

**Amendment No. 1 to the
Broad Review - Environmental Assessment**

**Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58
September 2021**

**Akiak Home Relocation and Managed Retreat Project
and
Other Disaster Related Infrastructure Development**

Project Information

Project Name: Akiak Home Relocation and Managed Retreat Project

Responsible Entity: Akiak Native Community (ANC)

Grant Recipient (if different than Responsible Entity):

State/Local Identifier: Alaska

Preparer: Joel Neimeyer, P.E.

Certifying Officer Name and Title: Michael P. Williams, Sr., Chief, ANC

Grant Recipient (if different than Responsible Entity):

Consultant (if applicable): Joel Neimeyer, P.E.

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Project Location: Akiak, Alaska

Tiered Environmental Review (see 24 CFR Part 58.15 Tiering): This document is part of a suite of tiered environmental review documents. In May 2019 the community of Akiak, Alaska experienced a significant spring time riverine erosion event during a high water / spring melt event. Historically, the river had only eroded the riverbank during fall storms that drove waves into the shoreline. In response, the community developed the Akiak Home Relocation and Managed Retreat Project, and a tiered environmental review process was adopted by the tribe so that potential environmental impacts could be communicated to regulatory agencies, residents and stakeholders, as the project level information was obtained.

With the advent of the COVID-19 pandemic, the tribe was eligible for and received federal funding in 2020 (i.e. CARES Act) to address the virus. Some of the CARES Act funding the tribe elected to use for infrastructure development projects which address overcrowding and provision of safe quarantine space for residents traveling or who had the virus. The tribe decided

to approach the COVID-19 pandemic and the significant riverine erosion all as one inter-related disaster mitigation effort, and the Akiak environmental review documents prepared in 2020 reflect this.

Now in 2021, the tribe is again a recipient of federal funding through the American Rescue Plan Act (ARP Act) to address COVID-19. The tribe has elected to use the 2021 funding for building a low-earth orbit broadband facility to serve the community with faster broadband at a lower price, as well as additional infrastructure development associated with housing development to address overcrowding. This document serves to amend the broad review environmental assessment to incorporate the broadband development as part of the tribe's inter-related disaster mitigation effort. It is noted that Congress waived NEPA requirements in the ARP Act. However, the US Department of Treasury, which is managing a significant portion of the ARP Act funding notes that "projects supported with payments from the Funds may still be subject to NEPA review if they are also funded by other federal financial assistance programs". In the spirit of transparency, the tribe has elected to disclose and discuss the use of its ARP Act funding for the suite of inter-related disaster mitigation projects.

In addition, starting in 2020 the City of Akiak has had operational issues with the city-owned and operated power plant. One of the existing radiators has failed, a second is near failing and only the third remaining radiator is functioning. As for the generators, only one of four is functioning. The tribe has offered to assist the city in refurbishing the power plant, and the city has accepted this support. In general, the refurbishment of the power plant will require a categorical exclusion (see [Denali Commission NEPA regulations](#), Appendix A, page 308, B.4.)

This document, along with the June 2020 Broad Review - Environmental Assessment provides broad project descriptions, so that this information does not have to be repeated in subsequent site-specific environmental review documents. While the project construction proposed is work commonly carried out in rural Alaska villages, the complexity for Akiak comes from the many different funding and regulatory agencies currently, and potentially, involved in the community's response to a new natural hazard (i.e. spring time high water / river bank destabilization), and a new world-wide pandemic.

The environmental review documents that comprise the Akiak tiered environment review follow:

- a. Broad Review - Environmental Assessment - Akiak Home Relocation and Managed Retreat Project. **Published June 2020.**
- b. Amendment No. 1 to the Broad Review - Environmental Assessment - Akiak Home Relocation and Managed Retreat Project and Other Disaster Related Infrastructure Development. **This document, published September 2021.**
- c. Short-Term Response: Infrastructure Less Than 200 Feet from the River. This includes six home relocations and assorted "out buildings", riverbank stabilization and building a seventh home. **Published June 2020.**

- d. Site Specific Short Term Response - Addendum No. 1. **Published January 2021.**
- e. New Housing Subdivision Improvements. **Published June 2020.**
- f. Solid Waste Site, Honey-bucket Lagoon, and Sewage Lagoon Improvements.
- g. Low-Earth Orbit Broadband Improvements. This as noted above, is a new task adopted by the tribe as part of the inter-related disaster mitigation projects. **Published September 2021.**
- h. Long-Term Response: Infrastructure Less Than 600 Feet from the River. This includes contaminated sites, a commercial store, the City building, Head Start building, the old BIA School (unused), National Guard building, bulk fuel farm and marine fuel header, roads, utilities, and additional home relocations. Given how critical the bulk fuel farm is to the community for electrical power and heating, this infrastructure is included in the long-term response despite being 650 feet from the river's edge (as of June 2019).
- i. Akiak Power Plant Refurbishment.

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

Project Description Update : A description of the inter-related disaster mitigation efforts is outlined below based upon the tiered environmental review documents.

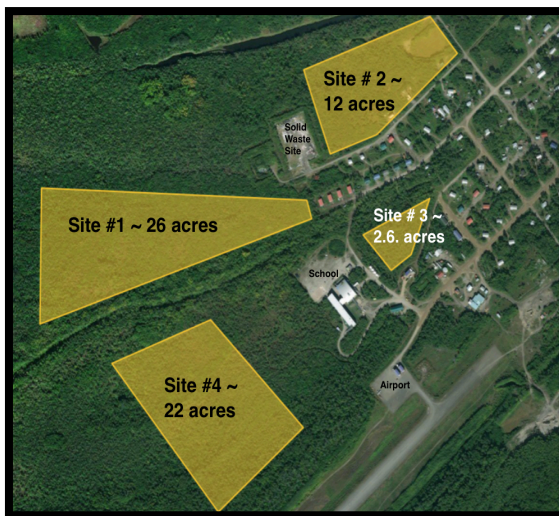
- 1. Short-term Response. The Project elements identified for 2020 and 2021 include:
 - a. Relocate six homes, identified by the NRCS as threatened, and disconnect the power, water and sewer services. **Completed.**
 - b. Complete vacant lot preparation, placement of six existing homes, and connection to power, water and sewer in the new locations. Vacant lots to be developed will be near utilities and the road system to reduce development costs. **Completed.**
 - c. Demolish one home that cannot be relocated and replace it with a new home. **Pending funding request from the Federal Emergency Management Administration - 2021 BRIC Tribal competition. This specific task was the reason for Addendum No. 1 to the Short term response environmental assessment.**
 - d. Remove or demolish outbuildings (fish drying sheds, etc.) and assorted debris within 200 feet of the river's edge. **Completed.**
 - e. Brush and tree clearing to 200 feet of the river's edge. Tree roots allow for some erosive resistance from the river, however, the trees topple over when the riverbank is undercut and become a river hazard. **Determined by the tribe as not critical and therefore has not been undertaken.**
 - f. Riverbank stabilization including paring back the extreme riverbank from vertical to a minimum 30-degree angle of repose. The recent erosion pattern results in a nearly vertical riverbank face, perpendicular to the river. This may be an annual exercise depending upon the magnitude of future riverine erosion and bank destabilization. **Determined by the tribe**

to be unsafe to carry out using heavy equipment (i.e. bank may give way) and therefore has not been undertaken.

- g. Reclaim buried arctic water and sewer service line piping and sewer mains. The sewer system layout near the river's edge is perpendicular to the river. The sewer piping must be removed so that, when, the river erosion reaches the piping the river does not flood into the community sewer collection system. If possible, the arctic piping, which was installed ten years ago, will be reclaimed and reused. **Completed.**

2. New Housing Subdivision Improvements: Based upon the number of commercial, community and housing structures within 600 feet of the river's edge (as of May 2019) the community determined that a new 30-lot housing subdivision is a necessary managed retreat Project element.

Beyond developing a housing subdivision for relocated structures, there is a need for new housing construction to address overcrowding in several existing homes, too.



Four potential sites for a 30-lot housing subdivision are shown in the figure to the left. The tribe selected Site 1 for expansion of the Akiak Subdivision in 2020.

Construction of the subdivision improvements has started in 2021 and is estimated to be completed in 2023. The tribe has been informed by the Association of Village Council Presidents - Regional Housing Authority that they will be building six new homes in the expanded subdivision in 2022/23. These new homes will serve to address overcrowding.

3. Solid Waste Site, Honey-bucket Lagoon, and Sewage Lagoon Improvements. The existing solid waste site and honey bucket lagoon were both completed in 1991. The existing sewage lagoon was completed in 2009.

In the development of a proposed new solid waste site and honey bucket lagoon both the Yukon-Kuskokwim Health Corporation - Office of Environmental Health and the Alaska Department of Environmental Conservation - Solid Waste Program (A-DEC) encouraged the separation of solid waste sites from honey bucket lagoons as a best management practice (i.e. avoidance of co-mingling of waste streams). Accordingly, the community

prioritized a new solid waste site approximately 3000 feet west from the current site, and a new honey bucket lagoon adjacent to the existing sewage lagoon.

Three studies are required to draft the environmental documents for the close out of the existing honey bucket lagoon and solid waste site, and construction of a new solid waste site and new honey bucket lagoon. Status of the studies follow.

- a. Wildlife assessment as required by the Federal Aviation Administration was completed in September 2020.
- b. Assessment of the capacity of the existing solid waste site was completed in May 2021, as required by A-DEC.
- c. Wetlands determination report for proposed soil borrow sites and for the proposed solid waste site and honey bucket lagoon is the last study required. Wetland technicians visited Akiak in August 2021 and it is anticipated that their report will be prepared in the fall of 2021 and then the environmental document for these improvements will be published.

4. Long-Term Response. Much of the managed retreat long-term response addresses infrastructure between 200 and 600 feet from the river's edge as of 2019. However, there are additional infrastructure disaster resilience needs and community public health and safety needs.

Project elements for managed retreat long-term response include:

- a. Relocation or demolishing the following standing structures: Old BIA school and school generator building, community store, City building, Head Start building, National Guard building, community bulk fuel farm and marine fuel header, and up to 15 existing homes. **In June 2021 the Alaska Energy Authority completed a project to harden the existing marine fuel header and also to install flanged splices every 100 feet of the fuel header line. These splices will allow the village to remove fuel header line, as needed, due to progressive erosion in the future.**
- b. Mitigating four existing contaminated sites near the river. Ostensibly, this would be as cost effective as possible, and may include cleaning tanks, piping and other physical plant and placing in the local landfill and excavating and land farming contaminated soils.
- c. The existing clinic, built approximately in 2005, reportedly, no longer has a functioning standby generator.
- d. Three homes have been identified through a 2016 site visit by the Alaska Division of Homeland Security and Emergency Management (A-DHS&EM) staff for elevation to be above the historic flood levels.
- e. There is one owner built home just north of the cemetery, and on the road to the existing sewage lagoon, that is not served with sanitation.

- f. Topographic review of existing sewage lift stations, and the placement of electrical components two feet above the 1964 flood stage is recommended.
- g. Excavate and reclaim water main (Loop#1) and sewer main as needed away from the river's edge.

The tribe has submitted a competitive grant request to the Federal Emergency Management Administration - Tribal BRIC competition for funding to carry out pre-construction tasks identified above for long-term response. The tribe should be informed of whether they will receive FEMA funding by fall of 2021, and if successful can start developing the scope of effort for long term response.

5. Low Earth Orbit (LEO) Broadband Infrastructure Development. In 2021 the tribe adopted broadband development as part of the larger inter-related disaster mitigation efforts. Three options are available to the tribe to improve broadband connectivity. The first option is LEO broadband which will require a modest sized tower centrally located in the community that will download internet service from low earth orbit satellites. The second option is fiber optics which is cost prohibitive. The third option is the “do nothing” alternative and accept the current slow level of service, but costly service, from the only commercial internet carrier in the Y-K Delta which uses a network of microwave relay towers that has limited capacity.

The current level of service, typically \$300/month for a residential service provides 10 Mbps download speeds which is 100 times slower than what is offered in many US cities. Furthermore, monthly service is capped at 100 gigabytes per month. The LEO option will increase internet speeds to 25 Mbps and have a higher data cap of 150 gigabytes per month at less the cost. The LEO satellite feed will be directed to a central tower which will then rebroadcast the satellite feed to each home using a radio frequency called 2.5 GHz spectrum, which the tribe has obtained a license for, previously, from the Federal Communications Commission (FCC).

6. Akiak Power Plant Refurbishment. Starting in 2020 the city-owned and operated power plant has suffered a number of failures of critical components. With only one fully functioning radiator the ability to shunt heat from the four generators is significantly reduced. With two or more generators on line they will begin to overheat. Furthermore, all four generators have approximately 20,000 use hours which is about the time the engines should be rebuilt. As a result of inefficient cooling and length of service time, the generators have begun to fail. At present only one of the four generators is functioning. The tribe has offered to assist the city in completing the power plant repairs. While power plant refurbishment at the size of most rural Alaska power plants, typically, only requires a categorical exclusion environmental review, the proposed improvements are discussed in this document to communicate to community

members the proposed actions of the tribe to assist the city. The tribe has accepted the power plant refurbishment as part of the community-level response to COVID-19 and the provision of potable water to individual residences.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

Akiak is facing a new environmental threat that has caused anxiety and community-wide concern for the safety of community members and specific families living in homes near the river. The development of a new housing subdivision, as a central part of the Akiak Home Relocation and Managed Retreat project, addresses in part overcrowding (which the community reports is common in a number of households) but also provides a safe location to relocate threatened infrastructure.

Development of a new solid waste site and honey bucket lagoon, which are incompatible for the 30-housing unit subdivision, will allow for homeowners to retreat to a safe area - not only free from erosion, but also, public health vectors associated with human and refuse waste streams.

The COVID-19 pandemic has afforded the tribe with additional capital funding to expand the housing subdivision, refurbish the power plant and construct a low earth orbit broadband facility.

Existing Conditions and Trends [24 CFR 58.40(a)]:

The proposed 30-housing unit subdivision is undeveloped land. The proposed new solid waste site and access road is undeveloped land. The proposed new honey bucket lagoon is adjacent to the existing sewage lagoon. A significant portion of the proposed water, sewer and power distribution improvements will be near existing housing and roads. Sewage lagoon refurbishment will not impact undeveloped land. The proposed LEO site is on undeveloped land.

Most of the land to be developed is either owned by the tribe or Kokarmiut Corporation. Both are committed to making this land available for the Akiak Home Relocation and Managed Retreat project.

Notwithstanding the recently developed need for a 30-lot subdivision, Akiak was already on a path to continue housing development to the west of Dummocks Street as documented by the [2018 Akiak Sanitation Preliminary Engineering Report](#) carried out by the Alaska Native Tribal Health Consortium for sanitation development west of the existing Akiak Subdivision. What is new is the need for upsizing the housing subdivision size to 30 homes and structures if the erosion that occurred in 2019 is the new normal for Akiak.

Funding Information

The tribe and the city have both applied for grant funding for managed retreat project tasks and have been declined on some of the requests. These declinations are not included in the following table which identifies funding that has been approved, or is pending (i.e. grant agreement has not yet been issued), or a funding determination has not yet been made.

Note, in most cases the projects listed as funded with ARP Act funding do not require NEPA environmental review, however the tribe has elected to disclose and discuss the capital improvements proposed for use with its ARP Act funding.

Grant Number	HUD Program (or other source)	Funding Amount	Status
Alaska VSW funding	Infrastructure Protection Funding (for disconnecting water and sewer services to 6 homes and a portion of two sewer mains)	\$68,159	Approved and completed
NRCS	Emergency Watershed Protection (EWP) Program (for relocation of 6 homes)	\$134,831	Approved and completed
HUD - ICDBG FR-6200-N-23	Community Development Block Grant Program for Indian Tribes and Alaska Native Villages (for sanitation improvements to six HUD funded homes on Dummocks Street)	\$800,000	Approved 2020, and under construction.
Alaska Division of Homeland Security & Emergency Management	Hazard Mitigation Grant Program (for “advanced assistance” with pre-construction tasks for the proposed subdivision). This work will address pre-construction tasks for managed retreat project tasks.	\$185,000	Approved, and pending grant award as of August 2021.
BIA-Housing Improvement Program	For a new home for the seventh homeowner living within 200 feet of the river, and whose home is structurally unsound for moving.	\$225,000	Approved, August 2021
BIA - Tribal Resilience	Pre-construction activities for managed retreat project elements	\$149,815	Approved, June 2020
HUD - ICDBG CARES	Community Development Block Grant Program for Indian Tribes and Alaska Native Villages (for two quarantine homes)	\$899,890	Approved, July 2020, under construction
CARES Act Tribal funding	The tribe used a portion of its 2020 CARES Act funding for quarantine housing.	\$750,000	Completed
HUD-ICDBG-Imminent Threat	Extension of power grid to the expanded Akiak Subdivision, close out of the existing honey bucket lagoon and construction of a new honey bucket lagoon.	\$450,000	Approved August 2021

IHS/USDA-Rural Development/ EPA/VSW	Akiak Scattered Site sanitation funding for the six homes to be relocated and proposed BIA-HIP home. Requested through ANTHC.	\$711,369	Requested in April 2020
ANTHC	Sanitation improvements for the new housing subdivision. This funding request in 2020 is being managed by ANTHC and not the tribe.	\$1,350,000	Pending
Alaska Community Foundation	Support for completing quarantine homes	\$147,000	Approved in 2020 and completed.
Denali Commission	Road improvements to support the expansion of the Akiak Subdivision	\$250,000	Requested March 2021
Federal Emergency Management Administration	Acquisition, demolishing and disposal of the seventh home that cannot be relocated.	\$179,885	Requested January 2021
Federal Emergency Management Administration	Pre-construction analysis of homes and commercial structures within the 200-foot to 600-foot threat zone.	\$117,000	Requested January 2021
Association of Village Council Presidents - Regional Housing Authority	Six new homes to be constructed in 2022/23 in the expanded Akiak Subdivision	unknown	Pending, to be completed by AVCP-RHA
Tribal Set Asides from the American Rescue Plan Act (Coronavirus State Fiscal Recovery Fund) - separate actions taken by the Akiak Tribal Council			
US Department of Treasury - direct transfer	Quarantine housing completion	\$150,000	Council approved February 2021
US Department of Treasury - direct transfer	Broadband improvements - Akiak LEO site	\$1,300,000	Council approved May 2021
US Department of Treasury - direct transfer	Broadband improvements - YK-Delta broadband LEO regional project	\$230,000	Council approved
US Department of Treasury - direct transfer	Sanitation Improvements for expanded Akiak Subdivision	\$1,800,000	Council approved February 2021
US Department of Treasury - direct transfer	Refurbish and relocate Akiak National Guard building (NOTE - further analysis demonstrates that the building is beyond repair and should be demolished).	\$200,000	Council approved May 2021

US Department of Treasury - direct transfer	Electrical Grid improvements to complement the proposed improvements to be paid for with HUD-ICDBG-Imminent Threat funding	up to \$300,000	Council approved, June 2021
US Department of Treasury - direct transfer	Purchase of a new generator for the City-owned power plant	\$50,000	Council approved June 2021
US Department of Treasury - direct transfer	Purchase of a new generator for the City-owned power plant	\$50,000	Council approved June 2021
Tribal Set Asides from the American Rescue Plan Act (Coronavirus Capital Project Fund) - separate actions taken by the Akiak Tribal Council			
US Department of Treasury - direct transfer	Purchase of heavy equipment and construction vehicles	\$50,000	Council approved April 2021
Tribal Set Asides from the American Rescue Plan Act (Local Assistance and Tribal Consistency Funds) - separate actions taken by the Akiak Tribal Council			
Bureau of Indian Affairs - direct transfer	Housing Program improvements, to complement the BIA-HIP award (\$225,000) for a total house package of \$325,000.	\$100,000	Council approved, June 2021
Bureau of Indian Affairs - direct transfer	Road Maintenance - purchase of heavy equipment, road materials, and repair of heavy equipment	\$400,000	Council approved, June 2021

Estimated Total HUD Funded Amount: \$450,000 for the HUD-IT application, \$800,000 for the HUD-ICDBG application, and \$899,890 for the HUD-ICDBG-CARES application for a total of \$2,149,890. In time, there will likely be additional HUD funding that will be managed by the AVCP-RHA for six proposed new homes in the expanded Akiak Subdivision.

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: \$6M to \$10M

Recommendations and Conclusions

The tribe understands that the FCC retains authority to issue a finding of no significant impact for the proposed Akiak LEO broadband project improvements including registration of a tower. Therefore, the tribe with this amendment document is not making such a finding but is deferring to the FCC to make this judgement.

This document was drafted to communicate with the community and stakeholder groups of the addition of the Akiak LEO broadband project and the refurbishment of the City power plant as

essential project components of the inter-related Akiak Home Relocation and Managed Retreat Project and Other Disaster Related Infrastructure Development.

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