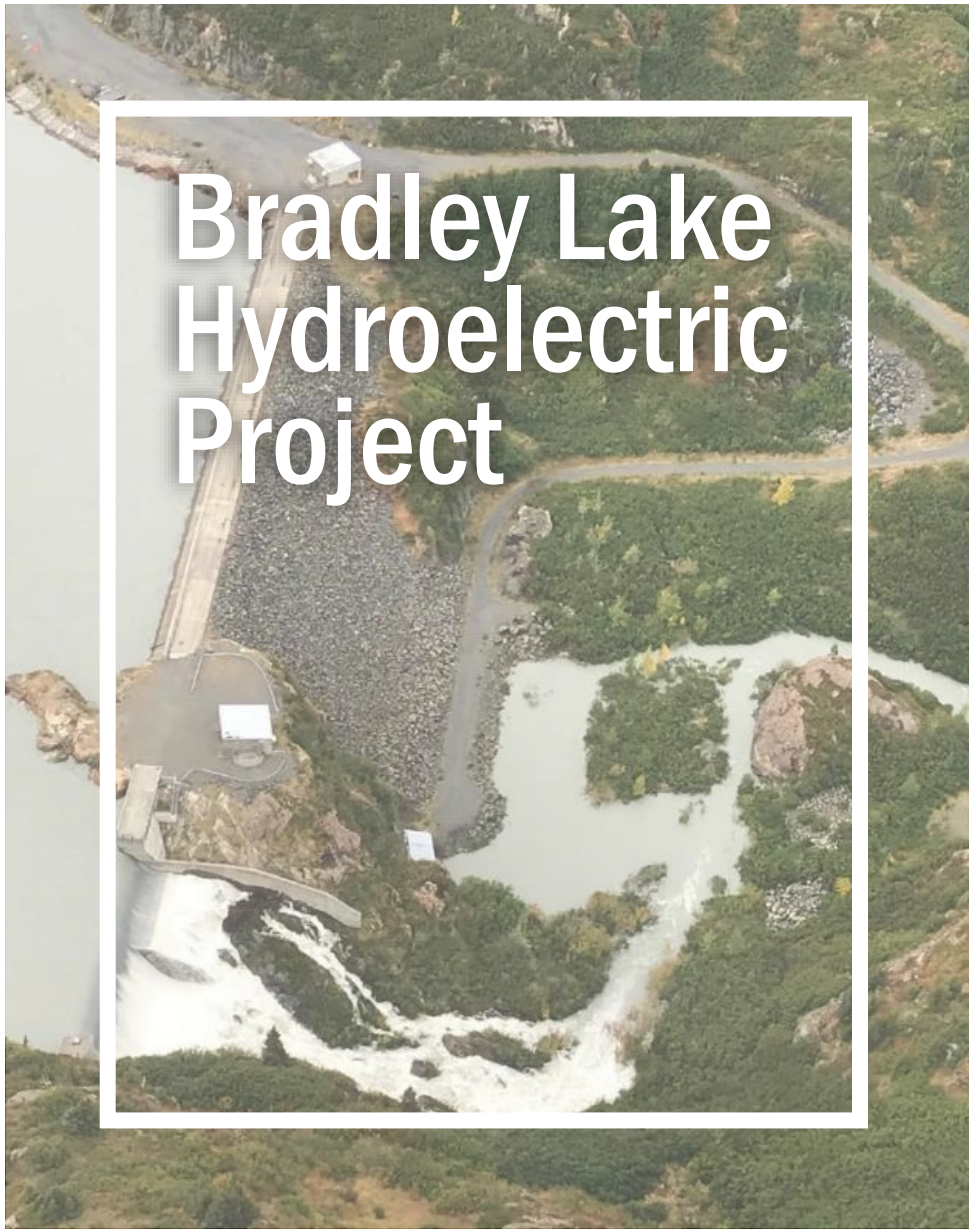
AUTHORITY

Bradley Lake and Dixon Diversion Overview

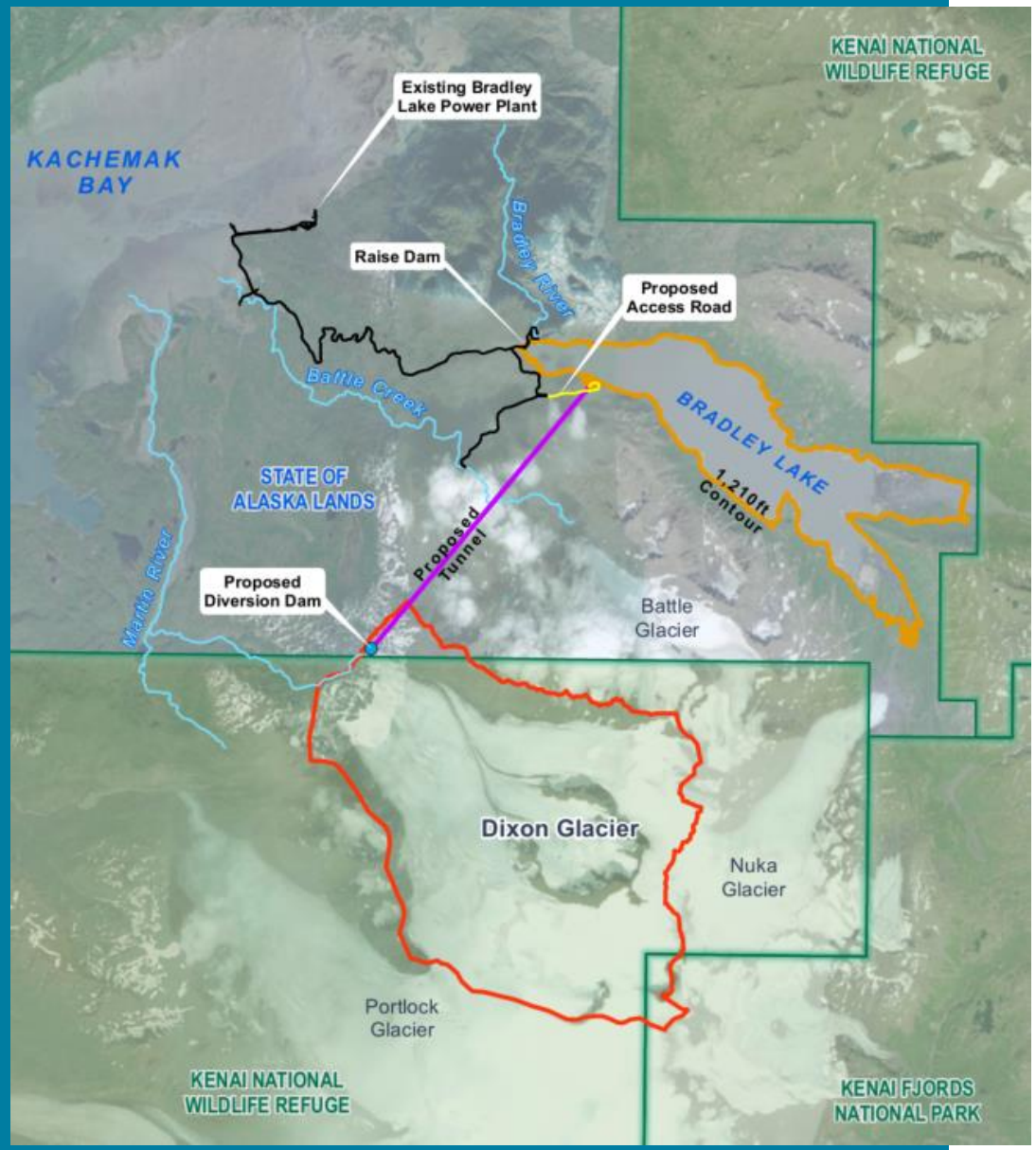


Bradley Lake Hydroelectric Project

- Located 25 miles northeast of Homer and serves Railbelt
- Completed in 1991
- Funding by State of Alaska and Railbelt utilities
- Owned by AEA and managed to maximum extent by Railbelt utilities
- Largest hydroelectric Project in Alaska
- Averages more than 400,000 MWh/year (~9% - 10%/year Railbelt)

Battle Creek Diversion

- Located 2 miles southwest of Bradley Lake and serves Railbelt
- Completed in 2020
- Funding by State of Alaska and Railbelt utilities
- Diversion of upper Battle Creek to Bradley Lake by two-mile pipe
- Average 40,000 ac-ft (~38,000 MWh)/year



Dixon Diversion Project

- AEA is investigating generating energy from the outflow of Dixon Glacier five miles southwest of the Bradley Lake Hydroelectric Project
- The Dixon Diversion Project would be largest renewable energy project in Alaska since Bradley Lake was completed in 1991
- Entire project on State land.

Diversion to Bradley Lake

- 4.7 mile tunnel from intake to Bradley Lake
- Water goes through Bradley Lake powerhouse
- Raise Bradley spillway/dam up to 28 feet to capture seasonal flow and allow for additional water storage for winter
- Bradley Dam classified as Low Hazard

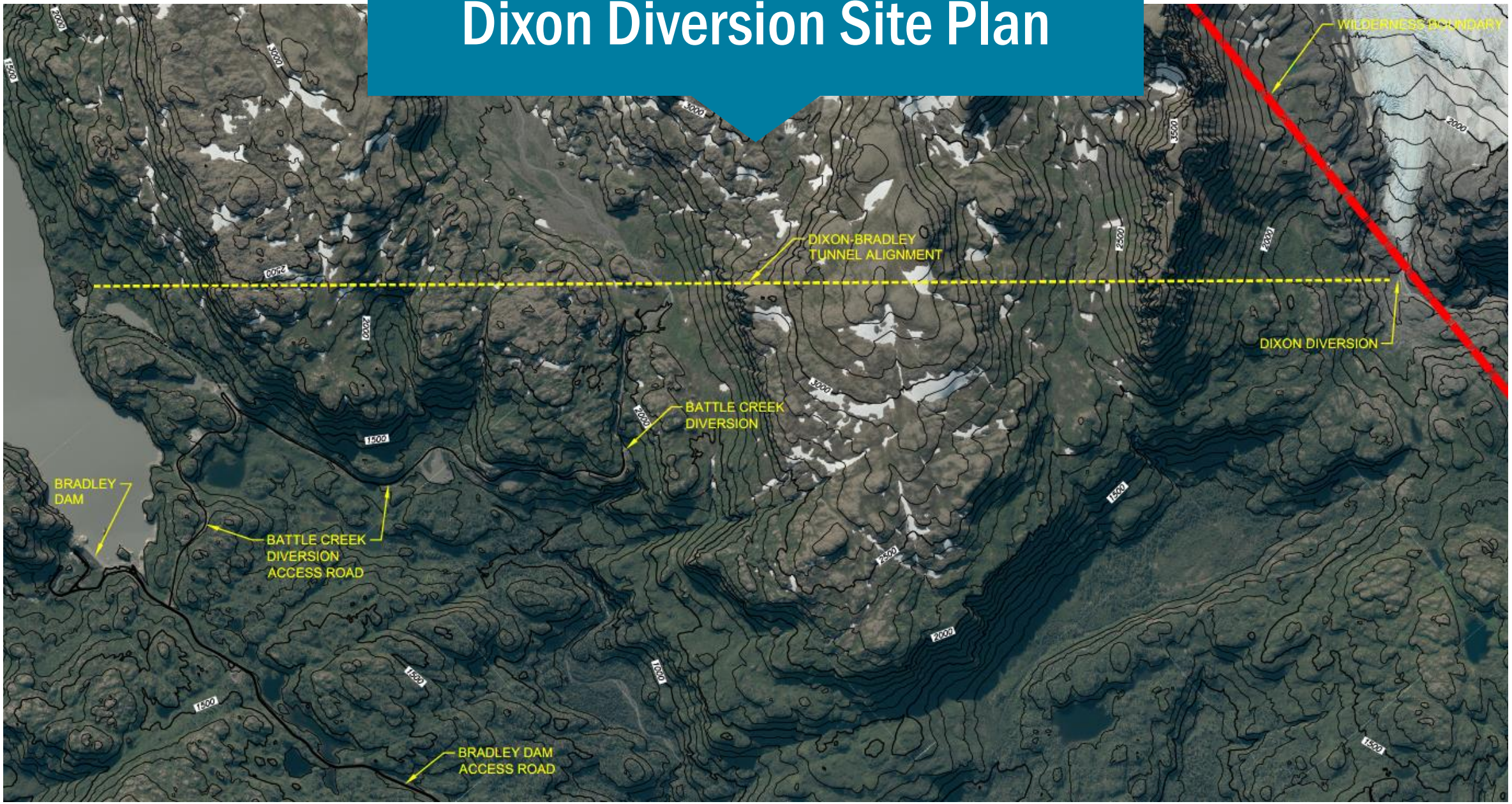
Dixon Diversion Value

- Dixon Diversion provides:
  - Energy (Annual Estimated Energy 160,000 – 190,000 MWh)
  - Bradley power plant efficiency increase ~2% for all non-Dixon water going through power plant (~8,000 MWh)
  - Increased long-duration energy storage (Up to 100,000 MWh depending on height)
  - Demand reduction of 1.5 BCF natural Gas (~7.5% 2030 unmet demand)
- A new turbine/generator could be added at Bradley Lake power plant in the future

Licensing Schedule

- 2024 – Discharge, Geotech, and Aquatics studies
- 2025 – Discharge, Aquatics, Geotech, and Terrestrial studies
- 2026 – Draft and Final Amendment Application
- 2027 – EA/EIS
- 2030 – Water flowing

Dixon Diversion Site Plan



Diversion and Tunnel Inlet

- Helicopter access for construction; potential for some tunnel access
- Permanent maintenance building serves as man camp for construction; maintenance equipment in building
- Diversion dam alternatives — rock fill or rubber dam
- Gated Sluiceway for sediment and MIF
- Geotechnical investigation July 2024

Thank You

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