
Barrow Alaska Coastal Erosion Feasibility Study

Appendix H: Correspondence



Barrow, Alaska



**US Army Corps
of Engineers**

Alaska District

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United States Department of the Interior

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October 19, 2018



Chris Hoffman – Biologist
DEPARTMENT OF THE ARMY
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P.O. Box 6898
Joint Base Elmendorf-Richardson, AK 99506-0898

Re: Draft Environmental Assessment and
FONSI for Barrow Alaska Coastal
Erosion in Utqiagvik (Barrow),
Alaska

Dear Mr. Hoffman:

The U.S. Fish and Wildlife Service (Service) has reviewed the referenced draft Environmental Assessment (EA) evaluating the potential impacts from an erosion control project in Utqiagvik (Barrow) to construct a rock revetment along approximately 5 miles of coastline between the airport and the old Navy Arctic Research Lab (NARL). The constructed rock revetment would span from the front of the airport, to the start of Tasigarook Lagoon (an approximate 1-mile stretch) along the bluff, at which point Stevenson Street, the major coastal road in the community, would then be raised to run on top of the revetment for the balance of the distance (approximately 4 miles). The entire 5 mile revetment would be designed to ensure a 100-year level of protection, by stabilizing the bank and reducing undercutting from waves and localized thawing of permafrost. The project would involve placing about 370,000 cubic yards of material along about 5 continuous linear miles of coastline above the mean higher high water (MHHW) elevation to protect Barrow from coastal erosion and flooding. This material would come from an existing commercial quarry. The revetment would consist of two layers of 2.7 ton armor stone on the structure slope and two layers of B stone. The B rock, core, and gravel filter layers would be buried to match the existing beach elevation.

Recommendations: The Service appreciates the U.S. Army Corps of Engineers (USACE) early coordination for this proposed project. We offer the following recommendations to help minimize the proposed project's impacts on fish and wildlife habitat.

Threatened and Endangered Species: The proposed project is within the range of three species listed as threatened under the Endangered Species Act of 1973 (ESA), as amended: spectacled eider (*Somateria fischeri*), Alaska-breeding population of the Steller's eider (*Polysticta stelleri*), polar bear (*Ursus maritimus*), and designated polar bear critical habitat. Although this review meets the obligation for assessment under the Fish and Wildlife Coordination Act, because the project would occur within the range of ESA-listed species, it does not preclude the requirement for project-specific consultation under section 7 of the ESA. Therefore, when the project description is finalized, USACE maintains responsibility for initiating section 7 consultation on the proposed project with the Service's Consultation Branch.

We also recommend revising the Environmental Assessment (EA), based on the December 2008 Affected Environment, to reflect the polar bear as a listed species. Critical habitat has also been designated for this species.

Migratory Birds: The Service appreciates any voluntary mitigation measures intended to avoid and minimize adverse impacts to migratory birds and their habitats. Migratory bird nests, eggs, or nestlings could be destroyed if work is conducted during the spring and summer breeding season, which is generally June 1 through July 31¹ at the proposed site. A common mitigation measure to help minimize impacts to nesting birds is to avoid land disturbing activities (e.g., clearing, excavation, gravel fill, brush hogging, etc.) during the breeding season. However, we also support project proponents finding other ways to minimize impacts to migratory birds.

We recommend reviewing and revising the draft EA with the current bird species names. For example: The Wilson's snipe (*Gallinago delicata*) has replaced the common snipe (*Gallinago gallinago*) as the snipe species inhabiting Alaska.

Pacific walrus: On October 4, 2017, the Service determined the Pacific walrus (*Odobenus rosmarus divergens*) does not warrant listing as threatened or endangered under the Endangered Species Act (82 FR 46618). Walrus can occur in the action area; a small possibility exists the project would encounter walrus swimming offshore or encounter individuals hauled out on land. We encourage USACE to contact the Service's Marine Mammals Management Office to develop an appropriate mitigation plan to minimize potential effects on walrus.

Invasive Species: Unlike most of the country, the Alaska climate and poor access to remote areas previously minimized the potential for introducing and proliferating invasive species in the state. However, these barriers are no longer as effective due to a warming climate and improved access. Special precautions are now needed to ensure protection from invasive species. The Service recommends implementing Best Management Practices (BMPs) for minimizing the introduction and transport of invasive species into and out of the project area. Prevention is the most critical aspect of invasive species management, including winter months. BMPs can include thoroughly washing equipment before entering the project area to remove dirt and debris that may harbor invasive plant seeds and propagules to minimize their introduction and spread throughout areas that would not otherwise be exposed. BMP's may also include invasive species education for staff and contractors, using weed-free erosion control products, employing management strategies that anticipate and suppress secondary invaders while rapidly restoring native plants to fill the space vacated by invasive species control, and developing a monitoring and treatment plan. Please refer to <http://aknhp.uaa.alaska.edu/maps/akepic/> for the location of invasive species within the project area, with the understanding that lack of information does not equate absence of invasives at the location. To ensure on-the-ground knowledge of invasive species management, we recommend project contractors review a free self-paced training course on invasive species control, which can be found at <http://weedcontrol.open.uaf.edu/>. For more assistance with managing for invasive species in your project area, please contact our office.

¹ Raptors may nest two or more months earlier than other birds. Black scoter are known to nest through August 10th. <https://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/pdf/USFWS%20Timing%20Recommendations%20for%20Land%20Disturbance%20&%20Vegetation%20Clearing.pdf>

Conclusion: If the proposed erosion control project is executed as proposed, there is no need for a Fish and Wildlife Coordination Act investigation and subsequent report. However, please continue to include the Service during the planning process. If the proposed project undergoes changes, such as gravel extraction from a new source or expansion of an existing mine site, please notify the Service immediately so the changes can be reviewed and completed in time to meet the proposed project's start date.

These comments are submitted in accordance with provisions of the Endangered Species Act of 1973 (87 Stat. 844), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended: 16 U.S.C. 661 et seq.), the Alaska National Interest Lands Conservation Act (Section 101 (a)(c), 102 (1) and Section 302(5)(B)), the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and the National Invasive Species Act of 1996 [P.L.104-332], as amended (NISA); and constitute the report of the Department of the Interior. These comments are also for use in your determination of 404 (b)(1) guidelines compliance (40 CFR 230), and in your public interest review (33 CFR 320.4) relating to protection of fish and wildlife resources.

We appreciate this opportunity for comment, and we would be happy to discuss our comments with you. Our comments are based on the information provided in the EA. Should the project plans change, we would appreciate an opportunity to review the changes. Please contact Amal Ajmi at 907-456-0324 or amal_ajmi@fws.gov should you have any questions concerning these comments.

Sincerely,

**ROBERT
HENSZEY**

Robert J. Henszey
Branch Chief
Conservation Planning Assistance

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service
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Juneau, Alaska 99802-1668

November 5, 2018

Colonel Phillip J. Borders
U.S. Army Corps of Engineers
P.O. Box 6898
JBER, Alaska, 99506-0898

Re: Barrow Alaska Coastal Erosion Feasibility Study Draft Environmental Assessment and Draft FONSI


Dear Colonel Borders,

National Marine Fisheries Service (NMFS) Habitat Conservation Division has received the U.S. Corps of Engineers' (USACE) request for agency review comments on the details of the Tentatively Selected Plan (TSP) for erosion control in Barrow (Utqiagvik), Alaska, in the Draft Environmental Assessment and Draft Finding of No Significant Impact. In accordance with section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, the USACE is required to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH).

NMFS agrees with USACE's determination of "no adverse affect to EFH." NMFS appreciates USACE's selection of a plan that involves no placement of fill in the water; this will minimize impacts to EFH. NMFS agrees that natural coastal erosion and flooding can lead to contamination and degradation of the marine environment. NMFS acknowledges that the rock revetment and berm creation in the TSP may produce a better outcome for EFH than the No-Action Alternative. NMFS offers no further EFH conservation recommendations.

Should the project or TSP change significantly, NMFS wishes to be informed of any such changes in order to reassess our determination. If you have any questions regarding this project, please contact Lydia Ames at lydia.ames@noaa.gov or (907) 271-5002.

Sincerely,


for James W. Balsiger, Ph.D.
Administrator, Alaska Region

cc: Christopher Hoffman, USACE, christopher.a.hoffman@usace.army.mil





DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
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Ms. Judith Bittner
State Historic Preservation Officer
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550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Jul 19 2018

Dear Ms. Bittner,

The U.S. Army Corps of Engineers (USACE), Alaska District, Civil Works Division, is planning to construct a five mile barrier along the coast of Barrow (Utqiagvik), Alaska, to protect the village and resources from further coastal erosion per Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). To facilitate construction of the barrier, the USACE proposes to construct a combination of revetments and berms. The project may also involve raising the Stephenson Street if a berm or wall is found to not be feasible. Construction is planned along approximately five miles of the coast (Section 6, T22N, R18W, and Sections 14, 15, 21, 22, 28, 29, 31, and 32, T23N, R18W, Seward Meridian, USGS Quad Barrow B-4; Figure 1). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a proposed Federal undertaking and to seek your concurrence on an assessment of effect.

Context

Precontact History

Several archaeological sites in the Brooks Range have been dated to the American Paleoarctic tradition, at around 11,500 years before present (BP) (Grover and Laughlin 2012). It is assumed that with no coastal sites documented, any coastal paleoindian sites have been covered by rising sea levels after the Younger Dryas period began (Jensen 2014). The earliest coastal archaeological sites in northern Alaska date to the Denbigh Flint Complex, an early regional variant of the Arctic Small Tool tradition, at approximately 4,000 years ago in the Norton Sound (Dumond 1998a; Tremayne and Rasic 2016).

The number of coastal settlements in northern Alaska began to increase around 2,500 BP (Anderson 1984; Dumond 1998b). Beginning around 1,550 BP, the climate had a second warming period which decreased the amount of offshore ice, creating summer season open waters and new resources. This required changes and the development of new hunting techniques adapted to the open waters during summer seasons (Friesen and Mason 2016). During this time, whale hunting increased at some coastal sites (McClenahan 1993). These new cultural developments were labeled the Birnirk culture, and have been identified at the Utqiagvik (BAR-002) and Birnirk (BAR-001) sites at Utqiagvik, and the Kugusugaruk site (BAR-003), Coffin site (BAR-014), and Walakpa sites to the southwest (Anderson 1998; Gerlach and Mason 1992; Stanford 1976).

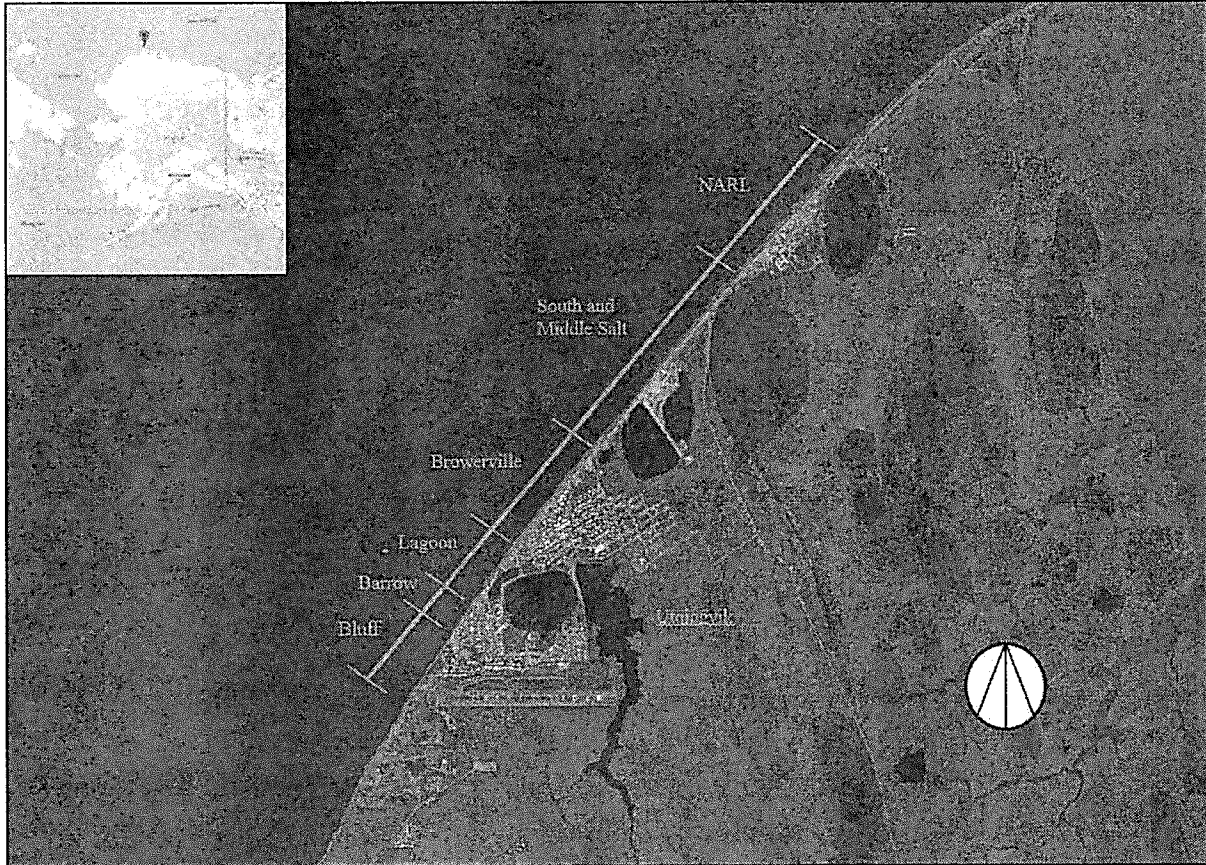


Figure 1: Project area; proposed construction along the shore facing the orange line.

By about 1,000 BP, the Thule people inhabiting the coast of northern Alaska were “easily recognizable” as the “direct ancestors” of the Iñupiat people (McClenahan 1993). Material culture artifacts known from ethnographic records have been recovered at sites dating to this period. In addition, technology developed for winter ice-hunting and hunting with kayak and umiaq on the open sea, along with a subsistence focus on whale hunting, continued use of some land-based resources, dog traction, and settlement in large communities (Anderson 1984; McClenahan 1993; Morrison 1998). Sites occupied by the Western Thule culture at or near Utqiagvik include Walakpa, Utqiagvik, Nuvuk (BAR-011), and Birnirk (Jensen 2016).

Russian Alaska

Northern Alaska was not noticeably affected during the Russian period; impacts from Western cultures were not discernable until approximately 1850 (Hall 1984). The Russian government did not consider the northern parts of Alaska a priority due to the lower quantity of fur-bearing animals in the vicinity. However, trade goods such as tobacco, iron, copper, and glass beads did make it north via traditional trade fairs and routes (Jensen 2015; Kunz et al. 2005; Murdoch 1892).

The first two recorded visits to North Slope of Alaska both took place in 1826. Captain Frederick Beechey of the English Royal Navy, in command of the fifteen-gun sloop *HMS Blossom*, led an expedition into Bering Strait and east to Icy Cape (Beechey 1832), while Sir John Franklin's expedition traveled west from the Mackenzie River until they reached Return Island just west of Prudhoe Bay (Franklin 1828). Although Beechey and *Blossom* did not make it much past Icy Cape and due to shallow waters, the *Blossom's* barge under the command of Thomas Elson and William Smyth made it as far as Point Barrow and the settlement of Nuvuk (Beechey 1832).

In the 1840s, commercial whalers began hunting in the Bering Strait, followed by the Chukchi Sea in the 1850s and the Beaufort Sea soon after (Bockstoce 1986). Euroamericans established shore-based whaling stations, including one at Point Belcher slightly north of Wainwright (Allen 1978; Brower 1842; Cassell 2000, 2005), and many local Iñupiat moved from subsistence whaling to participating in the commercial whaling industry. While the initial targeting of whales was primarily for the purpose of gaining whale oil from the blubber, there was also a secondary market through the baleen trade which continued to support the industry even after the discovery of petroleum in the eastern United States. A combination of the collapse of the baleen market and the depletion of the whale stock essentially ended commercial whaling in about 1916 (Bockstoce 1986; Spencer 1959; Stefansson 1913, 1914).

American Period

There were limited changes in Barrow during the WWII; however, the beginnings of the Territorial Guard were being created throughout Alaska. Barrow was determined to be the location of one of the Alaska Scout Battalions after the war; in 1949 the C Company of the 1st Battalion was stationed at Barrow (Hendricks 1985). This military unit was formed to protect and keep watch of Alaska's northern shores, but are considered more relevant during the Cold War period.

The Cold War period had significant impacts on the village of Barrow and its inhabitants. In 1948, the Office of Naval Research established the Naval Arctic Research Laboratory (NARL) in Barrow with the purpose of conducting research in the arctic environment to better the military's responses in the region (Hummel 2005). The development of the Research Laboratory increased the population during the summer season as military and civilian researchers used the site. One of the greatest impacts to northern Alaska came in the form of the Distant Early Warning (DEW) radar system, whose stations stretched over 3,000 miles across Alaska and northern Canada to alert the military in the case of a circumpolar Soviet attack (Hummel 2005). In addition to DEW Line station, listed as POW-MAIN as it was Point Barrow Main location, which was constructed in 1955 and served as a main hub for the northern Alaskan DEW stations. There was also a military garrison established in Barrow comprised of National Guard and Alaska Territorial Guard, who have also been known as the "Eskimo Scouts" (Hummel 2005). Construction work and other associated jobs attracted people to the area, and the town of Barrow grew.

Project Description

This project involves construction of barriers to protect Barrow from further storm surge impacts over the next 50 years. The project area spans five miles from the Barrow Bluffs to the NARL station (Figure 2). Two types of barriers will be constructed: the first consists of a revetment wall along a portion of the seaward side of the bluff and Barrow proper (one mile), and the second is a berm or raised wall along the Stephenson Road (four miles). Final determination of whether to use a berm or raise Stephenson Street has not been finalized, and the effect and any mitigation will be re-evaluated during the formulation of a memorandum of agreement (MOA) based on a chosen path forward.

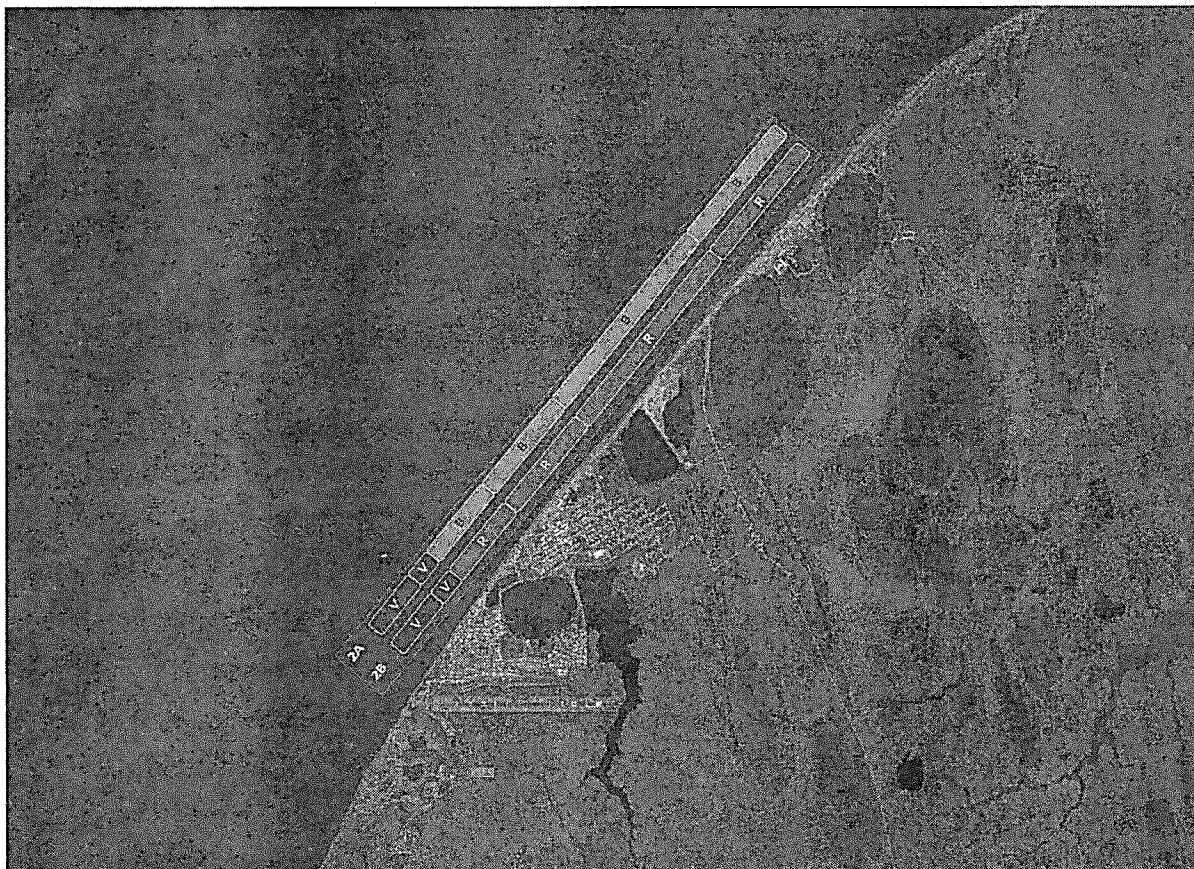


Figure 2: The proposed barrier plans along the Utqiagvik coast. The symbols used stand for V: Revetment, B: Berm, R: Raise Stephenson Street.

The proposed project would start with the construction of a rock revetment along the seaward facing bluff area, extending from the bluff in front of the airport to the start of Tasigarook Lagoon (an approximate 1 mile stretch). The revetment would stabilize the bank and reduce undercutting from waves and slow the localized melting of permafrost, which results in slumping of material and block (ice-wedge) failure. The revetment would consist of fill material, filter fabric, gravel then core material overlaid by two layers of type B-rock fill and two layers of 2.7-ton armor rock. The fill material would be buried to match the existing beach elevation below the armor rock to prevent any of the existing beach material from being

washed through the armor layer. The impact to cultural resources would be reduced by using fill material to achieve the design slope rather than excavating into the bluffs to set the design slope.

The four northern miles of the project between Tasigarook Lagoon and the NARL campus has two proposed versions of the barrier (Figure 3). The first is raising Stephenson Street and constructing a revetment berm on the seaward side which would reduce wave run up, and reduce the flooding in the low-lying beach areas. The surface would consist of two layers of 2.7 ton armor rock with a 2:1 horizontal:vertical seaward slope and a 1.5:1 landward slope. The B-rock would be a double layer, placed on top of a 1-foot layer of core, on top of 1-foot layer of gravel, which is then underlain with filter fabric. The B-rock and subsequent layers would be buried to match the existing beach elevation. The second version does not include raising or creating a revetment alongside the road, but a berm running parallel to the beach and constructed on the beach in the same manner as the revetment. Three beach access ramps would be maintained along the length of the berm.

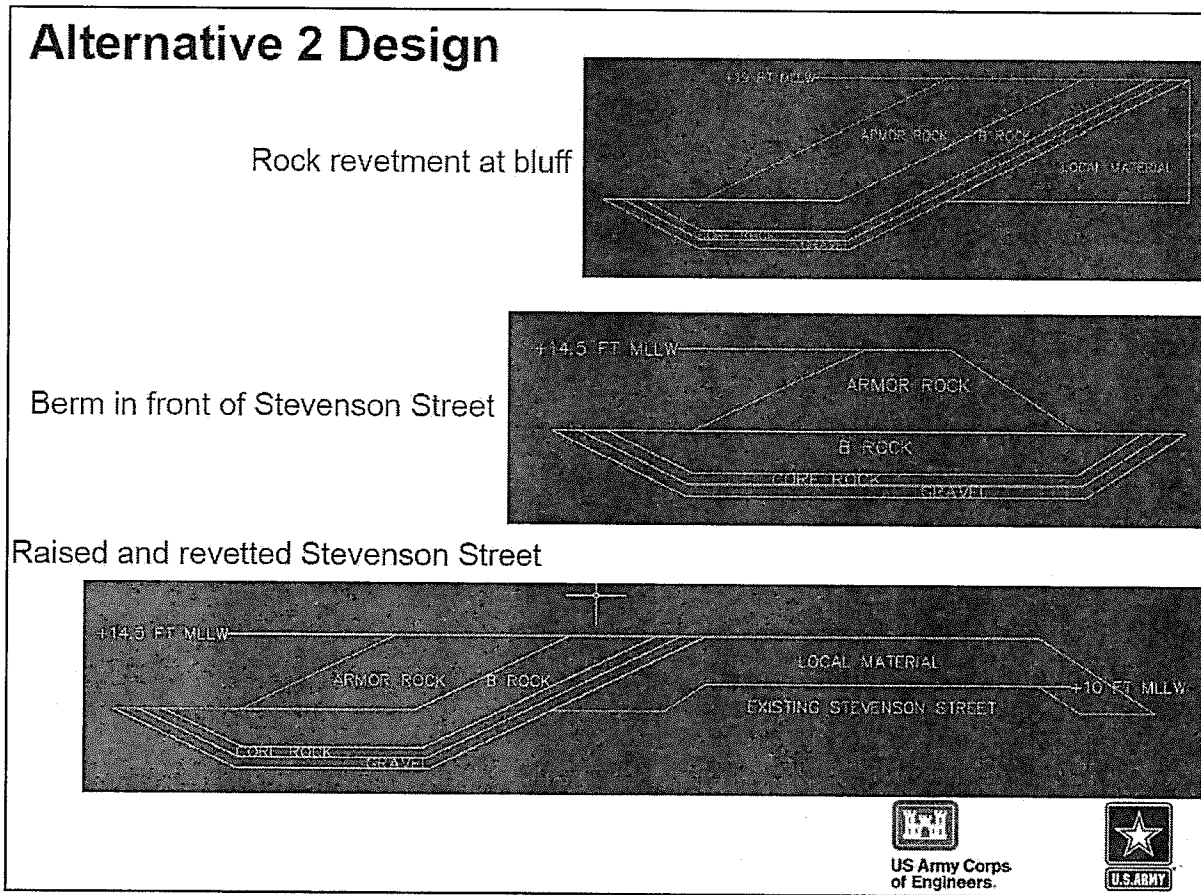


Figure 3: The three different barrier designs proposed for construction along the coastline.

Assessment of Effect

There are 42 known cultural resources in the vicinity of the project's area of potential effect (APE; Figure 4; Table 1). The archaeological site known as Utqiaġvik Village Site (BAR-002) is

located within the APE; this site is a large and important cultural resource in the area and is eligible for inclusion on the National Register of Historic Places (NRHP).. The site is on the southwestern end of Barrow, on a bluff which has been eroding over the years (Figure 5). There also have been a number of structures which have been constructed on top and around the site. The proposed revetment will cause increased physical pressure from above and from the side, which can cause problems as the permafrost thaws and ground settles on cultural remains.

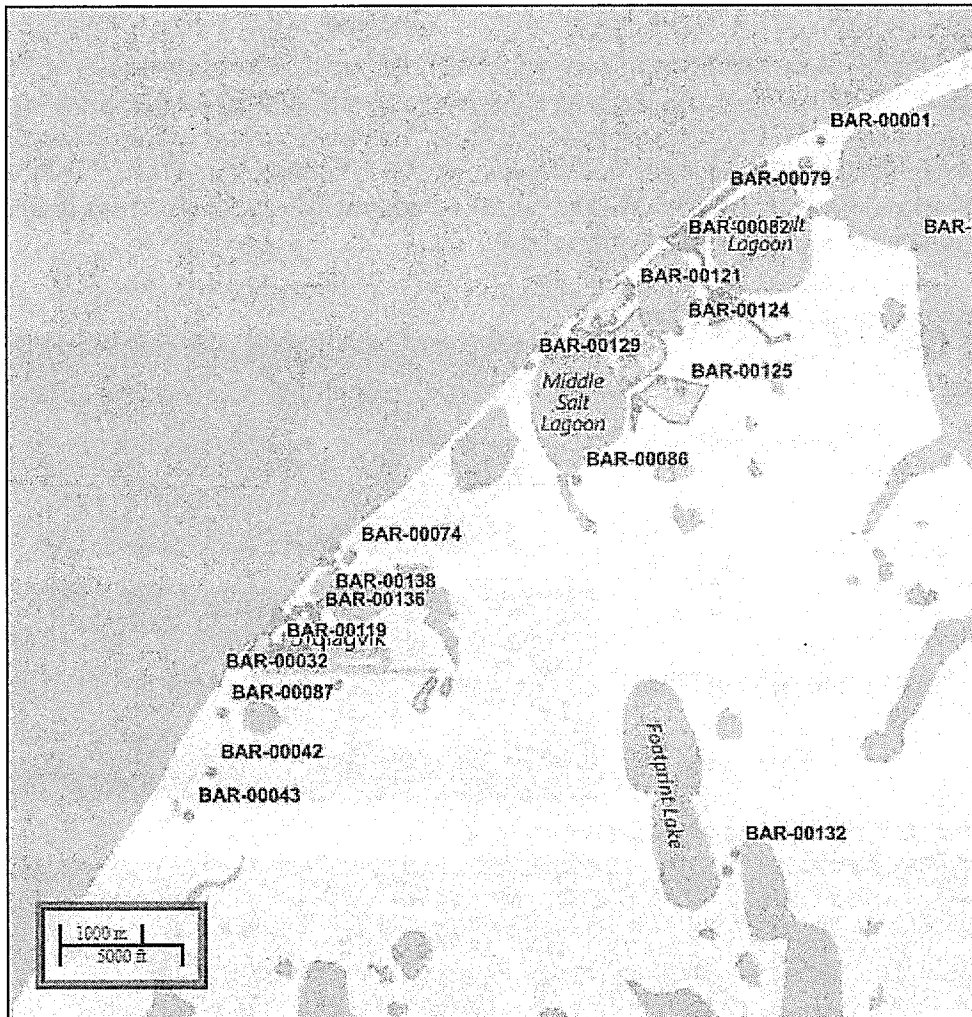


Figure 4: A map of Utqiagvik with the relative locations of the number of sites within the vicinity.



Figure 5: View of the eroding bluff face at Utqiaġvik site BAR-002. The view is from the shoreline looking towards the east, with archaeological debris visible.

Table 1: AHRS Sites located near the proposed APE.

AHRS #	Site Name	Type	NRHP DOE	In APE
BAR-001	Birnirk	Subsurface	National Historic Landmark	No
BAR-002	Utqiaġvik Village Site	Subsurface	Eligible	Yes
BAR-004	Utqiaġvik Presbyterian Church Manse	Structural	Listed	No
BAR-007	Browerville	Structural	Unknown	Yes
BAR-009	Esatkuat	Subsurface	Unknown	Yes
BAR-011	Nuwuk	Subsurface	Eligible	No
BAR-012	Refuge Station (Brower Café)	Structural	Listed	Yes
BAR-015	Sod House	Structural	Unknown	No
BAR-016	Elavgak House	Structural	Unknown	Yes
BAR-022	Kugok	Subsurface	Unknown	No
BAR-041	POW-M (DEW Line)	Structural	Eligible	No
BAR-046	Building 100	Structural	Eligible	No
BAR-047	Building 101	Structural	Not Eligible	No

BAR-053	LRRS Road System (DEW Line)	Structural	Eligible	No
BAR-055	NWS House 1	Structural	Eligible	No
BAR-056	NWS House 2	Structural	Eligible	No
BAR-057	NW House 3	Structural	Eligible	No
BAR-058	NWS Recreation Hall	Structural	Eligible	No
BAR-059	Old government building	Structural	Unknown	No
BAR-060	Browerville Ice Cellar	Subsurface	Unknown	Yes
BAR-061	NWS House Duplex B-4	Structural	Not Eligible	No
BAR-063	NWS Upper Atmosphere Facility	Structural	Not Eligible	No
BAR-065	NWS Office Building B-6	Structural	Not Eligible	No
BAR-066	Old Navy Bridge	Structural	Not Eligible	No
BAR-069	Cooper Is. Navy Station	Structural	Not Eligible	No
BAR-070	Cooper Is. 2	Subsurface	Eligible	No
BAR-073	Suvlu House	Structural	Not Eligible	No
BAR-074	Brower House	Structural	Not Eligible	No
BAR-075	NARL	Structural	Eligible	No
BAR-076	Building 250	Structural	Unknown	No
BAR-079	NARL Airstrip	Structural	Unknown	No
BAR-081	Building 133	Structural	Unknown	No
BAR-082	Building 134	Structural	Unknown	No
BAR-083	Building 130	Structural	Unknown	No
BAR-087	Grave	Subsurface	Unknown	No
BAR-101	Face-down burial (Uncle Foot)	Subsurface	Unknown	No
BAR-102	Nungasak House	Structural	Unknown	No
BAR-103	Yong House	Structural	Unknown	No
BAR-121	Seabee Core Test Well #1	Structural	Eligible (assumed)	No
BAR-123	Barrow Big Rig Test Well #1	Structural	Eligible (assumed)	No
BAR-129	South Barrow Test Well #1	Structural	Eligible (assumed)	No
BAR-138	BUECI Water Treatment Plant Utilidor	Structural	Unknown	No

Two more subsurface archaeological sites are also threatened by the continued erosion, the Esatkuat site (BAR-009) and the Ice Cellar in Browerville (BAR-060). At this time, these two sites have not had a determination of eligibility (DOE) for the NRHP completed. A DOE will need to be completed before any mitigation proposal is considered. The location of BAR-009 and BAR-060 are not within the revetment section, and the construction of a berm or raising Stephenson Street may protect the sites without further damage. However if the project is

determined to have an adverse effect on BAR-009 and BAR-060, both sites will require a DOE to be completed prior to any further considerations.

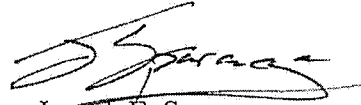
Three paths forward for the project have been identified, the first is construction of four miles of berm, the second is the raising or protection of Stephenson Street, and the third is a combination of both plans. In addition to BAR-009, BAR-060, and BAR-002, the Browerville structure (BAR-007), the Elavgak House (BAR-016), and the Refuge Station (Brower Café) (BAR-012) are along the shoreline at locations where two different barriers are being suggested. Sites BAR-007, BAR-016, and BAR-012 have different NHPA standings, as seen previously in Table 1. The Elavgak House (BAR-016) has not had a DOE conducted, and will require it to be considered for eligibility before any mitigation strategy is implemented. The current undertaking will have no physical effect upon them at this time. A previous report written by Jensen (2015) also mentions that there is a presence of graves within the vicinity of the northwestern end of Browerville. These are not presently listed in the AHRS, and do not have a definite known position.

Conclusion

Under the current proposal, the Utqiaġvik Village Site (BAR-002) will continue to suffer erosion until the protection is completed. However, the proposed revetment barrier would have armor boulders resting against and upon beach side sections of the site, which may further complicate its protection. Additional discussion is needed to determine the appropriate mitigation strategy for the site. While the current proposal may not affect the other sites, including the Browerville structure (BAR-007), the Ice Cellar in Browerville (BAR-060), the Esatkuat site (BAR-009), the Elavgak House (BAR-016), and the Refuge Station (Brower Café) (BAR-012), mitigation may be required as the planning of the project develops. Selected mitigation strategies will depend on the method of remedy chosen to address the erosion, either a berm will be constructed or Stephenson Street will be raised.

The construction of the revetment along the bluff section will have an adverse effect upon the Utqiaġvik Village Site (BAR-002) with the proposed revetment material covering sections of the resource. Cultural materials eroding out of the bluff face below the Utqiaġvik Village Site may also be covered by rock or fill. Further consideration of the other previously identified five sites (BAR-007, BAR-060, BAR-009, BAR-016, and BAR-012) will have to be considered pending the implemented solution to the erosion. A Memorandum of Agreement is anticipated; please expect an invitation to participate per 36 CFR § 800.6(a) in the near future. The lead time required for awarding contracts and coordinating planning documents in advance of the actual field work for this undertaking is significant. The USACE has determined the proposed undertaking will have an **Adverse Effect** on local cultural resources, per 36 CFR § 800.5(d)(2) and seeks your concurrence on the finding of effect. If you have any questions about this project, please contact me by phone at 907.753.2640, or by email at joseph.e.sparaga@usace.army.mil.

Sincerely,



Joseph E. Sparaga
Archaeologist
Environmental Resources Section

Cc:

Charles Brower, President, Native Village of Barrow Iñupiat Traditional Government
Frederick Brower, Executive Director, Inupiat Community of the Arctic Slope
Rex Rock, Sr., President and CEO, Arctic Slope Regional Corporation
Marie Carroll, President and CEO, Arctic Slope Native Association
Delbert Rexford, President and CEO, Ukpeagvik Iñupiat Corporation
Anne Jensen, Senior Scientist, UIC Science, LLC
Loyla T. Leavitt, City Clerk, City of Utqiagvik
Vera Lincoln, Curator, Simon Paneak Memorial Museum
Fannie Akpik, Barrow Member, Commission on History, Language, and Culture

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THE STATE
of ALASKA
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF PARKS & OUTDOOR RECREATION
Office of History & Archaeology

350 West 7 Ave., Suite 1310
Anchorage, Alaska 99501-3565
Main: 907-269-8721
<http://dnr.alaska.gov/parks/oha>

August 20, 2018

File No.: 3130-1R COE-ENV
2018-00912

Joseph Sparaga
USACE, Alaska District
CEPOA-PM-C-ER
P.O. Box 6898
JBER, Alaska 99506-0898

SUBJECT: Barrow (Utqiagvik) Coastal Erosion Project

Dear Mr. Sparaga:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence on July 20, 2018. Upon review, we offer the following comments for your consideration:

The correspondence indicates there are multiple project alternatives which may be added on, or further explored, prior to implementation of the subject project. The documentation states that while an 'adverse effect' is definitively anticipated to BAR-00002, potential adverse impacts to other historic properties are yet to be determined. Subsequently, the USACE makes a finding of 'Adverse Effect' and indicates that development of a Memorandum of Agreement (MOA) is anticipated. However, in accordance with the 36 CFR 800 regulations and Advisory Council on Historic Preservation (ACHP) guidance, the purpose of an MOA is to outline stipulations with the intent to minimize and mitigate *known* adverse effects. A Programmatic Agreement (PA), is the appropriate option when adverse effects cannot be fully understood in advance of project authorization—and therefore an alternative to the standard Section 106 process is needed.

- If USACE is unable to determine how the undertaking may affect historic properties prior to approval, we recommend consideration of a PA. If development of a PA is chosen, please let our office and the other consulting parties know of this intent as soon as possible.
- If USACE determines there is enough time prior to authorization to understand which historic properties will be adversely affected, and re-engage in consultation with our office and the other consulting parties regarding MOA development, we look forward to consulting with USACE at that time.

Thank you for the opportunity to review and comment, please let us know if USACE would like to discuss these options further. Please contact Mckenzie Johnson at 907-269-8726 or mckenzie.johnson@alaska.gov if we can be of further assistance.

Sincerely,

A handwritten signature in black ink that reads "Judith E. Bittner".

Judith E. Bittner
State Historic Preservation Officer
JEB:msj

From: [Johnson, McKenzie S \(DNR\)](#)
To: [Sparaga, Joseph E CIV USARMY CEPOA \(US\)](#)
Subject: [Non-DoD Source] RE: Barrow Alaska Coastal Erosion project
Date: Monday, August 27, 2018 8:38:21 AM

Sounds good. Thank you Joey.

--Mckenzie Johnson, AK SHPO/OHA

-----Original Message-----

From: Sparaga, Joseph E CIV USARMY CEPOA (US) [<mailto:Joseph.E.Sparaga@usace.army.mil>]
Sent: Saturday, August 25, 2018 2:35 PM
To: Johnson, McKenzie S (DNR) <mckenzie.johnson@alaska.gov>
Cc: Eldridge, Kelly A CIV USARMY CEPOA (US) <Kelly.A.Eldridge@usace.army.mil>; Cate, Jenipher R CIV USARMY CEPOA (US) <Jenipher.R.Cate@usace.army.mil>; Metallo, Amber C CIV USARMY CEPOA (US) <Amber.C.Metallo@usace.army.mil>
Subject: Barrow Alaska Coastal Erosion project

Dear McKenzie,

Thank you for your response to our assessment of effect regarding the Barrow Alaska Coastal Erosion project. We are currently in the Feasibility Phase of this project. Our assessment of adverse effect on BAR-002 is based off of preliminary designs of a preferred construction alternative. We will have more concrete information about the construction design during the Planning Phase of the project. After talking with the Project Manager Jen Cate, we determined that there will be sufficient time during the Planning Phase prior to the Construction Phase to develop an appropriate mitigation plan through a Memorandum of Agreement. The Construction Phase is not expected to begin until 2022. Per your letter, we will re-engage in consultation with your office and other consulting parties during the Planning Phase of the Barrow Alaska Coastal Erosion project.

Please let me know if you have any questions or concerns.

Thank you for your time,

Joey

Joseph Sparaga
Archaeologist, Alaska District
US Army Corps of Engineers
Email: joseph.e.sparaga@usace.army.mil
Phone: 907.753.2640



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Ms. Judith Bittner
State Historic Preservation Officer
Office of History and Archaeology
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

JAN 10 2013

Dear Ms. Bittner,

The U.S. Army Corps of Engineers (USACE) Alaska District, Civil Works (CW) Branch, is planning to construct a 5 mile barrier along the coast of Utqiagvik (referred to as Barrow for the remainder of this letter), Alaska (Section 6, T22N, R18W, and Sections 14, 15, 21, 22, 28, 29, 31, and 32, T23N, R18W, Seward Meridian, USGS Quad Barrow B-4; Figure 1). The purpose of the proposed undertaking is to protect the community and its resources from further coastal erosion, per Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). The proposed barrier will consist of three different measures: a revetment, a berm, and adding material to raise Stevenson Street with a revetment along its seaward side. In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

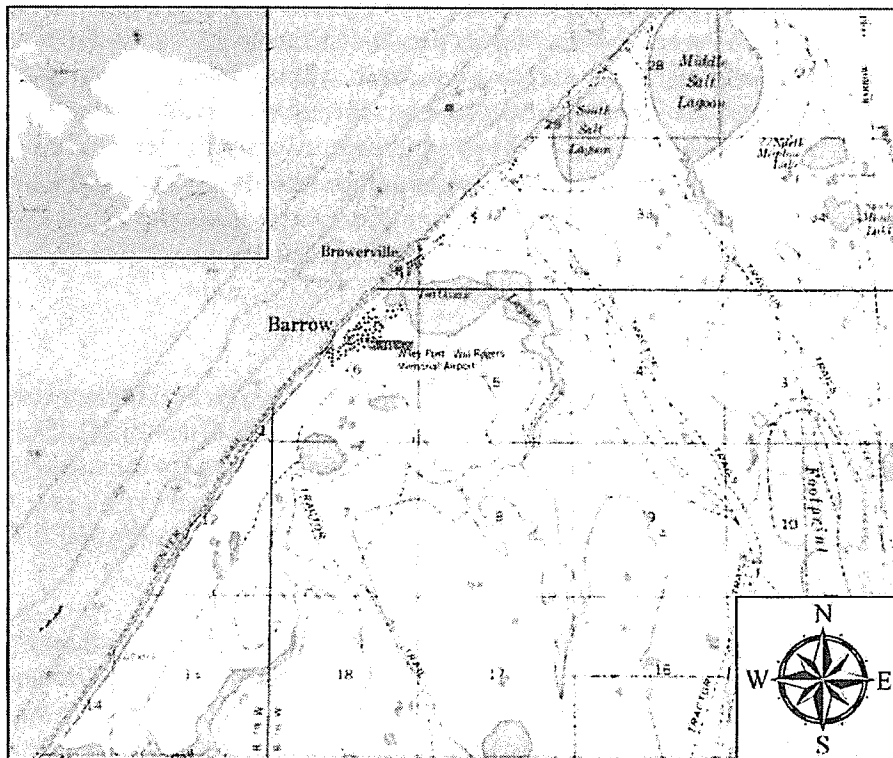


Figure 1. The City of Barrow (Utqiagvik).

Context

Precontact History

Several archaeological sites in the Brooks Range have been dated to the American Paleoarctic tradition, at around 11,500 years before present (BP) (Grover and Laughlin 2012). It is assumed that with no coastal sites documented, any coastal Paleoarctic sites have been covered by rising sea levels after the Younger Dryas period began (Jensen 2014). The earliest coastal archaeological sites in northern Alaska date to the Denbigh Flint Complex, an early regional variant of the Arctic Small Tool tradition, at approximately 4,000 years ago in the Norton Sound (Dumond 1998a; Tremayne and Rasic 2016).

The number of coastal settlements in northern Alaska began to increase around 2,500 BP (Anderson 1984; Dumond 1998b). Beginning around 1,550 BP, the climate had a second warming period which decreased the amount of offshore ice, creating open waters during the summer season and new resources. This required changes and the development of new hunting techniques adapted to the open waters during summer seasons (Friesen and Mason 2016). During this time, whale hunting increased at some coastal sites (McClenahan 1993). These new cultural developments were labeled the Birnirk culture, and have been identified at the Utqiagvik (BAR-002) and Birnirk (BAR-001) sites at Barrow, and the Kugusugaruk site (BAR-003), Coffin site (BAR-014), and Walakpa (BAR-013) site to the southwest (Anderson 1998; Gerlach and Mason 1992; Stanford 1976).

By about 1,000 BP, the Thule people inhabiting the coast of northern Alaska were easily recognizable as the direct ancestors of the Iñupiat people (McClenahan 1993). Material culture artifacts known from ethnographic records have been recovered at sites dating to this period. In addition, technology developed for winter ice-hunting and hunting with kayak and umiaq on the open sea, along with a subsistence focus on whaling, continued use of some land-based resources, dog traction, and settlement in large communities (Anderson 1984; McClenahan 1993; Morrison 1998). Sites occupied by the Western Thule culture at or near Utqiagvik include Walakpa, Utqiagvik, Nuvuk (BAR-011); and Birnirk (Jensen 2016).

Russian Alaska

Northern Alaska was not noticeably affected during the Russian Period; impacts from Western cultures were not discernable until approximately 1850 CE (Hall 1984). The Russian government did not consider the northern parts of Alaska a priority due to the lower quantity of fur-bearing animals in the vicinity. However, trade goods such as tobacco, iron, copper, and glass beads did make it north via traditional trade fairs and trading routes (Jensen 2012; Kunz et al. 2005; Murdoch 1892).

The first two recorded visits to northern Alaska both took place in 1826. Captain Frederick Beechey of the English Royal Navy, in command of the fifteen-gun sloop *HMS Blossom*, led an expedition into the Bering Strait and east to Icy Cape (Beechey 1832), while Sir John Franklin's expedition traveled west from the Mackenzie River until they reached Return Island just west of

Prudhoe Bay (Franklin 1828). Although Beechey and *Blossom* did not make it much past Icy Cape due to shallow waters, the *Blossom*'s barge, under the command of Thomas Elson and William Smyth, made it as far as Point Barrow and the settlement of Nuvuk (Beechey 1832).

In the 1840s, commercial whalers began hunting in the Bering Strait, followed by the Chukchi Sea in the 1850s and the Beaufort Sea soon after (Bockstoce 1986). Euroamericans established shore-based whaling stations, including one at Point Belcher slightly north of Wainwright (Allen 1978; Brower 1842; Cassell 2000, 2005), and many local Inupiat moved from subsistence whaling to participating in the commercial whaling industry. While the initial targeting of whales was primarily for the purpose of acquiring oil from the blubber, there was also a secondary market through the baleen trade which continued to support the industry even after the discovery of petroleum in the eastern United States. A combination of the collapse of the baleen market and the depletion of the whale stock essentially ended commercial whaling in about 1916 (Bockstoce 1986; Spencer 1959; Stefansson 1913, 1914).

American Period

There were limited changes in Barrow during the WWII; however, the beginnings of the Territorial Guard were being created throughout Alaska. Barrow was determined to be the location of one of the Alaska Scout Battalions after the war; in 1949 the C Company of the 1st Battalion was stationed at Barrow (Hendricks 1985). This military unit was formed to protect and keep watch of Alaska's northern shores, but are considered more relevant during the Cold War period.

The Cold War period had significant impacts on the village of Barrow and its inhabitants. In 1948, the Office of Naval Research established the Naval Arctic Research Laboratory (NARL) in Barrow with the purpose of conducting research in the arctic environment to better the military's responses in the region (Hummel 2005). The development of NARL increased the population during the summer season as military and civilian researchers used the site. One of the greatest impacts to northern Alaska came in the form of the Distant Early Warning (DEW) radar system, whose stations stretched over 3,000 miles across Alaska and northern Canada to alert the military in the case of a surprise circumpolar attack by the Soviet Union (USSR) (Hummel 2005). A DEW Line station at Point Barrow, listed as POW-MAIN, was constructed in 1955 and served as a main hub for the northern Alaskan DEW stations. There was also a military garrison established in Barrow; both the National Guard and Alaska Territorial Guard (also known as the "Eskimo Scouts"), were stationed there (Hummel 2005). Construction work and other associated jobs attracted people to the area, and the town of Barrow grew.

Project Description

USACE Alaska District is proposing to construct a 5 mile barrier along the shoreline of Barrow, Alaska. This barrier will consist of 3 different variations of construction, with the type of barrier changing at specific points due to the geography and infrastructure along the shoreline (Figure 2). Along the southwestern side of town the barrier will be a 19-foot high revetment placed at the foot of the bluffs along the Barrow neighborhood. In front of the Isatkoak Lagoon the barrier will be a 14.5-foot high berm between the shore and the community. The remainder of

the barrier, from the Browerville neighborhood to the northeastern end of NARL, will consist of raising the height of Stevenson Street to be 14.5-foot high and adding a revetment on the seaward side of the street. The construction of all three measures will involve a layered rock system. This consists of large armor rock, B-rock, core rock, and gravel. Armor rocks are large angular boulders weighing over 2.6 tons. B-rocks are smaller boulders which weigh anywhere between 100 lbs and no more than 2,000 lbs and are set underneath armor rocks. And core rocks are 2.2-ton angular boulders.

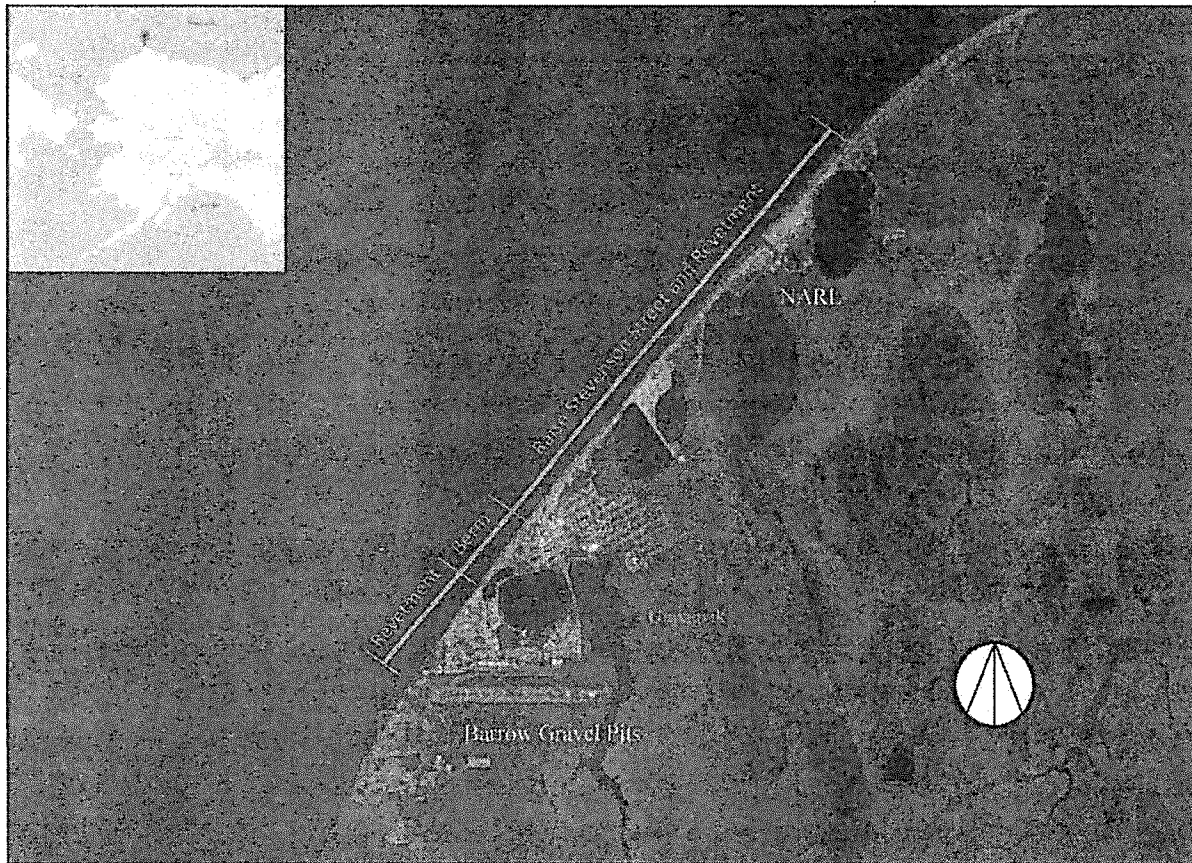


Figure 2. The proposed construction will be along the coastline, with its extents show by barrier type along the orange line. Areas marked in green are the proposed material staging areas: the bottom left green rectangle is the Barrow gravel pit and the upper right green rectangle is the NARL sacrificial berm staging area.

Most of the construction material is not available at Barrow, so much of the rock will come from established commercial quarries elsewhere and arrive by barge. Fill materials are available from local commercial quarries, but the scale of the construction is likely to exhaust the local supply before the end of construction. Any additional fill materials would be acquired from established commercial quarries elsewhere and arrive by barge. The proposed primary material staging area is at the Barrow gravel pits, while a secondary staging area being considered is a patch of land in front of the NARL complex (see Figure 2).

The revetment would consist of fill material (gravel and filter fabric) to achieve the design slope, then core rock overlaid by two layers of B-rock then two layers of armor rock. The fill material would be buried to match the existing beach elevation below the armor rock to prevent the existing beach from being washed out through the armor layer. The design has been engineered to reduce impacts to cultural resources by using fill material to achieve the design slope rather than excavating into the bluffs to set the design slope.

The berm, which will be built parallel to the beach between the revetment at the bluff and where Stevenson Street will be raised. It will consist of layers of gravel and core rock, with the main structure of the berm being constructed from armor rock. Portions of the beach will be excavated in order to fill with a secure base of the gravel, core rock, and B-rock. This will allow the berm to resist wave-erosion under the armor rock.

Stevenson Street will be raised with fill material, and a revetment will be built on its seaward side. This is designed to reduce wave run-up and reduce the flooding in the low-lying areas of the Browerville neighborhood. The surface would consist of two layers of armor rock with a 2:1 horizontal:vertical seaward slope and a 1.5:1 landward slope. Below the armor rock, a double layer of B-rock would be placed on top of a 1-foot layer of core rock, on top of 1-foot layer of gravel, underlain with filter fabric. The B-rock and subsequent layers would be buried to match the existing beach elevation. Figure 3 is a visual of all three designs.

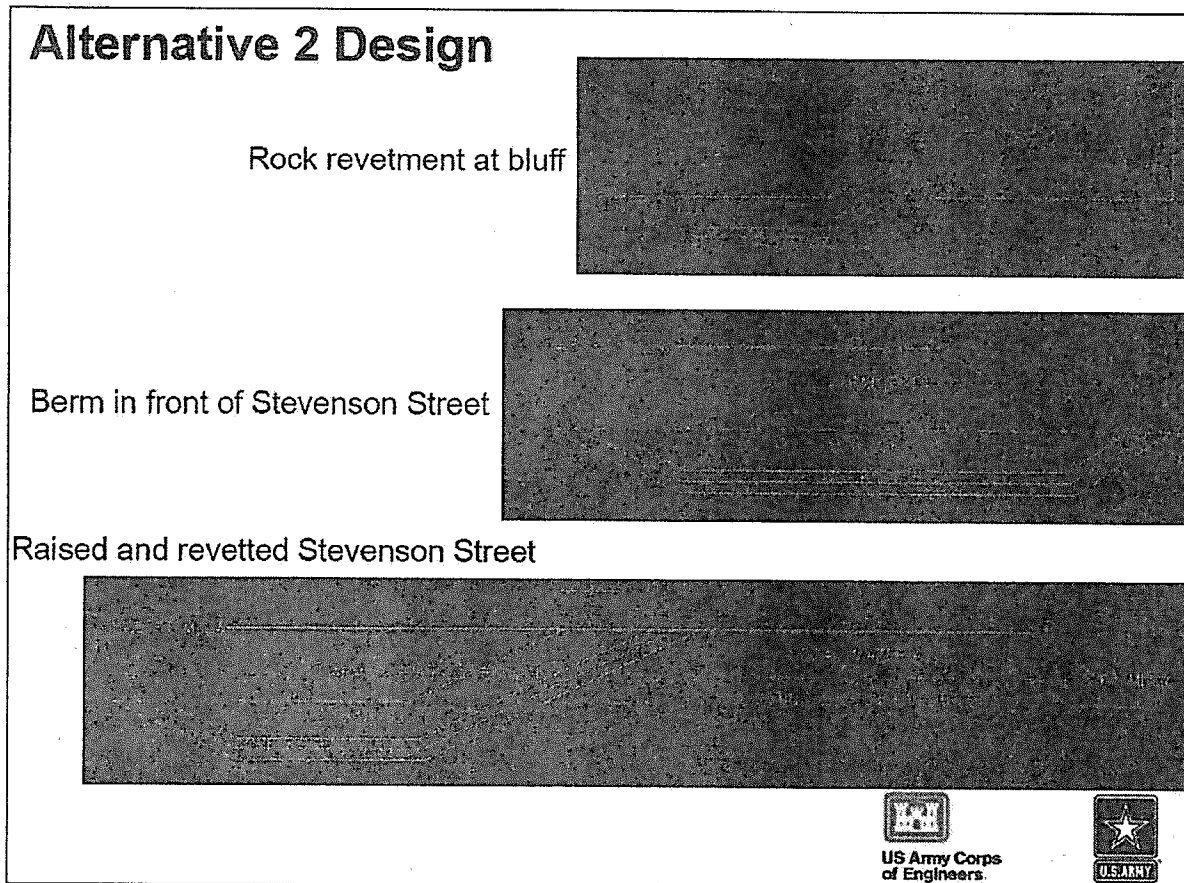


Figure 3. The three different barrier designs proposed for construction along the coastline.

Assessment of Effect

There are 42 known cultural resources in the vicinity of the project's Area of Potential Effect (APE; Table 1; Figure 4). A single site is directly within the APE: the Utqiagvik Village Site (BAR-002). BAR-002 is on the southwestern end of the City of Barrow, on a bluff which has been steadily eroding due to wave-impacts during storm events and portions of the bluff calving off due to permafrost thaw (Figure 5). The western side of the BAR-002 will be affected by the proposed undertaking. There have also been a number of private houses that have been constructed on top and around the site.

Table 1. AHRS Sites located near the proposed APE.

AHRS #	Site Name	Type	NRHP DOE	In APE
BAR-001	Birnirk	Subsurface	National Historic Landmark	No
BAR-002	Utqiagvik Village Site	Subsurface	Eligible	Yes
BAR-004	Utqiagvik Presbyterian Church Manse	Structural	Listed	No
BAR-007	Browerville	Structural	Unknown	No
BAR-009	Esatkuat	Subsurface	Unknown	No
BAR-011	Nuwuk	Subsurface	Eligible	No
BAR-012	Refuge Station (Brower Café)	Structural	Listed	No
BAR-015	Sod House	Structural	Unknown	No
BAR-016	Elavgak House	Structural	Unknown	No
BAR-022	Kugok	Subsurface	Unknown	No
BAR-041	POW-M (DEW Line)	Structural	Eligible	No
BAR-046	Building 100	Structural	Eligible	No
BAR-047	Building 101	Structural	Not Eligible	No
BAR-053	LRRS Road System (DEW Line)	Structural	Eligible	No
BAR-055	NWS House 1	Structural	Eligible	No
BAR-056	NWS House 2	Structural	Eligible	No
BAR-057	NW House 3	Structural	Eligible	No
BAR-058	NWS Recreation Hall	Structural	Eligible	No
BAR-059	Old government building	Structural	Unknown	No
BAR-060	Browerville Ice Cellar	Subsurface	Unknown	No
BAR-061	NWS House Duplex B-4	Structural	Not Eligible	No
BAR-063	NWS Upper Atmosphere Facility	Structural	Not Eligible	No
BAR-065	NWS Office Building B-6	Structural	Not Eligible	No
BAR-066	Old Navy Bridge	Structural	Not Eligible	No
BAR-069	Cooper Is. Navy Station	Structural	Not Eligible	No
BAR-070	Cooper Is. 2	Subsurface	Eligible	No
BAR-073	Suvlu House	Structural	Not Eligible	No
BAR-074	Brower House	Structural	Not Eligible	No

BAR-075	NARL	Structural	Eligible	No
BAR-076	Building 250	Structural	Unknown	No
BAR-079	NARL Airstrip	Structural	Unknown	No
BAR-081	Building 133	Structural	Unknown	No
BAR-082	Building 134	Structural	Unknown	No
BAR-083	Building 130	Structural	Unknown	No
BAR-087	Grave	Subsurface	Unknown	No
BAR-101	Face-down burial (Uncle Foot)	Subsurface	Unknown	No
BAR-102	Nungasak House	Structural	Unknown	No
BAR-103	Yong House	Structural	Unknown	No
BAR-121	Seabee Core Test Well #1	Structural	Eligible (assumed)	No
BAR-123	Barrow Big Rig Test Well #1	Structural	Eligible (assumed)	No
BAR-129	South Barrow Test Well #1	Structural	Eligible (assumed)	No
BAR-138	BUECI Water Treatment Plant Utilidor	Structural	Unknown	No

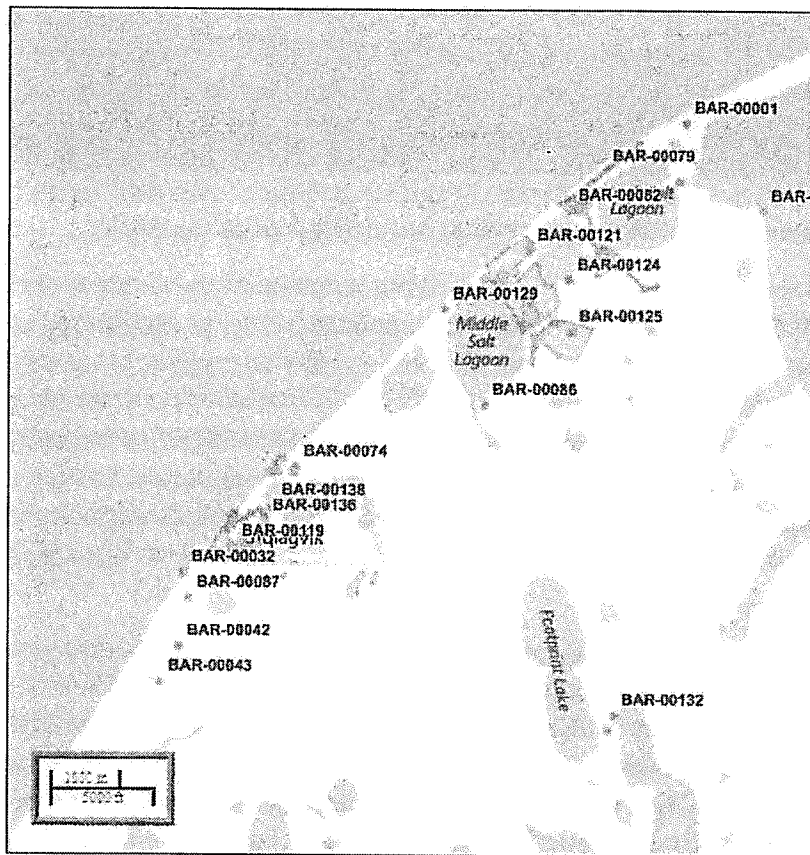


Figure 4. A map of Utqiagvik with the approximate locations known cultural resources within the vicinity.



Figure 5. View of the eroding bluff face at Utqiagvik Village Site BAR-002. The view is from the shoreline looking towards the east, with archaeological debris visible.

The proposed revetment at the bluff will cause increased physical pressure on BAR-002 from the side, which can cause problems as the permafrost thaws and ground settles on cultural materials. Experimental archaeology studies have found that capping or covering sites can increase subsurface destructive processes (THC 2014). The revetment would stabilize the bank and reduce undercutting from waves and slow the localized melting of permafrost. Melting permafrost results in slumping of material and block (ice-wedge) failure. Loss of permafrost, especially along open banks, have been shown to cause loss of both artifacts from degradation, as well as the loss of context as the ground slumps and loses vertical structure (Hollesen et al. 2017).

Although construction of the proposed undertaking will have an adverse effect on BAR-002, the barrier will protect multiple cultural resources from further erosion. Two additional subsurface cultural resources in Barrow are threatened by coastal erosion: the Esatkuat site (BAR-009) and the Ice Cellar in Browerville (BAR-060). Both of these sites are outside the proposed undertaking's APE as they are inland from the construction locations and not within staging areas or access routes. Beneficially, the proposed barrier would protect these sites from future wave- and flooding-induced erosion. Three above-ground cultural resources, the Browerville House (BAR-007), the Elavgak House (BAR-016), and the Refuge Station (Brower

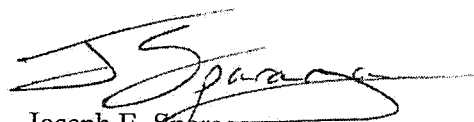
Café) (BAR-012) are also outside of the APE, but threatened by coastal erosion. The planned undertaking will serve as a protective barrier from future erosion and flooding. There are also grave sites threatened by erosion in the vicinity of the northwestern end of Browerville (Jensen 2015). Although these graves are not identified on the AHRs, Dr. Jensen has confirmed that their location is outside of the undertaking's APE (personal communication, Anne Jensen 2018).

Conclusion

The USACE believes that the proposed undertaking will adversely affect the Utqiaġvik Village Site (BAR-002); however, it is important to note that the site would continue to suffer from natural erosion associated with permafrost thaw as well as catastrophic loss during storm surges unless the proposed barrier is completed. The adverse impact to the site is associated with the pressure placed on the bluff face with the construction of the revetment. Recent research has shown that "capping" sites is not protective; placement of heavy revetment rock may damage subsurface features and cultural materials in direct proximity to the barrier. The proposed undertaking would also positively impact a number of cultural resources outside of the APE that are threatened by wave- and flood-induced erosion.

Per 36 CFR § 800.5(d)(2), the USACE requests your concurrence that the proposed undertaking will have an **Adverse Effect** on the Utqiaġvik Village Site (BAR-002). A Memorandum of Agreement is anticipated; please expect an invitation to participate per 36 CFR § 800.6(a) in the near future. The lead time required for awarding contracts and coordinating planning documents in advance of the actual field work for this undertaking is significant. If you have any questions about this project, please contact me by phone at 907.753.2640, or by email at joseph.e.sparaga@usace.army.mil.

Sincerely,



Joseph E. Sparaga
Archaeologist
Environmental Resources Section

Cc:

Charles Brower, President, Native Village of Barrow Iñupiat Traditional Government
Frederick Brower, Executive Director, Inupiat Community of the Arctic Slope
Rex Rock, Sr., President and CEO, Arctic Slope Regional Corporation
Marie Carroll, President and CEO, Arctic Slope Native Association
Delbert Rexford, President and CEO, Ukpqaġvik Iñupiat Corporation
Anne Jensen, Senior Scientist, UIC Science, LLC
Loyla T. Leavitt, City Clerk, City of Utqiaġvik
Vera Lincoln, Curator, Simon Paneak Memorial Museum
Fannie Akpik, Barrow Member, Commission on History, Language, and Culture

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THE STATE
of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Natural Resources

DIVISION OF PARKS & OUTDOOR RECREATION
Office of History & Archaeology

550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3561
907.269-8700
<http://dnr.alaska.gov/parks/oha>

January 24, 2019

File No.: 3130-1R COE-E
2018-00912

Joseph Sparaga
USACE, Alaska District
CEPOA-PM-C-ER
P.O. Box 6898
JBER, Alaska 99506-0898

SUBJECT: Barrow (Utqiagvik) Coastal Erosion Project, Finding of Adverse Effect

Dear Mr. Sparaga:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence on January 14, 2019 (dated January 10, 2019). The USACE makes a finding of 'Adverse Effect' based on anticipated adverse impacts to the Utqiagvik Village Site (BAR-00002) from construction of a proposed 5-mile-long barrier.

Upon review, we concur that the proposed undertaking will constitute an **adverse effect** to historic properties. We look forward to continued consultation with the USACE and other consulting parties on the development of a Memorandum of Agreement (MOA) formally stipulating measures to resolve adverse effects. Please note that the agency official is legally obligated to notify the Advisory Council on Historic Preservation (ACHP) of the adverse effect finding (36 CFR 800.6[a][1]). Due to the on-going government shutdown we recommend that this notification is withheld until the ACHP has returned back to the office to ensure receipt.

Thank you for the opportunity to review and comment. Please contact Mckenzie Johnson at 907-269-8726 or mckenzie.johnson@alaska.gov if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Judith E. Bittner".

Judith E. Bittner
State Historic Preservation Officer

JEB:msj



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Loyla T. Leavitt, City Clerk
City of Utqiagvik
PO Box 629
Barrow, AK 99723

Dear Dr. Loyla T. Leavitt:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

You are receiving this letter because we believe that you may have an interest in the project and would like to discuss any cultural resources concerns you may have in the area. A letter assessing the proposed undertaking is enclosed; it describes the present state of identification and evaluation of cultural resources in the area and the impact that the proposed undertaking may on those resources. The letter is addressed to the State Historic Preservation Officer who oversees Section 106 concurrence in Alaska.

If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Delbert Rexford, President & CEO
Ukpeaġvik Iñupiat Corporation
P.O. Box 890
Barrow, AK 99723

Dear Delbert Rexford:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Charles DN Brower, President
Native Village of Barrow Inupiat Traditional Government
P.O. Box 1130
Barrow, AK 99723

Dear Charles DN Brower:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the cost of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "Sparaga", written over a horizontal line.

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Frederick Brower, Executive Director
Inupiat Community of the Arctic Slope
P.O. Box 934
Barrow, AK 99723

Dear Frederick Brower:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga", written over a horizontal line.

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Rex A. Rock, Sr., President & CEO
Arctic Slope Regional Corporation
P.O. Box 129
Barrow, AK 997230129

Dear Rex A. Rock, Sr.:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the cost of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Marie Carroll, President & CEO
Arctic Slope Native Association, Limited
P.O. Box 1232
7000 Uula St.
Barrow, AK 99723

Dear Marie Carroll:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga", written over a horizontal line.

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Dr. Anne Jensen
UIC Science, LLC
P.O. Box 577
Barrow, AK 99723

Dear Dr. Anne Jensen:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Fannie Akpik, Barrow Member
Commission on History, Language and Culture
North Slope Borough
PO Box 629
Barrow, AK 99723

Dear Dr. Fannie Akpik:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Vera "Kalik" Lincoln, Curator
The Simon Paneak Memorial Museum
North Slope Borough
PO Box 629
Barrow, AK 99723

Dear Dr. Vera "Kalik" Lincoln:

The U.S. Army Corps of Engineers (USACE), under the Civil Works Program, is planning to construct a five mile barrier along the coast of the city of Barrow (Utqiagvik). The project is being conducted in conjunction with the North Slope Borough under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010 (PL 111-85). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of effect.

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If you wish to be included as a consulting party to this review, please email me at joseph.e.sparaga@usace.army.mil or call at 907-753-2640.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Sparaga".

Joseph E. Sparaga
Archaeologist
Environmental Resources Section



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Christopher Daniel
Program Analyst
Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, DC 20001-2637

6 Feb.2019

Dear Mr. Daniel:

The U.S. Army Corps of Engineers (USACE) Alaska District, under the Civil Works (CW) Program, is planning to construct a protective barrier along the shoreline of the community of Utqiagvik, Alaska (Section 6, T22N, R18W, and Sections 14, 15, 21, 22, 28, 29, 31, and 32, T23N, R18W, Seward Meridian, USGS Quad Barrow B-4). The protective barrier will consist of a combination of revetments, berms, and raising the height of Stevenson Street and adding a revetment to the street on its seaward side (Figure 1). The USACE has found that this proposed undertaking would have an adverse effect on the Utqiagvik Village Site (BAR-002). The Alaska State Historic Preservation Officer (SHPO) concurred with this assessment on January 28, 2019. In compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 [36 CFR § 800.6(a)(1)], the purpose of this letter is to notify the Advisory Council on Historic Preservation (ACHP) of a finding of adverse effect, and to invite you to participate in the development of a memorandum of agreement (MOA) that will mitigate and resolve the adverse effects of the proposed undertaking.

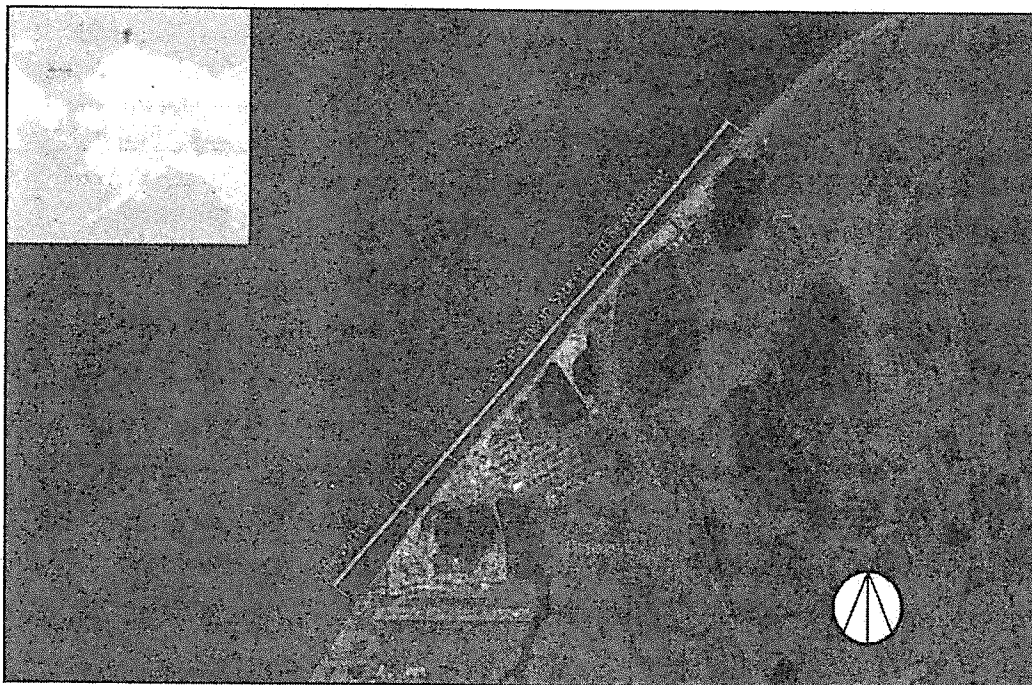


Figure 1. The proposed construction will be along the coastline (orange line). Proposed material staging areas are marked in green.

Federal Involvement and Description of Undertaking

The NHPA (formerly 16 USC § 470, now 54 USC § 300101 et seq.) and its implementing regulations [36 CFR § 800] require all Federal agencies to consider the effects of their undertakings on historic properties. The USACE plans to construct a 5 mile barrier along the coast at Utqiagvik, Alaska. The barricade would consist of three different types of construction. Along the southwestern side of town the barrier will be a 19-foot high revetment placed against the bluffs. In front of the Isatkoak Lagoon, the barrier will be a 14.5-foot high berm. The remainder of the barrier, from the Browerville subdivision to the northeastern end of the Naval Arctic Research Laboratory (NARL) facilities, will consist of raising the height of Stevenson Street and adding a 14.5-foot high revetment to the seaward side of the street.

Armor rock materials are not available at Utqiagvik; most of the barrier materials would come from established commercial quarries elsewhere in the state and arrive by barge. Fill materials are available from local commercial quarries; however, the scale of the construction is expected to exhaust the local supply before the end of construction. Fill materials that are not locally sourced will be acquired from established commercial quarries elsewhere in the state and arrive by barge. The proposed primary material staging area for the project is at the Utqiagvik gravel pits, while a potential secondary staging area could occur in front of the NARL complex (see Figure 1). This proposed secondary staging area has been used previously to stage materials for the North Slope Borough.

Description of Adversely Affected Historic Property

Per 36 CFR § 800.5(a)(1), an adverse effect is found:

When an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The USACE has found that placing a revetment against the bluff face along the southwestern side of town will have an adverse effect on the Utqiagvik Village Site (BAR-002). The Utqiagvik Village Site has been actively eroding out of the bluff face; placing the revetment against the bluff will stop this natural, permafrost-thaw and storm-induced erosion, but it will also adversely impact the archaeological features and materials along the bluff face (materials) and alter the site setting. Research in the arctic environments of Greenland have identified that warming temperatures and changes in the water balance has degradation effects on exposed cultural resources (Holleesen et al. 2016). While the barrier may offset the continued erosion and exposure which exacerbates the degradation, recent experimental archaeological studies have also found that "capping" a subsurface archaeological site with revetment rock and putting physical pressure

on it has negative impacts on cultural features and materials. Capping a site that is going through a freeze-thaw pattern was found to accelerate the decay of all cultural resources, with the exception of metals (THC 2016).

Implementing these future construction actions requires advanced coordination to align funding streams, technical requirements, and stakeholder interests. The lead time for coordinating planning documents in advance of the actual field work is significant. The significance of the Utqiagvik Village Site creates added challenges. The USACE CW Program is committed to stakeholder communication and appropriate mitigation of adverse effects. USACE understands that mitigating the impacts will be complicated; some initial conversations with interested parties have suggested that limited salvage archaeology may be appropriate.

Following 36 CFR § 800.6(a), the USACE requests your participation in the development of mitigation for the proposed undertaking's adverse effects on historic properties through the development of a Memorandum of Agreement. We would like to hold the initial stakeholders' meeting in March 2019. Please contact me with your response by phone 907-753-2640, or by email at joseph.e.sparaga@usace.army.mil.

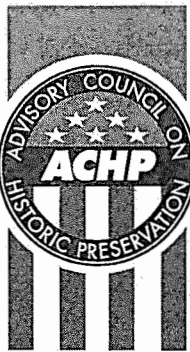
Sincerely



Joseph E. Sparaga
Archaeologist
Environmental Resources Section

REFERENCES

- Hollesen, Jørgen, Henning Matthiesen, Anders Bjørn Møller, Andreas Westergaard-Nielsen, Bo Elberling
2016 Climate Change and the Loss of Organic Archaeological Deposits in the Arctic.
Scientific Reports Vol. 6(28690):1-8.
- Texas Historical Commission (THC)
2014 *Intentional Burial of Sites as a Preservation Tool*. Archaeology Division, Austin.



Preserving America's Heritage

February 21, 2019

Joseph E. Sparaga
Archaeologist
U.S. Army Corps of Engineers
Alaska District
P.O. Box 6898
Jber, AK 99506-0898

Ref: *Proposed Barrow Alaska Coastal Erosion Project
City of Utqiagvik, North Slope Borough, Alaska*

Dear Mr. Sparaga:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Alaska State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Mr. Christopher Daniel at 202-517-0223 or via e-mail at cdaniel@achp.gov.

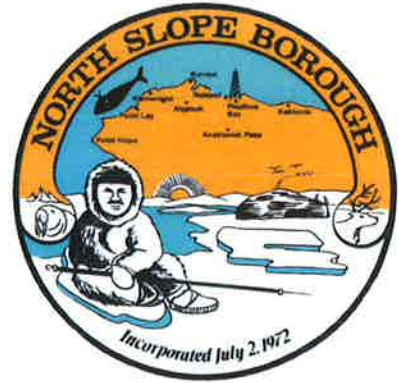
Sincerely,

Artisha Thompson
Historic Preservation Technician
Office of Federal Agency Programs

North Slope Borough

Department of Capital Improvement Program Management
P.O. Box 1050
Barrow, Alaska 99723

Phone: (907) 852-0489 or
(907) 852-2611
Fax: (907) 852-0257



Bernadette Adams, Director

May 29, 2019

Alaska District, US Army Corps of Engineers
CEPOA-PM-C
Attention: Mr. Bruce Sexauer
P.O. Box 6898
JBER, AK 99506-6898

Dear Mr. Sexauer:

Please accept this letter as a recap of the North Slope Borough's efforts towards joining FEMA's National Flood Insurance Program (NFIP) thus far and planned future efforts.

The North Slope Borough intends to be in complete compliance with the NFIP per US Army Corps Regulations.

The following is a brief timeline of events that have taken place to date:

- On 10/23/18, Robert Shears (former North Slope Borough (NSB) Capital Improvement Project Management (CIMP) Deputy Director) emailed the US Army Corps of Engineers that the NSB was not yet a participant in FEMA's NFIP, and explained the Borough's self-insurance and blanket coverage limits.
- On 1/17/19, Robert Shears met with Bruce Sexauer and Brandee Ketchum of USACE to discuss NFIP requirements for the project.
- On 2/14/19, a teleconference was conducted between NSB representatives from CIPM, Law, and Planning divisions and Jimmy Smith (State of Alaska Department of Commerce, Community, and Economic Development- Division of

Community and Regional Affairs) and John Graves (FEMA). Topics discussed included: the Borough's previous two attempts at participation in NFIP and the tabled ordinances to implement NFIP, the steps the Borough would need to take to participate, and whether the City of Utqiagvik or the North Slope Borough would be the more appropriate entity to support the NFIP requirement for this project.

- On 3/21/19, Brandee Ketchum met with representatives of NSB Law and CIPM divisions to discuss NFIP requirements for the project.
- On 3/22/2019, Ian Stroud (North Slope Borough CIPM Program Manager) contacted FEMA and State of Alaska by email to provide a new point of contact for the North Slope Borough and re-engage in the attempted enrollment of the NSB into NFIP.
- On 5/1/19, Scott Evans (NSB CIPM Deputy Director) and Ian Stroud met with Jimmy Smith and participated in a teleconference with John Graves to discuss possible rollout of NFIP in the North Slope Borough, focusing initially on Utqiagvik, and considerations involving rollout in other North Slope Borough communities
- On 5/16/19, Scott Evans and Ian Stroud met with Gordon Brower (NSB Planning Director) and Mabel Kaleak (NSB Planning Deputy Director) to discuss a process to develop an NFIP implementation resolution for the North Slope Borough Assembly consideration (possibly at the November meeting) and conducting workshops to generate Assembly support and inform the community.

The NSB is progressing towards a resolution implementing NFIP to be brought before the Assembly with a target month of November 2019. Concurrently, we are working on local zoning and permitting regulations for those areas located in the special hazard flood area, which still need to be identified.

All of these steps are taken with the overall goal of entering the NFIP program before inception of the USACE project.

Sincerely,



Scott Evans
Deputy Director