



DRAFT

**Title 9 Major Use Permit No.: 113-11-24
Native Village of Kiana
Comprehensive Water Drainage Upgrade
Major Use Permit 20 day comment period
Please comment by December 9, 2024**

Permit Issued By:

Northwest Arctic Borough, Planning Department
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Permittee:

Native Village of Kiana
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Permittee Contact Information:

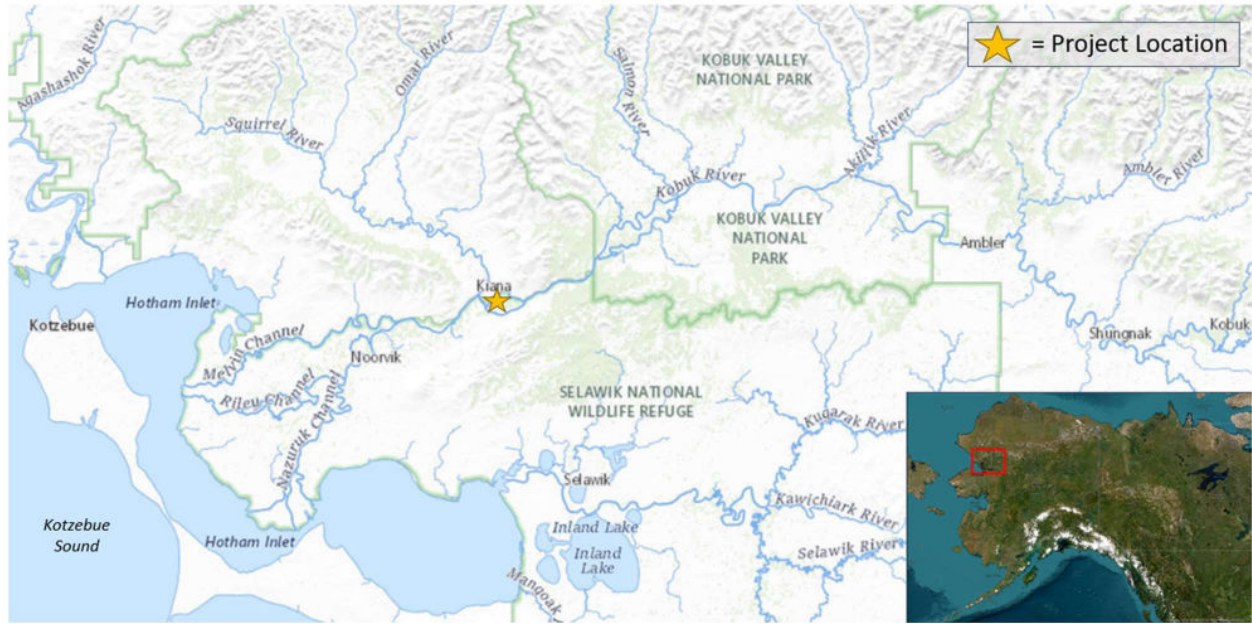
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Project Description:

The Native Village of Kiana (Kiana) is proposing a comprehensive drainage upgrade throughout the community. Kiana is located on the north bank of the Kobuk River within the Northwest Arctic Borough (NWAB) (Figure 1 and Figure 2).

Project Location:

The project is located within Township 18N, Range 008W, Section 09, Kateel River Meridian; USGS Selawik D-3 (Appendix A; Sheet 1)



BACKGROUND

Kiana experiences significant ponding and drainage problems. Culverts and ditches are integral pieces of community wide drainage systems and the transportation network. The culverts currently in place are inadequate in terms of size and function or have collapsed and no longer fulfill their designated purpose. Additionally, there are insufficient ditches along community roadways. As a result, flooding and subsequent powerful erosion occurs on Kiana's roadways, especially during spring break-up and throughout the summer months.



PURPOSE AND NEED

The purpose of this project is to improve drainage, increase the safety of the transportation system, and reduce maintenance costs across the entire community of Kiana. The project is needed to address ponding, drainage problems, and roadway erosion which can have significant impacts on safety. This project would improve the community's transportation network, increasing safety and access to housing and other public facilities.

PROJECT DETAILS

The project would remove and replace 22 culverts and install roadside ditches in certain locations to convey stormwater to the new culverts (Appendix A; Sheet 2). Culverts of varying sizes (between 12 and 30 inches in diameter) would be installed. The new culverts would be sized based on the National Oceanic and Atmospheric Administration (NOAA) 10-year, 24-hour design storm volume and would comply with the Alaska Highway Drainage Manual which requires drainage culverts to be able to convey a 10-year flood event. Drainage culverts up to 24 inches in diameter would consist of 16-gauge corrugated metal pipe (CMP) and culverts up to 30 inches in diameter would consist of 14-gauge CMP. Each culvert install would involve excavation and backfill at the site and require a minimum of one foot of cover. All culverts with a diameter equal to or greater than 24 inches would be installed with an electric thaw wire system to prevent system failure that occurs when culverts freeze. Riprap energy dissipaters would be installed at all culvert inlets and outlets except for culverts C-9 and C-14. One existing culvert (EC-20) would remain in place but would be regraded and would receive riprap energy dissipaters at the inlet and outlet.

Improvements also include installing roadside ditches in select locations to convey stormwater to the proposed culverts. Roadway embankment and driveways would be reconstructed in locations as needed where culverts are replaced, grading is required, or along proposed roadway ditches. See Appendix A; Sheets 1-6 for locations, typical plan, profile, and cross sections of proposed culvert replacements and ditches, and Table 1 and Table 2 for more details regarding the proposed culverts and fill quantities.



Table 1. Kiana Community Wide Drainage Project Support Structures

Culverts	Inlet Station	Outlet Station	Culvert Diameter (CMP)	Linear Feet (LF)
C-1	10+42.19	10+78.19	30 Inch with Thaw Wire	36.0
C-2	20+59.80	20+90.50	24 Inch with Thaw Wire	30.7
C-3	30+51.16	30+83.34	18 Inch	32.2
C-4	40+59.35	41+21.66	12 Inch	62.3
C-4a	42+70.84	43+05.63	24 Inch with Thaw Wire	34.8
C-5	50+63.10	50+93.10	24 Inch with Thaw Wire	30.0
C-6	60+77.48	61+19.69	18 Inch	42.2
C-7	70+34.97	70+66.75	18 Inch	31.8
C-8	80+51.41	80+78.01	24 Inch with Thaw Wire	26.6
C-9	90+25.00	90+64.65	18 Inch	39.7
C-10	100+66.80	101+11.80	18 Inch	45.0
C-11	110+99.20	111+39.00	24 Inch with Thaw Wire	39.8
C-12	120+56.10	120+85.20	18 Inch	29.1
C-13	130+45.20	130+67.80	12 Inch	22.6
C-14	140+45.90	140+87.30	24 Inch with Thaw Wire	41.4
C-15	150+55.60	150+86.10	24 Inch with Thaw Wire	30.5
C-16	160+25.51	160+60.91	24 Inch with Thaw Wire	35.4
C-17	170+30.70	170+63.70	18 Inch	33.0
C-18	183+49.46	183+91.26	24 Inch with Thaw Wire	41.8
C-19	191+57.30	191+88.90	24 Inch with Thaw Wire	31.6
EC-20	200+16.8	201+00	Existing CMP to remain	--
C-21	210+62.00	210+22.20	24 Inch with Thaw Wire	39.8
C-22	220+95.30	220+67.60	24 Inch with Thaw Wire	27.7

Table 2. Kiana Community Wide Drainage Project Fill Quantities

Riprap Installation	Area (square yards)	Volume (cubic yards)
Energy Dissipaters	555	309
Ditches	945	1,151
Total:	1,500	1,460

SCHEDULE

Construction would begin in June 2025 and be completed by September 2026.

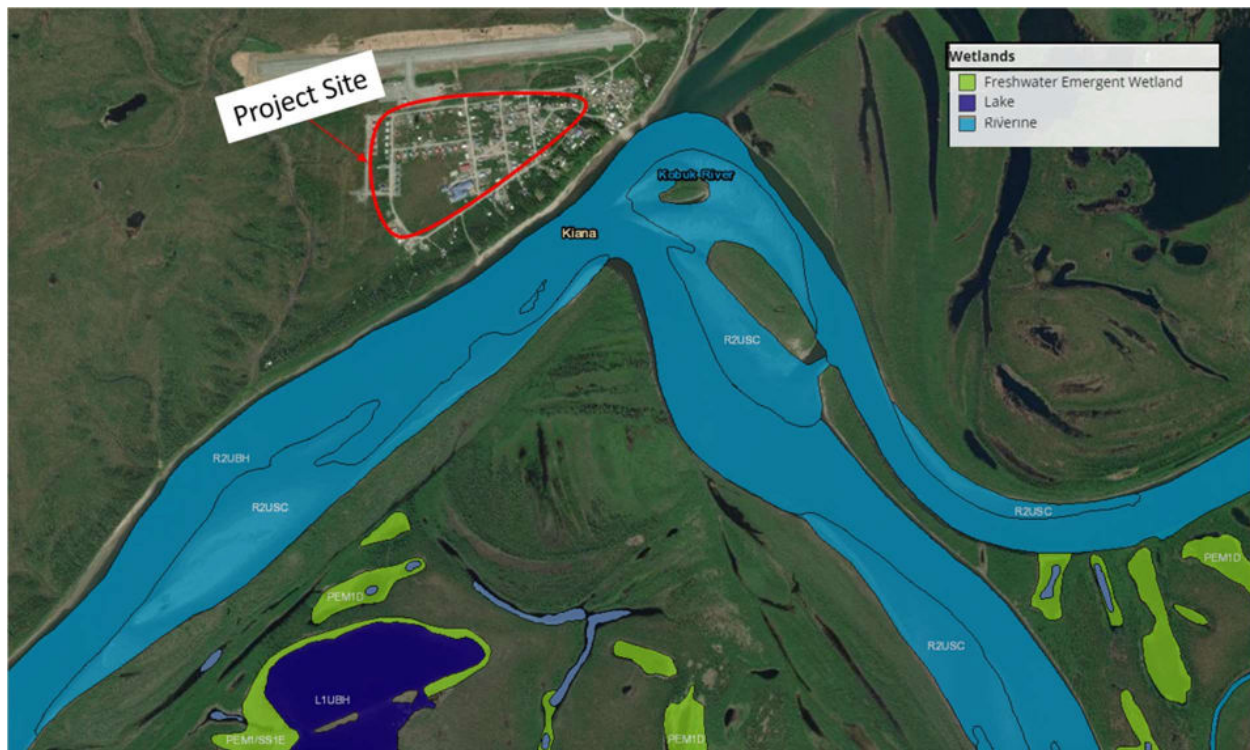
PROJECT IMPACTS

Wetlands and Waters of the U.S.

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory indicates the project is adjacent to wetlands (Figure 3). The area adjacent to the project consists of riverine (R2USC), freshwater emergent wetlands (PEM1D; PEM1/SS1E), and lake (L1UBH). The network of wetlands in and around Kiana connects to the Kobuk River, a traditionally navigable water, and is therefore under the jurisdiction of the U.S. Army Corps of Engineers (USACE). The actual project area is unmapped by USFWS.



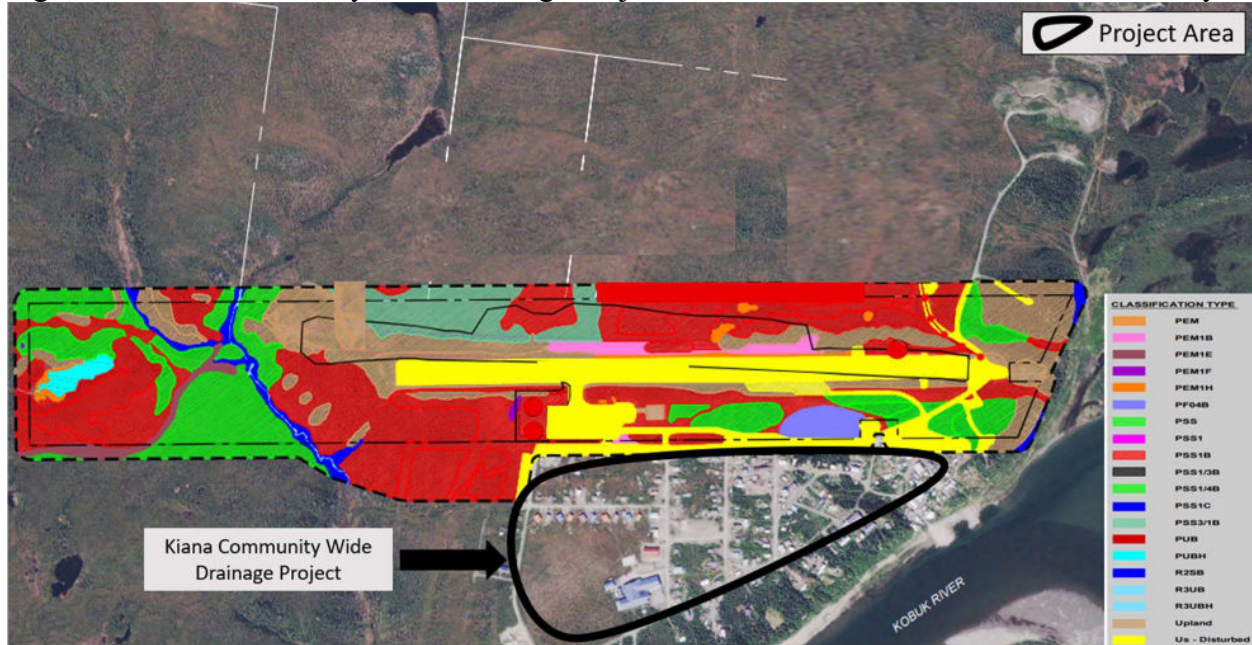
Figure 3. National Wetlands Inventory of Kiana



A U.S. Department of Transportation (USDOT) project conducted just north of the project area utilized a 2012 wetlands survey that revealed significant wetlands in the area (Figure 4). This survey found multiple classes of wetlands present (USDOT 2015). All wetlands found in the project area related to their downstream connection to the Kobuk River, which is a navigable water. Squirrel River, a tributary of the Kobuk River, has not been classified as navigable and its status is unknown. Although this survey wasn't inclusive of the Kiana Community Wide Drainage Project area it is reasonable to conclude based on proximity and landscape similarities that the wetlands classification applies to this project area as well.



Figure 4. Kiana Community Wide Drainage Project Area in Relation to 2012 Wetlands Survey



As explained above, excavation and backfill would be required to install the culverts. Kiana is assuming the project area is entirely within wetlands besides the previously filled roadways and driveways. Therefore, a section 404/10 permit would be required for permanent impacts to 1.05 acres of wetlands from the placement of culverts and ditches as well as the excavation and placement of fill. Based on the activity and footprint, we anticipate that a USACE Regional General Permit (Statewide Rural Development) would apply to this project.

Contaminated Sites

Intentional sources of pollution, including domestic, municipal, and industrial wastewater discharges, are managed and permitted by Alaska Department of Environmental Conservation (ADEC). There are two wetlands permits and two stormwater authorizations associated with Kiana, and within the vicinity of the project (ADEC 2024a). The ADEC contaminated sites database indicates that there are six active land based contaminated sites within a quarter mile radius of the project (Figure 5; ADEC 2024b).

Table 3. Active Contaminated Sites Near the Kiana Community Wide Drainage Project Area

Table 3. Active Contaminated Sites Near the Kiana Community Wide Drainage Project Area

Hazard ID	Site Name	ADEC Status	Distance from Project Site (meters)
4614	Kiana High School Former Tank Farm	Active	Within the project area
4621	Kiana Elementary School Former Tank Farm	Active	130 meters from the nearest culvert
4628	Kiana Trading Post Former Retail Fuel Tanks	Active	135 meters from the nearest culvert



4618	City of Kiana Former Tank Farm	Active	Within the project area
4620	Kiana AVEC Former Tank Farm	Active	Within the project area
26145	Kiana AVEC Power Plant Tank Farm	Active	Within the project area

Figure 5. Active Contaminated Sites within and near the Kiana Community Wide Drainage Project Area



Cultural Resources

A search of the Alaska Heritage Resource Survey and a literature review was conducted by Cultural Resource Consultants LLC (CRC) for the project area. According to CRC’s search, there are four known sites within the community boundaries of Kiana and therefore within the project vicinity. None of the sites are listed on the National Register of Historic Places (CRC 2024). Based on this information, Kiana contends that no historic properties would be affected by this project.

Floodplains

Kiana has not been mapped for floodplains by the Federal Emergency Management Agency. Although seasonal ponding and drainage problems are a known issue in Kiana, in the 2015 Environmental Assessment conducted by USDOT the community is noted as having no recorded flooding of structures (USDOT 2015).

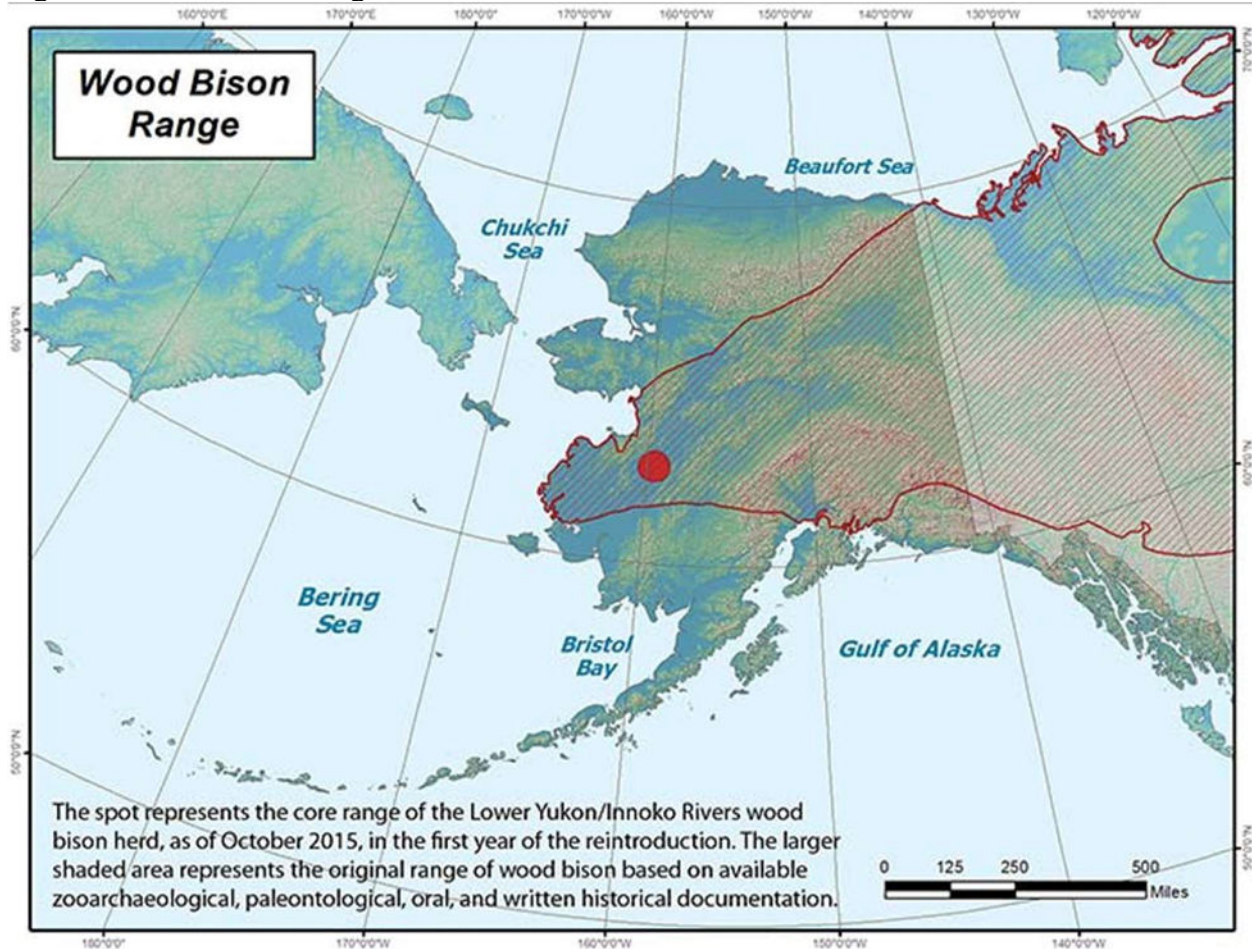
Endangered/Threatened Species

According to USFWS’s Information for Planning and Consulting database, the wood bison (*Bison bison athabasca*) is listed as threatened under the Endangered Species Act and is potentially present in the project area (USFWS 2024b). Wood bison are Canada’s largest



terrestrial mammal and are dark brown with long shaggy hair and upward curving horns. The majority of their range within Alaska is concentrated near the Lower Yukon/Innoko Rivers within approximately 500 kilometers of Kiana (Alaska Department of Fish and Game [ADF&G] 2024a). According to ADF&G, wood bison in Alaska are an experimental nonessential population that do not range as far north as Kiana (Figure 6). With this special status, establishment of critical habitat for wood bison in Alaska is prohibited (ADF&G 2024b).

Figure 6. Wood Bison Range in Alaska



Due to the small footprint of disturbance proposed and because all construction activities would occur in the developed area of Kiana which is 500 kilometers north of wood bison range, the project would not affect wood bison.

Avoidance, Minimization, and Mitigation Measures

To meet the purpose and need for this project complete avoidance of wetlands/waters of the U.S. is not possible. To minimize impacts to wetlands, the following measures would be implemented:

- Natural vegetation would be retained wherever possible.
- Permanent erosion control measures (riprap aprons, embankment stabilization) would be installed.



- Wetland water quality would be protected during construction through best management
- practices, including:
 - o During the summer, sediment prevention measures (i.e., silt fence or other means) would be placed and maintained. These devices would remain in place until fill and other exposed earthwork attributable to the project are stabilized.
 - o Stabilized construction exits would be provided for vehicles leaving the work area.
 - o The work area would be isolated from flowing water; vehicle or equipment operation would be avoided or minimized in flowing water.
- Grounds would be re-vegetated, if necessary, following the recommendations of the Alaska Department of Natural Resources Alaska Plant Materials Center and restored to as near preconstruction condition as feasible.

Cultural or Historic Resources Avoidance Measures

If cultural resources are encountered during construction, all ground disturbing activities would cease in the immediate area, and the contractor would immediately (within one business day of discovery) notify the SHPO.

ESA-Listed Species

Construction would cease and USFWS would be contacted if the above listed threatened species was encountered.

Permit Terms and Conditions:

1. NATIVE VILLAGE OF KIANA shall comply with the terms of the permission, permits and/or agreements granted by the federal government, State of Alaska, NANA Regional Corporation, Northwest Arctic Borough and other applicable agencies.
2. NATIVE VILLAGE OF KIANA shall comply with any and all applicable local, Borough, state and federal laws. The Borough reserves the right to conduct periodic inspections of the permitted operations as well as work with the permittee to observe operations and/or trips for permit compliance.
3. Water and Sewer Utility activities are required to be sited, designed, constructed and operated in a manner that does not substantially interfere with the use of a site that is important for significant cultural uses or essential for transportation to subsistence use areas.
4. All project activities shall utilize measures to avoid or minimize disrupting wildlife and bird migration, or subsistence activities including fishing, trapping, waterfowl hunting, egg gathering, berry picking and caribou hunting. The applicant will ensure reasonable access to subsistence users to subsistence resources.



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5. All vehicles shall be operated in a manner such that the vegetative mat of the tundra is not disturbed. Vehicles shall not be abandoned. Vehicles must avoid areas where species that are sensitive to noise or movement are concentrated.
6. All trash and human waste generated at the sites must be properly disposed in accordance with Northwest Arctic Borough Ordinance 9.25.020 M., establishing standards of disposal of refuse, human body waste, and chemicals. All remedial activities shall comply with any and all other applicable state and federal laws, including all applicable hazardous waste and disposal requirements, all waste disposal and landfill requirements, and all open burning and air quality standards.
7. The applicant must conduct activities in a manner to maintain natural drainage pattern, water shed protection, and permafrost stability; to prevent runoff and erosion into water supplies; to minimize alteration of vegetation; and to conserve natural features and the general environment of the area.
8. Uses permitted shall cease upon the discovery of archaeological, prehistoric, historic or cultural resources during the project activities, and NATIVE VILLAGE OF KIANA shall immediately contact the Planning Director at the NAB to determine the conditions to continue.
9. Project equipment servicing and fueling operations are prohibited within 100 feet of any surface water body, including any rivers, drainage channels, sloughs and lakes. Equipment must be monitored daily for hydraulic leaks. Project equipment shall not be abandoned.
10. The Borough recognizes that this area within Kina is a low flood hazard area, but may be subject to flooding which may result in the loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the health, safety and general welfare of Noatak residents. The Borough has adopted the necessary regulations of the Federal Emergency Management Agency (FEMA) to enable its communities and residents to participate in the National Flood Insurance Program (NFIP). See NABC 9.25.020.O.

To promote the public health, safety and general welfare by minimizing flood damage and loss and promoting access to disaster relief, the following conditions must be met:

- a. Encourage protection of land uses vulnerable to floods, including public facilities and utilities that serve such uses, against flood damage at the time of initial construction or substantial improvement.
Ensure that those persons who occupy areas of special flood hazards assume responsibility for occupying such flood hazard areas.
- b. All new construction and substantial improvements shall meet the following general standards, as applicable:



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- i. Anchoring. All new construction and substantial improvements shall be designed, modified, constructed and adequately anchored to prevent flotation, collapse or lateral movement of the structure; all manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement.
 - ii. Construction Materials and Methods. All new construction and substantial improvements shall be constructed with materials and utilize equipment resistant to flood damage and use methods and practices that minimize flood damage, including waterproofing, watertight construction, use of substantially impermeable materials and other construction techniques.
11. NATIVE VILLAGE OF KIANA shall immediately notify the Borough (at least within 24 hours) of any change in the plans and seek modification of the permit.
12. At the completion of each season and overall completion of the project, erosion control measures shall be utilized to stabilize any exploration and/or excavation sites. At a minimum, any disturbed areas must be re-graded to stable slopes that blend with the natural topography, maintain natural drainage, promote safety, and otherwise mitigate the effects of drilling. Within mean annual flood lines, re-grading to ground contours which will not entrap fish and not significantly alter the river/stream hydraulics will occur at the end of each operating season.
13. Annually by December 31st, the permittee shall file a written report with the NAB Planning Department, the Native Village of Noatak, the City of Noatak describing the following:
 - (a) A complete report of any fuel or other hazardous substances, discharges, and clean-up activities;
 - (b) Other matters as reasonable required by the Administrator/NAB Planning Director.
14. At the conclusion of each season the Borough Planning Department shall evaluate the effectiveness of the permit conditions. The Title 9 Administrator shall be authorized to adopt corrective measures for ineffective or inadequate permit conditions.
15. NATIVE VILLAGE OF KIANA and/or land owners shall allow the NAB and/or their representatives access to the permitted sites and properties, during the term of this permit or within 5 years after permit expiration, to conduct scheduled or unscheduled inspections to determine compliance with this permit or respond to emergency situations.
16. NATIVE VILLAGE OF KIANA is subject to all penalties and civil actions pursuant to NAB Code Section 9.08.240 for violation of the permit conditions and stipulations prescribed herein.
17. This permit will expire on December 31, 2026, unless revoked by the Title 9 Administrator and/or NATIVE VILLAGE OF KIANA.



18.

Permit Approval

NORTHWEST ARCTIC BOROUGH

Noah Naylor,
Planning Director/Title 9 Administrator

November 18, 2024

Date

CC: Native Village of Kiana, NANA Regional Corporation, Maniilaq Association
Posted at: www.nwabor.org