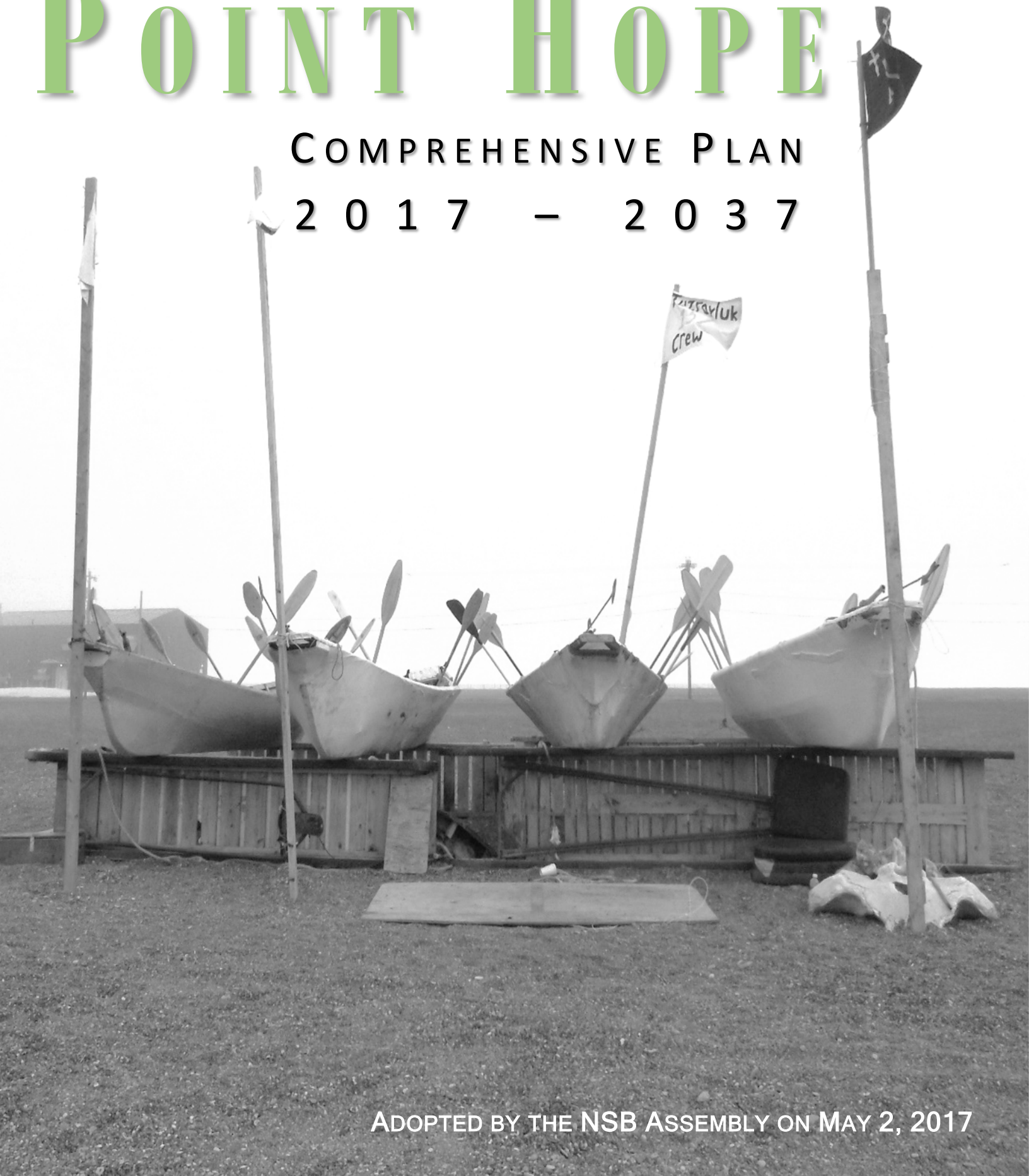
POINT HOPE

COMPREHENSIVE PLAN

2017 – 2037



ADOPTED BY THE NSB ASSEMBLY ON MAY 2, 2017

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ASRC Energy Services. 2016. Photo library. *Point Hope Whaling Umiat*.

Point Hope
Comprehensive Plan

Adopted by the North Slope Borough on May 2, 2017

North Slope Borough Assembly Ordinance # 75-06-68
North Slope Borough Planning Commission Resolution # 2017-01
Trilateral Ordinance # 2016-05
City of Point Hope
Native Village of Point Hope
Tikigaq Corporation

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NORTH SLOPE BOROUGH DEPARTMENT OF PLANNING & COMMUNITY SERVICES
Gordon Brower, Director
Matt Dunn, Deputy Director

CONSULTANTS
ASRC Energy Services - Jennifer Tobey, Robin Sanford, and Raquel Colvin
UMIAQ Environmental and UMIAQ Design and Municipal Services - Erika Green, Richard Reich, Tasha Edwards Michael, Laura Strand, Emily McDonald, Alice Glenn, Kaare Erickson, and Cynthia Trapp

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Acronyms

ACEC	Areas of Critical Environmental Concern
ACS	American Community Survey
ADA	American Disability Act
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADOTPF	Alaska Department of Transportation and Public Facilities
AEA	Alaska Energy Authority
AEWC	Alaska Eskimo Whaling Commission
AFN	Alaska Federation of Natives
AHFC	Alaska Housing Finance Corporation
ANCSA	Alaska Native Claims Settlement Act
ASNA	Arctic Slope Native Association
ASRC	Arctic Slope Regional Corporation
ASTAC	Arctic Slope Telephone Association Cooperative
AWIC	Arctic Women in Crisis
ATV	All-Terrain Vehicle
AWOS	Alaska Weather Operations Services
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOD	Biological Oxygen Demand
BOEM	Bureau of Energy Management
CB	Citizen's Band
CIP	Capital Improvement Program
CPR	Cardiopulmonary Resuscitation
DCCED	Alaska Department of Commerce, Community and Economic Development
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EQ	Equalization Tank
e.g.	for example
F	Fahrenheit
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FLPMA	Federal Land Use Policy and Management Act
FY	Fiscal Year
GED	General Educational Development test
gpd	gallons per day
HDPE	High Density Polyethylene
HUD	U.S. Department of Housing and Urban Development
ICAS	Iñupiat Community of the Arctic Slope
IHA	Indian Housing Authority
IHBG	Indian Housing Block Grant Program

IHLC	Iñupiat History, Language and Cultural [department]
IRA	Indian Reorganization Act of 1934
IRR	Indian Reservation Roads
KSP	Kobuk-Seward Peninsula
kW	Kilowatt
kWh	Kilowatt hour
MIRL	Medium Intensity Runway Light
MITL	Medium Intensity Taxiway Light
MOU	Memorandum of Understanding
mph	Miles per hour
MSL	Mean Sea Level
MSWLF	Material Storage Waste Landfill
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAHASDA	Native American Housing Assistance and Self Determination Act of 1996
NDB	Non-Directional Beacon
NEPA	National Environmental Protection Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NSB	North Slope Borough
NSBMC	North Slope Borough Municipal Code
NSBSD	North Slope Borough School District
NSSI	North Slope Science Initiative
NVPH	Native Village of Point Hope
PAR	Project Analysis Report
PCE	Power Cost Equalization
PFD	Permanent Fund Dividend
PHNS	Point Hope Native Store
PLB	Personal Locator Beacon
POP	Persistent Organic Pollutants
PPOR	Power Plant Operator Report
RELI	Residential and Employment Living Improvement Program [former NSB program]
RMP	Resource Management Plan
RSA	Runway Safety Area
SDMS	Alaska Spatial Data Management System
SF	Square Feet
SWOT	Strengths, Weaknesses, Opportunities, Threats
SY	School Year
TIGER	Transportation Investment Generating Economic Recovery
TNHA	Tagiugmiullu Nunamiullu Housing Authority
TSS	Total Suspended Solids
U.S.	United States
USCG	U.S. Coast Guard
USCOE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VASI	Visual Approach Slope Indicator
WIC	Women, Infants and Children
WWTP	Waste Water Treatment Plant

Executive Summary

Point Hope Community

Point Hope is located on the northwestern coast of Alaska, approximately 330 miles southwest of Barrow, the northernmost community in the United States, and 125 miles north of the Arctic Circle.[1] The community lies on the southern tip of the Lisburne Peninsula. The tip of the Lisburne Peninsula encompasses the Tigara Peninsula, which extends fifteen miles into the Chukchi Sea from the Kuukpuk River delta, and includes a gravel spit upon which the community of Point Hope is located. Point Hope is nearly surrounded by water, bordered by the Chukchi Sea to the north and south and Marryat Inlet to the east. The community encompasses 6.3 square miles of land.[2] A single road extends seven miles inland to the community's fresh water source. Point Hope is located within the arctic climate zone, characterized by seasonal extremes in temperature. Winters are long and harsh and summers are short and warm. The Chukchi Sea is generally ice-free from late June through mid-September.

Point Hope's location is known as one of the best locations in Alaska's arctic for year-round hunting on the ice. Due to the deep water near the shore, leads open along the beach during both the winter and spring, guiding an abundance of whales, seals, and walrus close to the shore. Access to these resources has allowed the Tikigagmiut to live on the Tigara Peninsula continuously for thousands of years. Archaeological sites provide evidence of an over 2,000 year history of Native occupation. The entirety of the Point Hope spit is covered with cultural resources.

The Iñupiat highly regard family, work ethic, the Iñupiaq language, drumming and dancing, and sharing food and knowledge of the environment and its inhabitants. They have a deep respect for the environment in which they live as it provides fresh water, clean air, and subsistence foods. Subsistence activities play a large role in the community. For Alaska Natives of the North Slope, subsistence is a connection to the land and the way the Iñupiat passed down traditional knowledge through generations. Village subsistence users travel great distances to meet their subsistence needs. Point Hope residents subsist upon many marine mammals such as bowhead whales, beluga whales, ringed and bearded seals, and walrus. Point Hope residents also enjoy an abundance of caribou, moose, waterfowl, and fish. The range that Point Hope residents travel for subsistence hunting and fishing can change over time as traditional subsistence land use patterns change based on the availability of animals and fish. The area of influence can be used to determine community stakeholders that may need to be consulted prior to activity that may affect their traditional use of the land.

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[1] Alaska Department of Commerce, Community and Economic Development. 2016. *Community Database Online – Point Hope.* Accessed Mar. 18, 2016. http://commerce.state.ak.us/cra/DCRAExternal.

[2] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. *Climate Change in Point Hope, Alaska: Strategies for Community Health*. Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.

The U.S. decennial census provides data on the Point Hope population as far back as 1890, when there was approximately 301 people living in the community. Today, approximately 711 people call Point Hope home, nearly 93 percent of which are Iñupiat. It is one of eight communities within the North Slope Borough, a vast area that encompasses of nearly 95,000 square miles across northern Alaska that has a total population of only 8,075 residents. A linear trend population projection over the next twenty years indicates an increase of 68 people by 2025 and 138 people by 2035 with a 2035 total population projection of 849 residents.

The Point Hope Comprehensive Plan

A comprehensive plan is a long-range vision and strategy for the future that assists a community in preparing for change and managing population growth, typically over a twenty year horizon. Comprehensive plans contain a vision for the future prepared with input from community residents and stakeholders. Goals and strategies implement that vision. A comprehensive plan provides direction on many physical and social issues, including land use, transportation, and housing. It is framed in broad terms and guides future implementation.

The 2005 North Slope Borough Borough-wide Comprehensive Plan contains a profile for each North Slope Borough community. This Point Hope Comprehensive Plan replaces the Point Hope community profile in the Borough-wide Comprehensive Plan.

Point Hope residents participated in the development of this plan through public meetings and workshops. Input was also provided by the tri-lateral, a committee comprised of members from the Tikigaq Corporation, Native Village of Point Hope, and the City of Point Hope. Based on community input, a vision was created for the comprehensive plan that establishes a shared set of community values and direction for the future of Point Hope:

> *The Point Hope community will continue to cultivate and value a strong sense of community through an active subsistence lifestyle, multi-generational traditional knowledge and traditional Iñupiat values, while embracing new technological advancements and contemporary knowledge. Our community leaders and residents will guide development in a coordinated, cost effective, efficient and environmentally sensitive manner that respects and protects the community's historic significance, wildlife habitats, and abundant natural resources while also protecting our community and its infrastructure from coastal storm surges and flooding. There will be a diversity of safe and affordable housing opportunities and well-maintained and reliable utilities and other public infrastructure and community facilities. Point Hope's education system will not only prepare our youth through training opportunities and programs tailored to meet the employment needs of our community, but also inspire our children to become thoughtful and well-informed future community leaders. We will have recreational opportunities, especially for families and youth, that facilitate healthy living and an active lifestyle. Community cooperation, transparency and resident involvement will provide a high quality of life.*

Each chapter of the Point Hope Comprehensive Plan contains an inventory of existing conditions and a discussion of issues as well as factors about Point Hope that make it unique. Goals were also developed to implement the vision. Implementing strategies address community issues and concerns raised by residents. The analysis of current conditions that support this plan show that Point Hope faces significant challenges, such as erosion, housing overcrowding, and costly maintenance of existing infrastructure. But Point Hope has strong assets: an advantageous location for subsistence activities, a close knit community, strong sense of family and traditional Iñupiat values, substantial investment in physical infrastructure, and much more.

The Point Hope Comprehensive Plan has been created to guide Point Hope to achieve a shared community vision of the future. This plan expresses these objectives through narratives, maps, tables, goals, and policies. The following chapters are included in the Point Hope Comprehensive Plan: Introduction; Government, History and Culture, Natural Environment; Population; Subsistence; Public Facilities; Health, Education, and Economy; Housing; Land Use and Zoning; Goals, Objectives, and Implementing Strategies; and Implementation and Plan Revision. To reflect current conditions, the plan should be regularly reviewed and updated.

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Tikiġaġmuit Iñuuniagviat

Tikiġaġliuna iññiqsut ikaŋanaaqŋani siñaani Alaskam. 330 miles-tun kiag uŋasiktigivluni. Utqiagvikmiñ 125 miles-tun niġipaŋani Arctic circle-ŋum. Nunaaqiurat iññiqsu uŋalaŋani nuvauni uvvaum iḷaŋani amisuura iññisuq uŋalagani nuvauni uvvam iḷaŋani amisuuraq nunam siñaani tagium. Tavra nuvauni tatkivaŋŋa uivammin iññiqsuk Tikiġaq 15 miles tauniŋa taġiumun aglaan iḷḷuani kuukpaum kuŋani takanuyaalaan Tikiġaq-mun. Tikiġaq avanŋagaa immaun kiḷḷiġagluni tagiumun aglaan tagium niġiġpaŋi suli uŋalaŋani. Suli tatkivŋanmun tasikpaum marryat Inlet-mi paŋŋaŋaanin. Nunaŋa aktigivluni 6.3 miles-tun. Atausiq apqutigaalu 7-miles-tun. Uŋasiktiguraumi nunamun nunaagiuram imigavia. Tikiġaq iññiksu Arctic-gummi. Tagiuq sikuichuniksu June-min tikiluni September-mun aglaan.

Tikibaq kiiva iḷitchugiŋanigaat iññilautag aŋuniagviuluni. Ukiuġnaalugu sikumin. Siñaa imman itivluni siku uitachuunigaa ukiumilu suli upiññaġraġman, apqusiglugi aġvigit, nachiilu, suli aivigiit. Siñaagun piuraag lutik, uŋasilaitchut. Tammakkua iñuutigat katituaq iññuniaqtiniga; tavrani ataramik iḷitchunigai iñuit sauniŋnik iḷitchugipkai-maruk 2000 years-tun iñuuniagvigaġagaat. Iḷiġaġmi-kiuva atuutauraunik.

Piqpakkutiġaglutik avanmun aanaagiit, savaqatiniq piqpagivlugu, iñupiuraagnik, aġġiniġlu suli avammun niġinik aitchuuniq, avatiqtiglu iñuuniaġviktik nuna iḷisimavlugu suqtilaaŋi iḷimutun piġpagigai. Iñuuniagviktik, aŋuniagviktik ataki, imiglautamik, aŋuniaġviktik salumaruaq siḷa aŋuniagtatik niġit.

1890-min aglaan imam iñuugaitilaagi Tikiġaqmi 301 iñugaitigiŋaan. Uvlupak aasi 711 iñugaiktilaagi 93 percent Iñupiagurut. Iñupiat Talimat piŋasun; nunaaguiraġatut iḷagigaa North Slope-mi nunapta aktigiruag 95,000 square miles-mi Alaskam iñugiaktutiligaak 8,075-tun. Sivunigrak qiñiqtuuraagkugu suli qanuq iḷiŋanigaaq maligauramik. Itqanaiyaġlutik allaŋuutigramun suli iññuit iñugaisipata ilaini iñuiñagutailagun. Suli qanuq iḷiññqnigaat maligauġagramik. Itqanaiyaġlutik allaŋuutiramun suli iññuit iñugaisipata, ilauni iñugaiksipata ilauni iñuñagutailagun ukuini. Tainna sivunigsimarut kiniktuuraaġlugu, sivunigraq ikayuqtikaġlutik. Tikigaġmiuniq sivulnigsisat suli maligaugaġra imagaqtikai kiñigtuuraanigai. Taamna sivunigsisaurag iḷitchugipkalugi Timimmullu suli qanupayuak ikayuutigupta, nunakun, iġliguutigun suli iġlutigun. Tamna iñilianaruaq taikuunasugruk atullasivlugu suli maligauġqramik.

2005-mi North Slope Borough-rum iñiḷḷaŋamanitsuaq sivuniqsisiniq nunaakiurallanun. North Slope-mi paŋmapakaasi taavruma Tikiġam iñiḷḷaŋasitsut. Sivunigsramik simmiḷiŋaruq North Slope Borough. Sivuniqsisaa Tikiġamiut illaumarut uqasimarut Katima-raunilu suli atauchumuġḷutik savaagimarut.

Iḷatigai kaisauvlutik piŋasuuraunik iñiḷḷairiktik. Tikiġaq corporation-miñ, Native Village of Point Hope-miñ, suli City of Point Hope-miñ. Tikiġaqmiu iñiḷḷaŋagai maligivlugu, sivunigsiñ aullagniuŋanigsut sivuniqsiun iñiḷḷaarat. Tikiġaġmiut sivunmun iġliqtiññiagai piqpakkutilugu nuna suli gaunagivlugu nigirutinik aŋuniagnik iġliqtillugu qanuq qaŋaaġlaan. Taimaŋŋa piqpagiratik iñuunialigi. Tamakkua nunaaŋurat iñuunialiġmu iḷḷatigai iḷagiġaluaŋaisa. Nunaaqimiitaut suli gaunagivlugu niġirutinik aŋuniaġnik iġliqtiḷḷugu qanuq qaŋaaġlaan taimaŋŋa piqpagiratik iñuunialini tamakkua nunaaŋurat iñuunailligmi iḷḷatigrai iḷagiġaluaŋaisa nunaaqi-miitaut suli sivuliu tipta sivuliuniagnigaatigut. Qanuq iñiḷḷaniagumisigai savaaġrat akiipayaakun, suli qanuġlauymiñiaglugi utugauraumun piqpanaq-tuamun nunaagiptiŋnun, niġrutiptiŋnun suli atqunaġlugu nunami iñiḷḷaŋaruaq suli gaunakiaġiġlugu Nunavut uḷititpallu suli ġaġaġmin qanuġligaa ittua anayanailaakun. Suli akiipayaaktuat iġluit aŋaḷḷalaulugi kanusilimaat ikayuutit nunaakkimi, tamakkua iñuit iġlukpait atugtagi suli Tikiġaum savaḷgutigi. Tikiġaum iḷisaġviŋisa itqanailugi nutaqqalu qanuġligun iḷḷitchiaviŋnik, savaakun atuguminaktuanik. Tikiġaġmi qigsitaugigluta aanaġiiññun suli nutaġġanun qaisaqaqtau timimun, ikayuutiniklu, suli kaŋigsimatiqalutik suli Tikiġaġmiu iḷaligruutinigai piqpanaqtaaq iñuulautaġniġmi. Tamna Tikiġaum kaŋiksinaġ sivlugu sivunmuutiruaq. Iñiḷḷaŋagai taputiŋagai paŋmapak iḷiŋaruat suli uqaġiratik supayaat iḷumutuuraullu piqutitik Tikiġaġmi. Malligaurat iñiḷḷaŋamarut qiniqtuuraayai pigusaglugu. Iḷḷaaniq maliġaagauġaġranik suli qaisauruat savaagrait Tikigaum qimitḷaniŋai uvva taakua iñiḷḷaŋaruat.

Naivakkai Tikiġaq savaaqagtuaq piqpanaġtuat iñiḷḷayarai, nunam iḷaŋŋaniga, igluilutuaruaq akisisurak iġlupai aŋalaniagniŋai. Aglaan Tikiġaq payanaichuamik makittaiġaqtuq, aŋuniaġvigiġlutik. Aanaagiig, ilagiik avammun, suli taimaŋŋaalaan piqpanaqtua iñuuniagutitik atkunaq iḷitchugigavlugi. Timimun ikayuutiġramik, suli allaniglu iñuigaiktuani-Tikiġaum kaŋiksinagtuaq sivunmuutigikraŋa. Inuḷḷaŋaniqsuk malikgaugaranik. Tikiġuam akuqtuq guklugu avammun. Iñuit qanuq sivunigsiŋagaisa taimanigupan.

Taavruma iñiḷḷaram naivaŋagai savaarat, ukaluktigun, nunatigun, maligaugaratigun suli, iñiḷḷaagtigun. Ukunani aglaani iḷagimagai Tikiġuam kaŋiksiñagsilugi malikgaugagai, iḷichisuttuanun ataniugtinun taimaŋaga suli iñuuniagai, avataa iñugaittuliaŋaŋai, aŋunaiḷvik, iñuit katikviŋi. Timikun iḷisauvikun, savaaġrakun, iġlutigun, nunakaġanailiq suli titiglukun iñiḷḷarai suli iñiḷḷalugi savaarai, iñiḷḷaniġi suli suvuniuglugu sivunniqsai.

llauriniaqtuni paŋma iñillaŋaruat sivik-niuŋaruat qanugitilaalugu iñupiat piḷġutigisigut suli savaatiksagiñña supayuat. Aasi, pagmapak ittuat imiġuulaalugi ataramik.

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Chapter 1. Introduction

Located on the westernmost extension of Alaska north of the Bering Strait, the village of Point Hope lies near the tip of the Lisburne Peninsula on a triangular spit that extends fifteen miles into the Chukchi Sea. It is approximately 125 miles north of the Arctic Circle, 149 miles northwest of Kotzebue, and 330 miles southwest of Barrow, the government seat of the North Slope Borough (NSB or Borough). The Tikigaq Iñupiat have thrived in the historic settlements of old and new Tigara, Ipiutak, Jabbertown as well as the present-day community of Point Hope for thousands of years. Adjacent to the community are sod house remains, house pits, and other indicators of thousands of years of occupancy.

Figure 1: Point Hope Sunset[3]

Point Hope's strategic location is rich in natural resources and is ideal for hunting on both land and sea. Its location on the end of the spit offers hunting a vantage point for whales and walruses that migrate along the Chukchi Sea coast. Caribou, seal, fish, birds, and berries are other common subsistence resources for residents of Point Hope. While the community's location has advantages, it is also one of the most exposed within the area and is vulnerable to coastal storms and the constant shifting of the land by the wind and the sea. In the past, shore erosion and the risk of flooding has necessitated community relocation.

1.1 Purpose of the Comprehensive Plan

The Point Hope Comprehensive Plan is a long-range document intended to guide the development of Point Hope and its Area of Influence (Map 11) over the next twenty years. The plan is a consolidated, cohesive and coordinated approach to community planning that can guide decision making for preservation, investment and development of future community resources and infrastructure.

[3] ASRC Energy Services. 2016. Photo library. *Point Hope Sunset.*

Community residents, major landowners, public officials, and government staff among others have participated in the comprehensive planning process.

Upon adoption, the plan will become the primary land use policy document for Point Hope and thus provide guidance on a variety of planning issues that are critical to the future of the community. It also contains a vision statement for the future and goals, objectives and strategies that are designed to implement that vision.

In addition, the plan provides useful background information about the community and identifies community assets, which can be referenced when making community development or land use decisions and when applying for grant funding. Specifically, the plan is intended to:

- Guide growth and development of the community;
- Characterize current strengths, weaknesses, opportunities, and threats of the community;
- Describe what the community residents' want for the future of the community;
- Provide anticipated capital needs over a 20 year planning horizon;
- Provide the foundation for development proposals comments, land use planning and regulation, investments in infrastructure, and land use policy decisions.

Although the plan has a 20-year planning horizon, conditions, issues, and priorities will undoubtedly shift. Regular review and revision of the plan ensures that the goals and strategies respond to changing circumstances and needs within the village and its area of influence. To remain current and useful, this plan needs to be reviewed every two years for potential updates and revisions. Future plan revisions should monitor growth, evaluate development and related programs, and measure how well the plan is meeting the community's goals, objectives and implementing strategies.

NSB will use this plan when evaluating land use proposals or actions specific to Point Hope, including approval of subdivisions, changes to zoning districts, Borough permitting, and capital improvement recommendations. The Borough will also use this plan to help guide the location, timing, and scale of community development and infrastructure investments. It will be used to plan for community needs based on trends and population projections and to consider the protection of important environmental and cultural resources. The Borough may also use this plan to develop mitigation measures as conditions of permit approval.

Federal and state agencies and potential project funding sources are encouraged to use the plan to understand community values, needs, and priorities for investment. Some funders may only provide project financing if it is listed within or is consistent with policies of an adopted community plan.

Private landowners, developers, and Native corporations may use this plan to help guide development decisions and investment choices. Community data, maps, and policies will help these entities design projects compatible with community values and needs to meet local expectations.

Point Hope residents can use this plan to advocate for a better future that is consistent with local needs and resources. Infrastructure and level of service planning with population trends also help citizens stretch available funding for more efficient and effective government service. A primary interest for the future development of Point Hope is to ensure the traditional way of life, protect marine and wildlife habitats, and protect the community from coastal storms and flooding.

Ultimately, the plan seeks to conserve valued resources and uses and encourages development that meets the needs of the present population without compromising options for future generations.

1.2 Basis for Comprehensive Planning

Title 29 of the Alaska Statutes provides the authority for comprehensive planning in Alaska. NSB is responsible for planning, platting, land use regulations, and development of a Borough-wide comprehensive plan. Alaska Statutes state that "The comprehensive plan is a compilation of policy statements, goals, standards, and maps for guiding the physical, social, and economic development, both private and public, of the first or second class borough and may include but is not limited to the following:

1) statements of policies, goals, and standards;
2) a land use plan;
3) a community facilities plan;
4) a transportation plan; and
5) recommendations for implementation of the comprehensive plan" (Alaska Statute §29.40.030).

The NSB Municipal Code (NSBMC), like the Alaska Statute, outlines the process for developing the Borough-wide comprehensive plan and the contents of the plan in §2.12.170: "The Comprehensive Plan…shall be a compilation of policy statements, goals, standards and maps for guiding the physical, social and economic development, both private and public, of the Borough, and may include, but is not limited to, the following: statements of policies, goals, standards, a land use plan, a community facilities plan, a transportation plan and recommendations for plan implementation." The NSBMC also calls for the Planning Commission to consider amendments to the comprehensive plan from time to time (§19.30.050), undertake an overall review of the plan at least once every two years (§2.12.170) and review and report to the Assembly the location, design, construction, demolition, or disposition of any public building, facility, collector or arterial street, park, greenbelt, playground or other public facility based on the comprehensive plan and the capital improvements program (§19.30.050).

The NSB Department of Planning and Community Services implements land use planning and regulation for the Borough. Its goals include updating and maintaining the Borough's Comprehensive Plan and empowerment of community-level decision-making in social, economic, and development issues. The NSB Planning Department's Community Planning and Real Estate Division (the Division), oversees the update and implementation of the Borough's Comprehensive Plan and the development, implementation and update of the village comprehensive plans. The Division also facilitates the annual capital project request

process and coordinates development of the NSB Six-Year Capital Improvement Plan that outlines anticipated capital needs over the current year and the next five years.

1.3 2015 Tri-Lateral Visioning and Strategic Planning

In 2015, the Point Hope Trilateral Committee, made up of the City of Point Hope, Native Village of Point Hope, and Tikigaq Corporation, contracted with the OSIYO Group for assistance with visioning and strategic planning. The effort also included seven middle and high school students. Visioning exercises with the youth resulted in a list of needs within the community, that include: more housing, apartments; a bank; new store; restaurant; hotel; recreation center; Tikigaq clinic; laundry mat; airport; safer village; and subsistence protection.[4] The entire group worked together to develop a Trilateral Committee Mission, Purpose, Guiding Principles, and Strategic Directives, outlined below. The Trilateral Committee's work with OSIYO has served as a foundation for the development of this comprehensive plan.[5] This Plan's goals, found in Chapter 10, are predicated on the Tri-lateral's Strategic Directives.

Mission: The Native Village of Point Hope, City of Point Hope, and Tikigaq Corporation come together in unity to address traditional, social, and economic needs. Providing continual growth for our community thru unification.

Purpose: Diversified economic stability while maintaining culture and tradition for a healthy community.

Guiding Principles: The Trilateral Committee will work together through:

1. Unity
2. Diversified Economic Stability = Survival
3. Cooperation, Communications, & Reunification
4. Culture, Tradition, Spirituality, Subsistence
5. Respect, Honesty, Commitment
6. Community

Strategic Directives:

1. Economic development (Goal 1)
2. Evacuation road (contained in Goal 2)
3. Housing (Goal 3)
4. Health care (contained in Goal 4)
5. Land resources inventory (contained in Goal 5)
6. Energy resources (contained in Goal 2)
7. Seawall (contained in Goal 2)

[4] Point Hope Tri-Lateral. *Visioning Our Future and Strategic Direction Presentation*. Facilitator Roni Briggs, OSIYO. Mar. 13 -14, 2015.
[5] Ibid

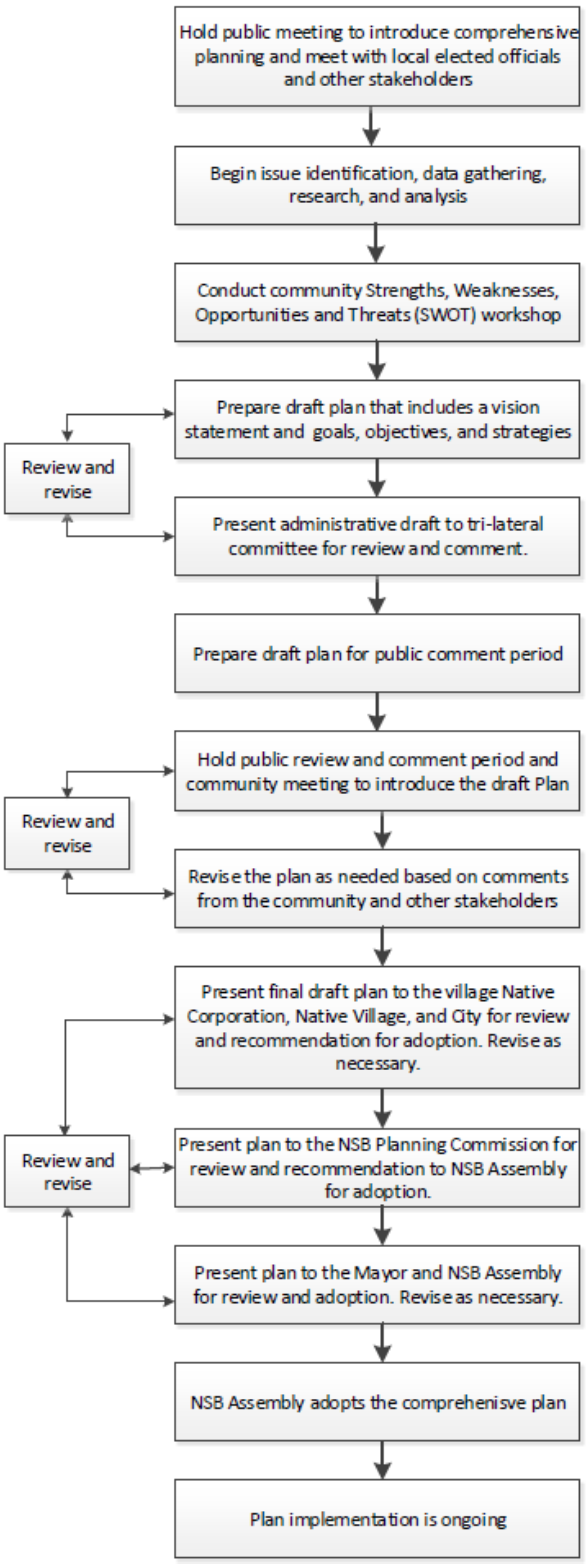
1.4 Planning Process and Public Involvement

The comprehensive planning process to develop a comprehensive plan is designed to be transparent and inclusive. The steps for developing this plan are illustrated in Figure 2. It is critical in the development of the Point Hope Comprehensive Plan (the Plan) that the public have abundant and meaningful opportunities to participate, contribute, and review the draft Plan. The following public participation tools are used in order to obtain input:

- Public notices posted throughout the village providing notification on meeting dates and locations;
- Provision of informational material during meetings, including maps and comprehensive planning background, and process handouts;
- A community workshop, including an introduction to comprehensive planning held on December 14, 2015 and a Strengths, Weaknesses, Opportunities and Threats (SWOT) workshop held on February 8, 2016;
- Presentations and discussions held on December 14, 2015 and February 8, 2016 with members of the tri-lateral committee;
- Direct contact with community leaders and residents through phone interviews and visits; and
- Meeting and other announcements made on the North Slope Comprehensive Planning Facebook page.

Collaboratively, Point Hope residents, village leadership, North Slope Borough Planning and Community Services Department staff, and other NSB employees that provide services in the village developed this plan. Local village leadership includes the Mayor and City Council members, the Native Village of Point Hope Tribal Council President and Council members, the President and Board members of the Tikigaq Corporation, and the NSB Planning Commissioner and Alternate Commissioner representing Point Hope.

Figure 2: Planning Process Flowchart



A Strengths, Weaknesses, Opportunities and Threats Analysis (SWOT) exercise guides a community in identifying its strengths and weaknesses as well as opportunities and threats, which assists with both strategic planning and decision-making. The SWOT exercise is also used to develop the community Vision Statement and provides guidance in developing the goals, objectives, and implementing strategies found in Chapter 10.

Below are the results of the 2016 community SWOT exercise that was held in Point Hope with both the tri-lateral committee and the community at-large on February 8, 2016. Information provided during the SWOT exercise provided the basis for the Vision statement in Section 1.5.

Community Strengths: [6]

- Native Village scholarship program
- Tri-lateral commitment to reduce energy use
- Tikigaq Corporation Ipituaq Partnership
- ASRC Resources - talent and expertise
- Apprenticeship
- ➢ 911 System
- o *Tri-Lateral Group – strong leadership*
- o *Local store – opportunity for growth*
- o *Local hotel*
- o *Elders*
- o *Tikigaq Corporation - bonding capabilities*
- o *Native Village of Point Hope – 501(c)3 status*
- o *City of Point Hope - grant writing*
- o *Health Board members*
- o *Point Hope Whaling Captains Association*
- o *NSB government contracts*
- o *Tikigaq Corporation engineering and environmental expertise*
- o *Local labor force*
- o *Artists – local arts and crafts*
- o *Education – youth*
- o *Arctic Slope Regional Corporation (ASRC) resources*
- o *Traditional cultural activities*
- o *Iñupiaq language*
- o *Strong spirituality / warrior spirit*
- o *Local historians*
- o *Athletics - basketball*

[6] Italicized text with an open bullet (○) indicates SWOT results from a previous SWOT exercise held with the tri-lateral committee by the OSIYO Group. These were provided to the Point Hope residents during the community-wide SWOT exercise for this Plan. ➢Indicates a SWOT item that was provided during the public comment period.

Community Weaknesses:[7]

- Cost of energy
- Job/career fairs
- 24-hour public safety
- Better understanding of each entities goals
- Lack of radar system
- Evacuation road – only looking at gravel. Perhaps other material(s)
- Cost of fuel
- Cost of commodities
- Cost of food
- Shortage of health aides
- Community tri-lateral outreach program to close gap between the community and tri-lateral
- Better understanding of how voter proxy works
- Expanded senior services, such as senior lunches. Lunches are usually school lunch not traditional food
- Need for daycare – too expensive to bring old building up to code. New site and building being looked at.
- Need to be informed, for example when funding expires, when Point Hope can go after funding sources
- ➢ Cost of shipping
- ➢ Inability to contact health aides after working hours
- ➢ Need to provide water and sewer service to those that do not have it – a community priority
- ➢ Need more jobs
- o *Need a bank*
- o *Need a recreation center*
- o *Need a local clinic*
- o *Need a laundry mat*
- o *Airport upgrade needed*
- o *Need land resources inventory*
- o *Need energy resources*
- o *Need more housing*

Community Opportunities:[8]

- Scholarships
- Ipituaq Partnership
- Career fair
- Learning center
- 24-hour public safety
- Provide water and sewer services to those who don't have it
- Greenhouses
- Alternative / renewable energy sources
- Bring back senior lunch and other services
- Repurpose closed buildings to make hot lunches for senior during the summer
- Become economically self-sustainable

[7] *Italicized text* with an open bullet (○) indicates SWOT results from a previous SWOT exercise held with the tri-lateral committee by the OSIYO Group. These were provided to the Point Hope residents during the community-wide SWOT exercise for this Plan. ➢Indicates a SWOT item that was provided during the public comment period.
[8] Ibid

- Recycling
- More housing needs that can lead to training people to build homes
- State program for free T.V.
- *Need more housing – creates Jobs*
- *Airport upgrade*
- *Need economic development*
- *Need Evacuation Road*
- *Need a seawall*
- *Port authority*
- *Growth of local store*

Community Threats:[9]

- Drugs and alcohol from nearby communities
- Arctic Council
- State takeover of tribal/municipal funds federal
- Economic instability
- Flooding
- Lack of 24-hour public safety
- Ocean needs to be protected at all costs – food source
- Need zero tolerance on migration routes
- Barges threaten fishing
- Dust in spring and fall – dust control needed, nonchemical
- Shrinking water source – health concerns
- Port Authority, port can threat subsistence
- Food security – for example mercury in seals
- *Protect our subsistence*
- *Increase in boat traffic*
- *Increase in unexpected tourist*
- *Global warming, melting ice cellars.*
- *Erosion*

[9] *Italicized text* with an open bullet (○) indicates SWOT results from a previous SWOT exercise held with the tri-lateral committee by OSIYO. These were provided to the Point Hope residents during the community-wide SWOT exercise for this Plan.

1.5 Vision Statement

Creating a vision statement for the future of the community is an important part of the comprehensive planning process. Goals, objectives, and implementing strategies are developed to implement the vision that Point Hope residents' want for the future of the community. The following vision statement was devised from both Tri-lateral Committee and resident comments and concerns during the comprehensive planning process. This statement guided the development of goals and objectives that implement this plan.

> *The Point Hope community will continue to cultivate and value a strong sense of community through an active subsistence lifestyle, multi-generational traditional knowledge and traditional Iñupiat values, while embracing new technological advancements and contemporary knowledge. Our community leaders and residents will guide development in a coordinated, cost effective, efficient, and environmentally sensitive manner that respects and protects the community's historic significance, wildlife habitats, and abundant natural resources while also protecting our community and its infrastructure from coastal storm surges and flooding. There will be a diversity of safe and affordable housing opportunities and well-maintained and reliable utilities and other public infrastructure and community facilities. Our education system will not only prepare our youth through training opportunities and programs tailored to meet the employment needs of our community, but also inspire our children to become thoughtful and well-informed future community leaders. We will have recreational opportunities, especially for families and youth, that facilitate healthy living and an active lifestyle. Community cooperation, transparency and resident involvement will provide a high quality of life.*

1.6 Plan Scope and Organization

As a result of community input, eight goals have been established for the plan that provide the overall direction for the plan's implementation, shown below in Figure 3. Objectives for each of these goals and associated strategies for reaching those objectives are included in the tables in Chapter 10.

Figure 3: Point Hope Comprehensive Plan Goals[10]

This Plan has been designed so that readers may focus on (a) specific section(s) of interest, versus reading the Plan in its entirety. Chapters one through nine provide introductory material and a context for the goals, objectives and strategies, which are included in Chapter 10 along with a discussion of how the plan will be implemented in Chapter 11. The references at the end of the plan identify studies, reports and other sources of information consulted while developing this plan. The 11 chapters of the plan and appendices are organized as follows:

Chapter 1 provides the introduction to the plan, including the basis for comprehensive planning.

Chapter 2 provides an overview of both the local and regional governments involved in the administration of the community as well as a discussion of Point Hope's history and language.

Chapter 3 provides information the natural environment including the location, vegetation, wildlife, endangered species, contaminated sites, and climate change.

[10] ASRC Energy Services. 2016. Photo library. *Point Hope Whale Bone Arches.*

Chapter 4 includes information on the historical, current, and projected future population of Point Hope.

Chapter 5 includes discussion of the importance of the subsistence lifestyle to community residents.

Chapter 6 examines public facilities, including the water and sewer system, power generation, solid waste, gravel resources, and communications.

Chapter 7 discusses health, education, and the economy in Point Hope.

Chapter 8 examines housing issues, both current and future needs.

Chapter 9 provides information on land use and zoning in the community.

Chapter 10 includes goals of the plan, related objectives, and actions that will help meet those objectives.

Chapter 11 concludes a discussion of Plan implementation and revision.

1.7 Consistency with Adopted Plan Policies

Developing the Point Hope Comprehensive Plan is consistent with recommendations of the 2005 adopted North Slope Borough Comprehensive Plan which includes the following selected policies (identified in parentheses) related to village planning and development.

- Develop community comprehensive plans to address existing and future growth and development needs. [Policy 2.2.1.14, pg 2-18]

- Establish means for communities to assume greater land use control, as well as corresponding fiscal responsibilities. [Policy 2.2.1.12, pg 2-18]

- Determine which communities desire zoning and enforcement mechanisms by conducting a survey in each village. [Policy 2.2.1.13, pg 2-18]

- Develop land use zones that encourage use of existing facilities and infrastructure in villages that desire zoning. [Policy 2.2.1.14, pg 2-18]

- Document housing needs for each village and incorporate into village comprehensive plans or the Borough Comprehensive Plan. [Policy 2.2.7.101, pg 2-47]

- Emphasize compactness in community development during project planning to minimize operations and maintenance costs of community infrastructure. [Policy 2.2.1.14, pg 2-18]

- Document sensitive subsistence use areas to avoid development in critical areas. [Policy 2.2.3.38, pg 2-27]

- Consider maintaining important subsistence areas as Conservation Districts, or rezone as Subsistence, Districts. [Policy 2.2.1.17 and 18, pg 2-19]

- Include villages in the notification and decision making process before permits are issued. [Policy 2.2.20, pg 2-21]

- Review development plans for opportunities to decrease inefficient development. [Policy 2.2.1.26, pg 2-21]

- Encourage land uses that maximize the use of existing infrastructure. [Policy 2.2.1.26, pg 2-21]

- Create a land use, development phasing, and improvement financing plan for the construction of roads and utilities in the Borough communities. [Policy 2.2.1.11, pg 2-16]

- Develop cooperative agreements between the Borough, cities, tribes, and the corporation to expand roads and utilities to support housing construction. [Policy 2.2.7.101, pg 2-46]

- Require those developing outside of current utility service areas to pay their fair share for extending service. [Policy 2.2.1.15, pg 2-21]

- Require developers to pay their fair share for extending utilities and building roads. [Policy 2.2.1.11, pg 2-16]

- Identify important cultural and traditional resources and activities in the vicinity of proposed resource development and incorporate into planning for impact avoidance and mitigation. [Policy 2.2.4.49, pg 2-31]

- Economic development activities within villages should avoid or minimize uses of areas and resources important to subsistence and traditional activities. [Policy 2.2.4.58, pg 2-33]

- Identify and map hazard zones in each village. [Policy 2.2.5.59, pg 2-34]

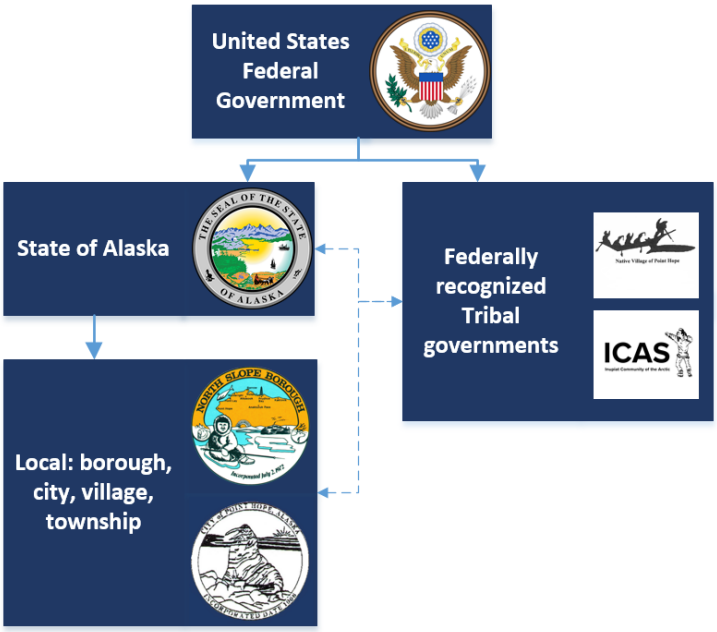
- Develop alternative energy sources for Borough communities, such as coal, natural gas and wind power. [Policy 2.2.7.97, pg 2-45].

Chapter 2. Government, History, and Culture

2.1 Local Governance

Point Hope has both municipal and tribal governments, both local and regional. Each of these four governmental organizations is described below.

Figure 4: Government Organizational Structure



City of Point Hope. The City of Point Hope incorporated in 1966 and, six years later, became a second class city. The City is a subdivision of the NSB. The seven members of the City Council are elected at-large and the mayor is elected by the Council. The Mayor leads the City Council and is responsible for day-to-day management.

Native Village of Point Hope. The seven-member Native Village of Point Hope Tribal Council governs the Village of Point Hope, a federally-recognized tribe. It was established under authority of the Indian Reorganization Act (IRA) of 1934. A federally recognized Indian tribal government and its political subdivisions, including Alaska Native governments like the Native Village of Point Hope and the Iñupiat Community of the Arctic Slope, are treated like states for certain federal tax purposes.[11] Figure 4 illustrates the unique relationship between Alaska Tribal governments and the federal government.

Iñupiat Community of the Arctic Slope. ICAS is the regional tribal government for all the North Slope villages. It was established in 1971 as an Indian Reorganization Act (IRA) government and is one of only two regional sovereign Tribal governments in Alaska recognized by the United States government.

North Slope Borough. Point Hope is located within the NSB, a regional home-rule government comprised of 94,763 square miles of northern Alaska. It retains all power not specifically restricted by its charter or by state law. The Borough provides some services for Point Hope residents, including planning and zoning authority and has taxing authority. The NSB generally levies a property tax of 18.5 mills, with authority for up to 20.0 mills.

[11] McCray, Sr. Richard A. and Marvin Friedlander. 2004. Organizations Closely Affiliated with State or Indian Tribal Governments Reference Guide. Accessed July 21, 2016. www.irs.gov/pub/irs-tege/eotopich04.pdf.

The North Slope Borough has a Planning Commission with eight members and eight alternates; one regular member and one alternate member are from each North Slope community. All commissioners are appointed by the NSB Mayor and confirmed by the NSB Assembly. The Planning Commissioners perform functions related to planning and zoning. They also serve as representatives of their respective communities and use their position to bring issues and concerns of their communities the attention of the North Slope Borough administration.

2.2 History of Point Hope

The Tikigagmiut are the Iñupiat of Point Hope and have a rich cultural history that is evident both in the living traditions of the present-day Point Hope whaling community and in the extensive amount of archaeological sites surrounding the village. Dependable year-round resources have been necessary for this long-term habitation. Archaeological evidence surrounding the village suggests that the access to subsistence resources has allowed the continual habitation of a significant population at Point Hope for thousands of years.[12]

Point Hope's location is known as one of the best locations in Alaska's arctic for year-round hunting on the ice.[13] Due to the deep water near the shore, leads open along the beach during both the winter and spring, offering an abundance of whales, seals, and walrus. Access to these resources has allowed the Tikigagmiut to have a strong sense of security.

Archaeological sites provide evidence of an over 2,000 year history of Native occupation of the point. The entire Point Hope spit is covered with immense cultural resources, much of which is located within the Ipiutak Archaeological District, situated on a series of beach ridges within an area of about 3,100 acres. The four site areas within the district are Ipiutak, Old Tigara, Tigara, and Jabbertown. Cultures represented include Norton (600-100 B.C.), Ipiutak (A.D. 400), Birnirk (A.D. 500-700), Thule (post-A.D. 900), and late prehistoric and historic Iñupiat.[14]

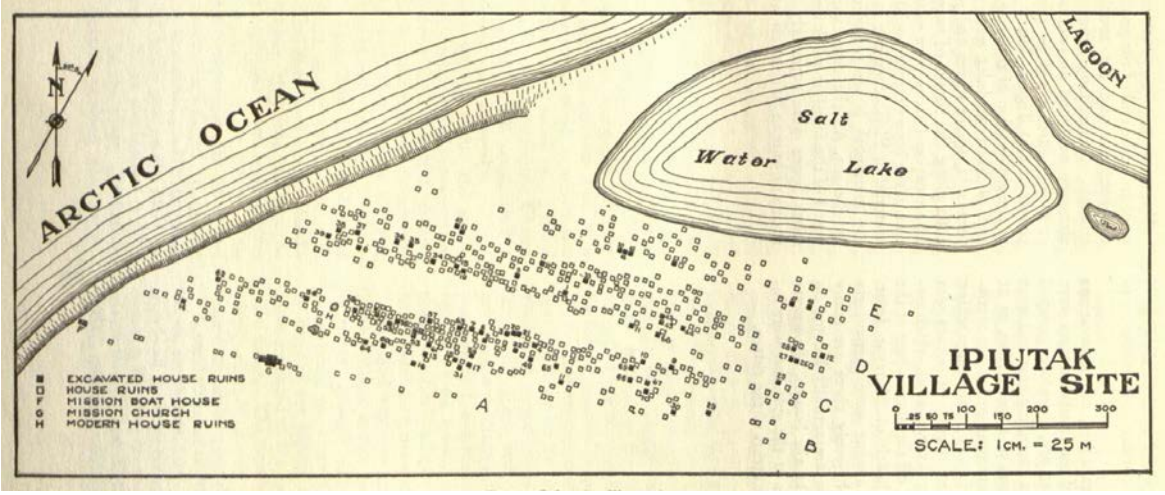
One example of the deep history of the Point Hope area is the site of Old Tigara. People lived there about 1500 years ago,[15] and this was one of the largest Eskimo villages in the world.[16] Archaeologists have documented 122 house depressions at this site. Arctic explorer Knud Rassmusen estimated the population of the ancient village was approximately 2,000.[17]

[12] Larsen, Helge, and Froelich Rainey. 1948. *Ipiutak and the Arctic Whale Hunting Culture.* Anthropological Papers of the American Museum of Natural History v. 42. New York. http://digitallibrary.amnh.org/handle/2246/65.
[13] Nelson, Richard K. 1969. *Hunters of the Northern Ice.* University of Chicago Press. June 1972. Pg. 38.
[14] North Slope Borough. 2010. *Kuukpak Road Extension, Point Hope, Alaska, Project No. 10_054*. Prepared for the North Slope Borough by Northern Land Use Research, Inc. Nov. 2010.
[15] Rasmussen, Knud. 1927. *Across Arctic America: Narrative of the Fifth Thule Expedition*. New York: G.P. Putnam's Sons.
[16] Alaska Department of Natural Resources. 2016. Office of History and Archaeology. *Alaska Heritage Resource Survey Database.* Accessed May 24, 2016. http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm.
[17] Rasmussen, Knud. 1927. *Across Arctic America: Narrative of the Fifth Thule Expedition*. New York: G.P. Putnam's Sons.

People from the Ipiutak culture settled along the Chukchi Sea coast and in the Point Hope area from about A.D. 400–900. Elaborately carved burial goods with highly stylized engravings, the use of iron, and the absence of pottery are characterizations of the Ipiutak cultural material.[18] Remains include over eight hundred house ruins with a possible population of several thousand between the village and the northern margins of the spit on several older beach ridges.[19] The Ipiutak houses represent an arctic culture very different from anything previously distinguished in Eskimo prehistory, representing a transitional culture and ancestors to Iñupiat (Thule).[20] Ipiutak houses differed from semi-subterranean houses used by later Iñupiat because they lacked structural whalebone. Driftwood was used as the main source of fuel for the Ipiutak while later Iñupiat used seal oil lamps. Other Ipiutak cultural resources include birch bark baskets and caribou antler tools. Chipped-blades with very delicate craftsmanship were used instead of the ground slate used by Iñupiat.[21]

The Ipiutak Archaeological District, a National Historic Landmark listed on May 25, 1979,[22] covers most of the gravel spit, demonstrating the extensive early habitation of this area. Maps 1 and 2 depicts over 70 houses and 600 graves. The Ipiutak Site (address restricted) was listed as a National Historic Landmark and was nominated on January 20 1961.[23] The Ipiutak Site is also listed on the National Register of Historic Places, and was listed on October 15, 1966.

Map 1: Ipiutak Village Site[24]



[18] North Slope Borough. 2010. *Kuukpak Road Extension, Point Hope, Alaska, Project No. 10_054*. Prepared for the North Slope Borough by Northern Land Use Research, Inc. Nov. 2010.
[19] Rainey, Froelich. 2009. *The Ipiutak Culture at Point Hope, Alaska.* American Anthropologist. Volume 43, Issue 3. October 28, 2009. http://onlinelibrary.wiley.com/doi/10.1525/aa.1941.43.3.02a00020/pdf.
[20] Larsen, Helge, and Froelich Rainey. 1948. *Ipiutak and the Arctic Whale Hunting Culture.* Anthropological Papers of the American Museum of Natural History v. 42. New York. http://digitallibrary.amnh.org/handle/2246/65.
[21] Rainey, Froelich. 1992. *Reflections of a Digger: Fifty Years of World Archaeology.* Philadelphia: The University Museum of Archaeology and Anthropology, University of Pennsylvania.
[22] U.S Department of the Interior. National Park Service. 2016. *National Register of Historic Places. NPS Focus Digital Asset Search Database.* Accessed April 11, 2016. http://focus.nps.gov/nrhp.
[23] U.S Department of the Interior. National Park Service. 2016. *Listing of National Historic Landmarks by State. National Historic Landmarks Survey*. Accessed April 11, 2016. www.nps.gov/nhl/find/statelists/ak/AK.pdf.
[24] Larsen, Helge, and Froelich Rainey. 1948. *Ipiutak and the Arctic Whale Hunting Culture.* Anthropological Papers of the American Museum of Natural History v. 42. New York. http://digitallibrary.amnh.org/handle/2246/65.

Point Hope residents were first visited by European explorers in 1826, when England's Captain Beechey traveled the Arctic Coast supporting Sir Jon Franklin's quest to find an eastern route through the Northwest Passage. Within a few decades, others followed. Whaling, and the peripheral economic opportunities associated with whaling, were the primary reasons that significant numbers of non-Iñupiat originally came to Point Hope.

Rapid changes to traditional Iñupiat society began with the advent of commercial whaling in the 1850s. These activities reached their peak in the 1880s, and lasted until about 1910.[25] The economy of the area during this period became increasingly cash-based, although traditional subsistence activities were never abandoned.[26]

By the 1850s, Euro-American whalers were in the region and stopped in Point Hope in considerable numbers.[27] Point Hope's strategic location for easy on-shore access to whales and marine mammals drew whalers to the area throughout the mid- to late 19th century. By 1887, several on-shore whaling bases emerged surrounding Point Hope, and were staffed by non-Natives and Natives who were outsiders to the Point Hope region. In 1887, Peter Bayne of the S.H. Frank Company, attempted to establish a whaling station in the community of Point Hope. The local Tikigagmiut did not allow Bayne or any other whalers to settle in the village. Bayne established the station five miles southeast, of the village and called it Jabbertown.[28] The establishment of Jabbertown placed Euro-American whalers in direct competition with traditional village crews. This caused tension, and the Tikigagmiut did not allow any of its residents to work for the whaling stations.

Jabbertown was made up of more than 200 workers, mostly a mixture of Iñupiat from Kotzebue Sound and the Seward Peninsula;[29] its name was derived from the diversity of languages spoken there.[30] By 1900, there were 200 Iñupiat and 24 whalers living in Jabbertown, which included Caucasian and African Americans, Irish, Germans, Japanese, Portuguese, and Cape Verdeans.[31] A government-run school,

[25] Bockstoce, John R. *Whales, Ice, and Men: The History of Whaling in the Western Arctic.* University of Washington Press, Seattle.
[26] Cassell, Mark S. 2000. *Iñupiat Labor and Commercial Shore Whaling in Northern Alaska.* Pacific Northwest Quarterly. Summer 2000. Accessed Apr. 21, 2016. www.academia.edu/12089174/I%C3%B1upiat_labor_and_commercial_shore_whaling_in_northern_Alaska.
[27] VanStone, James W. 1962. *Point Hope: An Eskimo Village in Transition*. Seattle: University of Washington Press.
[28] Bateman, Annaliese Jacobs. 2007. *Jabbertown: Continuity and Change at a Late 19th Century Whaling Station near Point Hope, Alaska.* Anchorage: U.S. NPS AK Region, Cultural and National Resource Meetings.
[29] Ibid
[30] Alaska Department of Natural Resources. 2016. Office of History and Archaeology. *Alaska Heritage Resource Survey Database.* Accessed May 24, 2016. http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm.
[31] Impact Assessment, Inc. 1989. *Point Lay Case Study. Final Technical Report.* Prepared for the Minerals Management Service. MMS 89-0093. Available at www.boem.gov/BOEM-Newsroom/Library/Publications/1989/89_0093.aspx.

established in 1904, a trading post, at least 28 houses, and several caches were located at this site.[32] [33] By 1908, the population decreased to 48 individuals in ten households. The trading post closed in 1910.[34]

From the 1880s to the turn of the century, marine mammal resources and caribou herd numbers decreased, due to natural population cycles or resource depletion due to the increased use of firearms for hunting.[35] In the 1880s (possibly 1881-1883), a "Great Famine" occurred in northwest Alaska, as caribou numbers were severely depleted, and many people fled their villages. The Point Hope area was apparently spared, and members of other communities who fled to Point Hope apparently had higher survival rates than those who fled elsewhere.[36] The massive starvation may have also been accompanied by an epidemic, and Burch[37] estimates that as much as 50% of the northwestern Alaska population died of starvation or sickness by 1882. In the spring of 1883, "there was probably not a single living person in the Kivalina district,"[38] south of Point Hope. By the winter of 1885-86, the whale, walrus, and caribou stocks had already declined significantly, and other Point Hope resources also failed. Dozens of Point Hope people died.[39]

[32] U.S Department of the Interior. Minerals Management Service. 1989. Outer Continental Shelf Region. *Point Lay Case Study: Social and Economic Studies Final Technical Report.* Prepared for the Minerals Management Service by Impact Assessment, Inc. MMS 89-0093. www.boem.gov/BOEM-Newsroom/Library/Publications/1989/89_0093.aspx.

[33] Alaska Department of Natural Resources. 2016. Office of History and Archaeology. *Alaska Heritage Resource Survey Database.* Accessed May 24, 2016. http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm.

[34] U.S Department of the Interior. Minerals Management Service. 1989. Outer Continental Shelf Region. *Point Lay Case Study: Social and Economic Studies Final Technical Report.* Prepared for the Minerals Management Service by Impact Assessment, Inc. MMS 89-0093. www.boem.gov/BOEM-Newsroom/Library/Publications/1989/89_0093.aspx.

[35] Stern R.O., Arobio E.L., Naylor L.L., and Thomas W.C. 1980. *Eskimos, Reindeer and Land.* AFES, School of Agriculture and Land Resources Management, University of Alaska. Bulletin 59. 205 pp.

[36] Burch, Ernest. S. 1998. *The Iñupiaq Eskimo Nations of Northwest Alaska.* Fairbanks: University of Alaska Press.

[37] Ibid

[38] Ibid

[39] Burch, Ernest S. 1981. *The Traditional Eskimo Hunters of Point Hope, Alaska: 1850-1875.* Barrow: The North Slope Borough.

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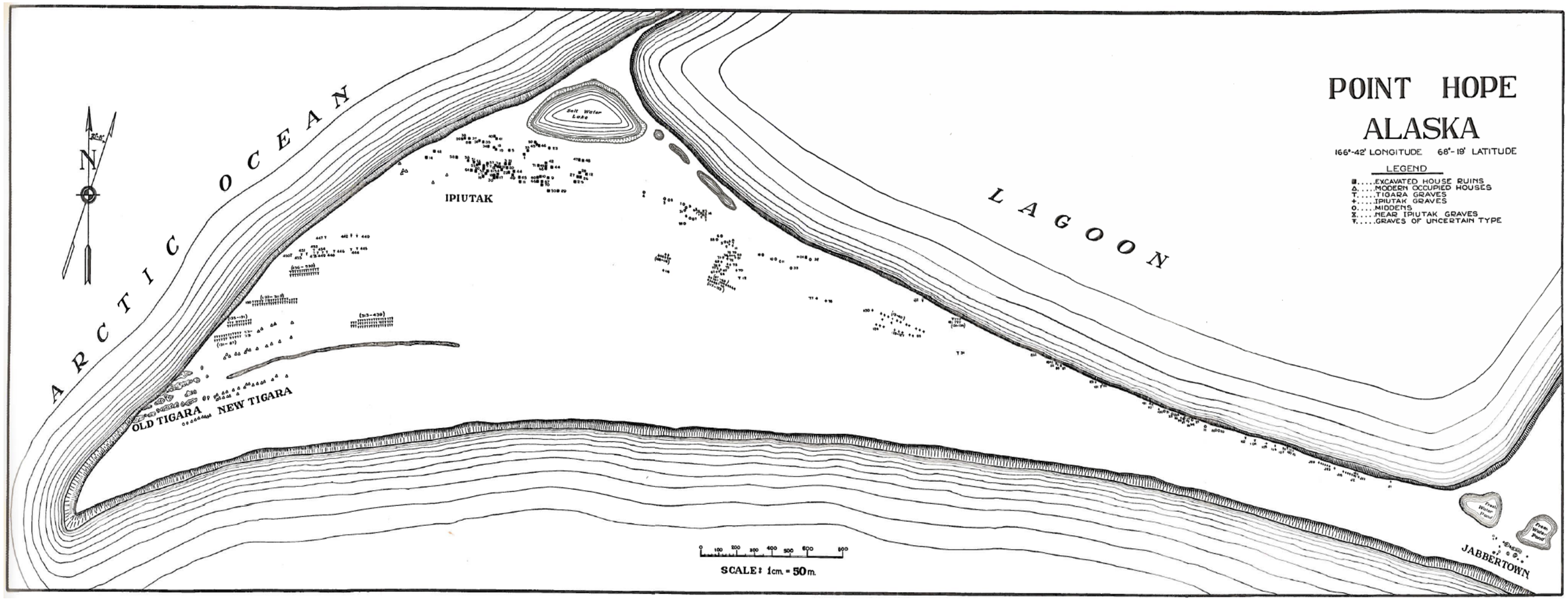
Map 2: Historic Village Site[40]



[40] Larsen, Helge, and Froelich Rainey. 1948. *Ipiutak and the Arctic Whale Hunting Culture.* Anthropological Papers of the American Museum of Natural History v. 42. New York. http://digitallibrary.amnh.org/handle/2246/65.

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2.3 Iñupiaq Values and Language

The residents of Point Hope honor their cultural ties to the land and their ancestors while they implement traditional Iñupiaq values. The Iñupiat highly regard family, work ethic, the Iñupiaq language, drumming and dancing, and sharing food and knowledge of animals. They have a deep respect for the environment in which they live as it provides fresh water, clean air, and subsistence foods. Table 1 summarizes values of the North Slope Iñupiat.

Subsistence is highly valued in Point Hope. During the spring, the community is focused on the harvest of the bowhead whale. During the late summer and fall, people start moving back to Tikiġaq getting winter houses ready and putting away summer harvests. Men hunt caribou during the autumn for their short clean fur, and people stop at river mouths to harvest salmon, char, and grayling. Seals and belugas are the main focus before the ice freezes, in addition to berries as they become available. The annual fall migration of bearded and ringed seals becomes the major focus of the community.[41] Winter activities focus on freshwater fishing and hunting marine mammals on the sea ice as well as caribou and fur bearing predators on the coastal highlands. Jigging for crab through the ice is popular during early winter.

Fewer people speak Iñupiaq fluently, which usually parallels the passing of elders. In 1998, the North Slope Borough Economic Profile and Census Report (NSB Census) estimated there were 218 fluent Iñupiaq speakers in Point Hope. This number dropped to 134 in 2003 and 95 in 2010.[42] In 2010, two-thirds of the remaining fluent speakers were over 50 and there are only 11 people fluent in Iñupiaq between the ages of 10 and 39.[43] According to the 2010 NSB Census, the percentage of Point Hope households speaking primarily Iñupiaq at home has decreased from 9.6 percent in 2003 to 7.2 percent in 2010. However, those households speaking both English and Iñupiaq at home has increased over the same period, from 45 percent in 2003 to 50 percent in 2010. The majority of households in Point Hope still spoke mostly English at home (77 percent) in 2010, a drop from 94 percent in 2003.

Because a dramatic decline in fluent Native speakers resulted when schools forbade students from speaking their native language, the North Slope Borough School District (NSBSD) made an effort to strengthen the Iñupiaq language by offering language classes from early childhood through 8th grade.[44] The Borough places great importance on expanding fluency in Iñupiaq to preserve traditional culture and values. To assist adults in learning or re-learning Iñupiaq, the NSB Iñupiat History, Language and Culture Department (IHLC) sponsored the production of an online Iñupiaq language program in partnership with the Rosetta Stone program for Endangered Languages.

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[41] Burch, Ernest. S. 1998. *The Iñupiaq Eskimo Nations of Northwest Alaska.* Fairbanks: University of Alaska Press.

[42] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report.* Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

[43] Ibid

[44] North Slope Borough School District. 2016. *Iñupiaq Education Department.* Accessed May 16, 2016. www.nsbsd.org/domain/44.

Table 1: Iñupiaq Values[45]

Value	Explanation
Paaqŀaktautaiññiq - *Avoidance of Conflict*	The Iñupiaq way is to think positive, act positive, speak positive and live positive.
Nagliktuutiqaġniq – *Compassion*	Though the environment is harsh and cold, our ancestors learned to live with warmth, kindness, caring and compassion.
Paammaaġigñiq – *Cooperation*	Together we have an awesome power to accomplish anything.
Iļagiigñiq - *Family and Kinship*	As Iñupiat people, we believe in knowing who we are and how we are related to one another. Our families bind us together.
Qiñuiññiq - *Humility*	Our hearts command that we act on goodness. We expect no reward in return. This is part of our cultural fiber.
Quvianġuniq - Humor	Indeed, laughter is the best medicine.
Aŋuniallaniq - *Hunting Traditions*	Reverence for the land, sea, and animals is the foundation of our hunting traditions.
Iñupiuraallaniq - *Knowledge of Our Language*	With our language, we have an identity. It helps us to find out who we are in our mind and in our heart.
Piqpakkutiqaġniq suli Qiksiksrautiqaġniq Utuqqanaanun Allanullu - *Love and Respect for our Elders and One Another*	Our Elders model our traditions and ways of being. They are a light of hope to younger generations. May we treat each other as our Elders have taught us.
Qiksiksrautiqaġniq Iñuuniaġvigmun - *Respect for Nature*	Our Creator gave us the gift of our surroundings. Those before us placed ultimate importance on respecting this magnificent gift for their future generations.
Aviktuaqatigiigñiq - *Sharing*	It is amazing how sharing works. Your acts of giving always come back.
Ukpiqqutiqaġniq - *Spirituality*	We know the power of prayer. We are a spiritual people.

[45] North Slope Borough. 2005. *North Slope Borough Comprehensive Plan*. Prepared by URS Corporation for the North Slope Borough. October. www.north-slope.org/your-government/comprehensive-plan.

Chapter 3. Natural Environment

3.1 Geography

Point Hope is located on the northwestern coast of Alaska, 330 miles southwest of Barrow and 125 miles north of the Arctic Circle.[46] The community lies on the southern tip of the Lisburne Peninsula, which is the second most westerly point on the continent after Cape Prince of Wales. Point Hope and its vicinity is depicted in Map 3.

The tip of the Lisburne Peninsula encompasses the Tigara Peninsula, which extends fifteen miles into the Chukchi Sea from the Kuukpuk River delta, and includes a gravel spit upon which the community of Point Hope is located. From where the Kuukpuk River delta deposits meet the gravel spit to its western end, its length is about eight miles.[47] The spit is about one mile across at its widest, and two-thirds of a mile across where the community lies, near the middle of the gravel spit. The surface of the gravel spit ranges in elevation from thirteen to seventeen feet above Mean Sea Level (MSL).[48] Point Hope is surrounded by water, bordered by the Chukchi Sea on the north and south of the gravel spit, and Marryat Inlet to the east. Lagoons, inlets, and gravel barrier bars are a prominent feature in the region. The community encompasses 6.3 square miles of land and 0.1 square miles of water.[49] A single road extends seven miles inland to the community's fresh water source.

Knowledge of the natural environment has been passed down through the generations. The Iñupiat people of the Point Hope region are experts of the arctic environment and have a deep understanding and appreciation for the surrounding land and sea.

3.2 Climate

Point Hope is located within the arctic climate zone, characterized by seasonal extremes in temperature. Winters are long and harsh, and summers are short but warm. Temperatures in Point Hope can range from -49 to 78 degrees Fahrenheit (F). Precipitation averages 10 inches annually, with 36 inches of snow.[50] The Chukchi Sea is generally ice-free from late June until mid-September. Over the course of the year, typical wind speeds vary from 5 miles per hour (mph) to 27 mph (light breeze to strong breeze) and rarely exceeding 42 mph (gale).

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[46] Alaska Department of Commerce, Community and Economic Development. 2016. *Community Database Online – Point Hope.* Accessed Mar. 18, 2016. http://commerce.state.ak.us/cra/DCRAExternal.

[47] Kindle, E.M. 1909. *Notes on the Point Hope Spit, Alaska*. The Journal of Geology Vol. 17, No. 2. Feb. - Mar., 1909. Accessed Mar. 3, 2016. www.jstor.org/stable/30055772.

[48] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. *Climate Change in Point Hope, Alaska: Strategies for Community Health*. Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.

[49] Ibid

[50] Ibid

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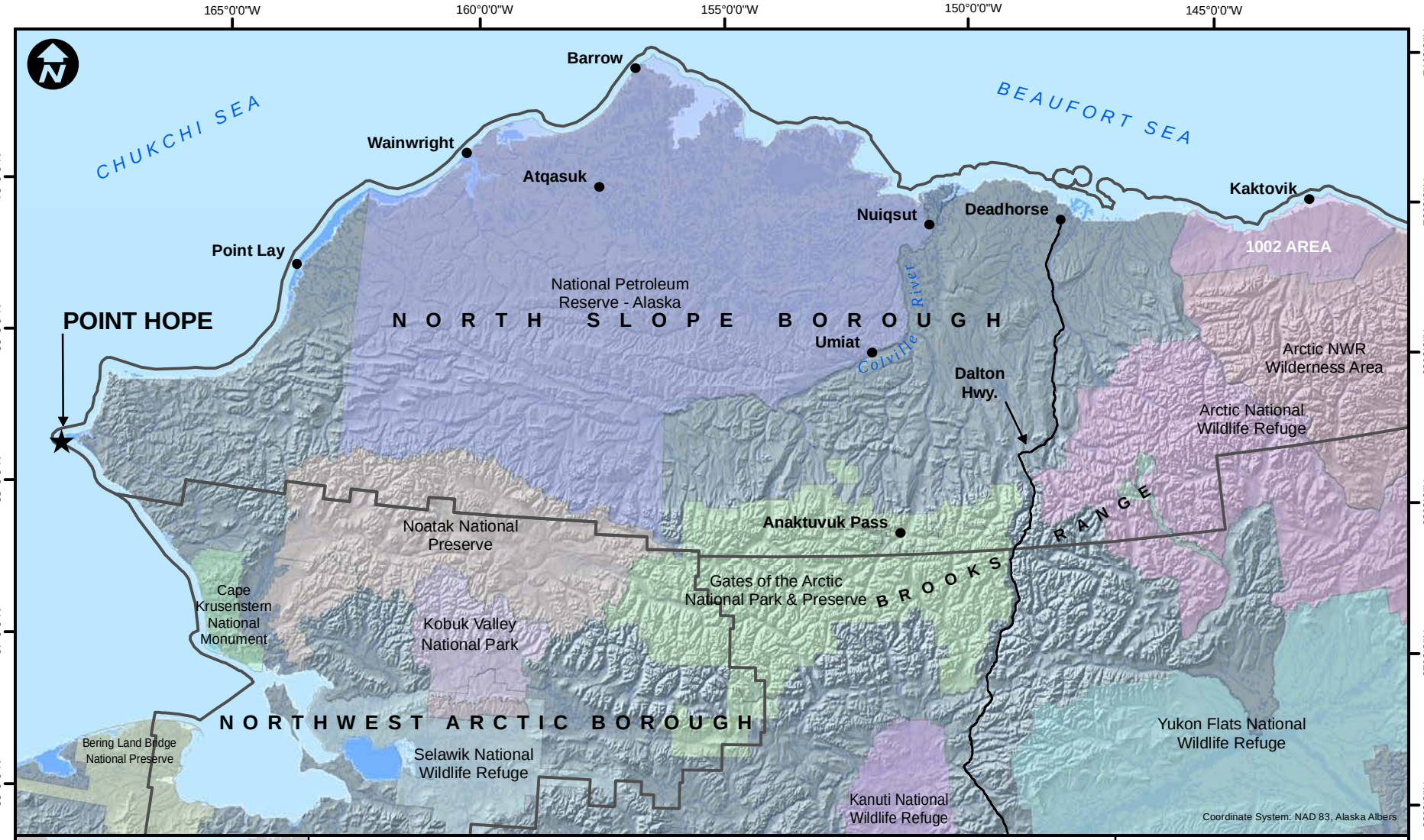

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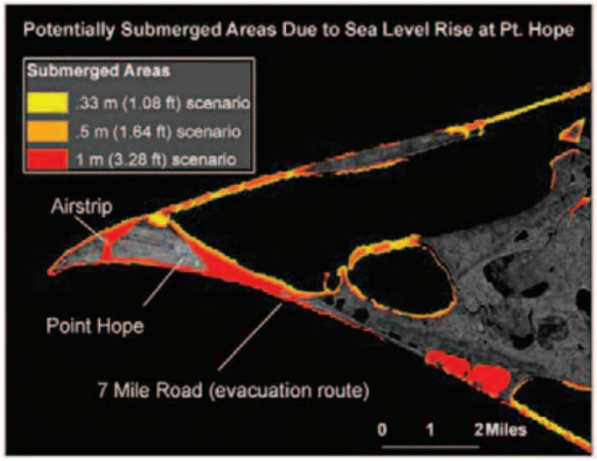
3.3 Storm Surges, Flooding, and Erosion

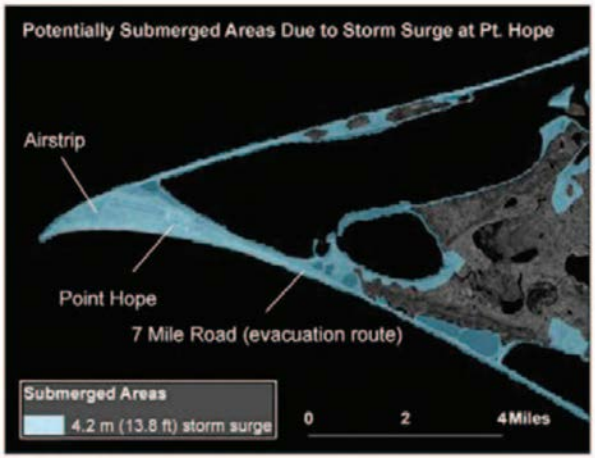
Erosion at Point Hope has been a constant threat to residents and has caused the village to relocate in the past. The village's geographical location exposes it to severe fall storms and flooding, as illustrated in maps 4 and 5. The entire village flooded in 1893, when a 10-foot storm surge covered the spit.[53] Finding a solution that is both effective and affordable has been a longstanding challenge, and has involved various attempted solutions. During the early 1960s, the Native Village of Point Hope Tribal Council attempted to slow the erosion near the former village location. Three thousand steel drums were filled with sand and gravel and set in varying patterns in the exposed swales. However, fall storms and erosion caused most drums to scatter along a 15-mile stretch of beach. By 1976, under the constant threat of erosion and flooding, the village of Point Hope decided to move from the eroding north margin of the spit, to a location three miles east, just east of the Old Village. Housing was moved on runners to the new site and the North Slope Borough assisted with the construction of some new housing. A riprap seawall has been installed between the coast and the airport runway to mitigate damage during storms. Yet persistent erosion continues to plague the community and may necessitate another move in the future.[54]

Beaches in the Point Hope area generally thaw to a depth of 5-10 feet during ice-free months.[55] This allows for natural, gradual erosion.

Map 4: Potentially Submerged Areas Due to Sea Level Rise[51]



Map 5: Potentially Submerged Areas Due to Storm Surge[52]



[51] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. Climate Change in Point Hope, Alaska: Strategies for Community Health. Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.
[52] Ibid
[53] Mason, Owen K. 2006. *Living with the Coast of Alaska Revisited: The Good, the Bad, and the Ugly in Coastal Erosion Responses for Alaska.* Workshop proceedings. Smith, Orson P., ed. Fairbanks: University of Alaska, AK Sea Grant College Program. Accessed Apr. 20, 2016. https://seagrant.uaf.edu/bookstore/pubs/ak-sg-06-03toc.pdf.
[54] Naniq Global Logistics. 2014. *Tikigaq & Point Hope*. Accessed Apr. 11, 2016. http://naniqglobal.com/about/tikigaqpoint-hope.
[55] Alaskool. 2005. *Alaska Regional Profiles, Northwest Region.* Accessed Apr. 14, 2016. www.alaskool.org/resources/regional/nw_reg_pro/index.html.

Measurements of the gravel spit have shown that erosion is occurring on the north side, while material is being deposited on the southern beach.[56]

During summer months when the sea ice has retreated from the Chukchi Sea, the community experiences gradual erosion from tidal and wave action, as well as periodic storm surges which causes accelerated erosion and flooding. Periodic damming of natural outflows can be caused by ice and gravel build up and threaten the community with flooding. Strong winds have caused ice and gravel dams to block the Kuukpuk River drainage in 2005, 2006, and 2008 and overflow the river banks. In 2006, the blocked Marryat Inlet outflow was intentionally breached to protect from flooding and restore access to the community's inland access road. [57] Additionally, the ocean characteristics are constantly due to wave action during summer months, and beach activates such as offloading barges can quickly become unsafe. These events are concerning for residents, and repair is expensive. There is concern in the community that is not a suitable evacuation route in the event of a flood.[58]

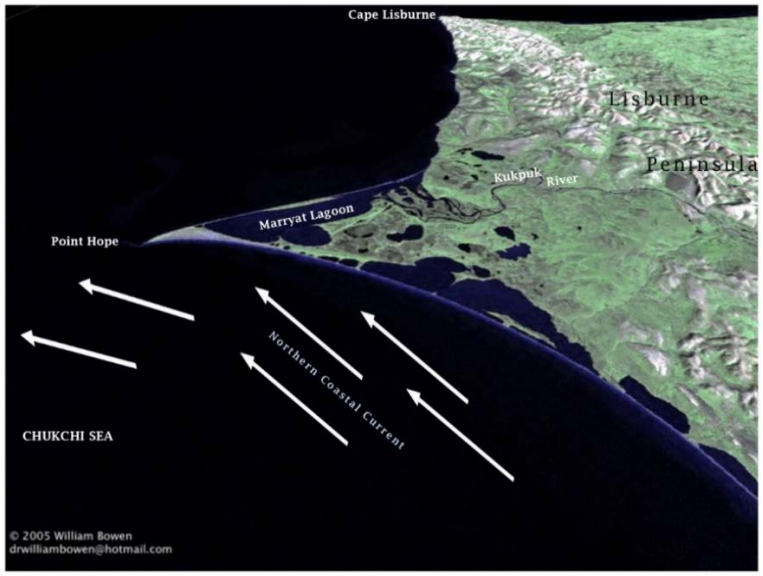
The spit on which Point Hope is located is made up of sediment deposits from the Kuukpuk River, located near its base. A strong coastal current flows north along the coastline. The force of the current, in addition to the wind and ice, deposit sediments along the southern shore of the spit. A small southern-flowing nearshore circulatory current flows along the north shore of the spit, and meets and diverts the main north-flowing current westward for a considerable distance before it reverts back north. This meeting of currents causes swift ice movement and variable weather conditions. Northern blowing winds and storms cause considerable erosion to the north shore of Point Hope.

Winter ice is driven onshore by wind and currents along the arctic coasts and become anchored to the bottom of the ocean near the shore. This ice, known as landfast or shore ice, becomes an immobile apron extending outward from the coast. At the edge of the landfast ice are open leads and ice flowing with the coastal current. The landfast ice is fundamental for hunting and traveling during the fall, winter, and spring.[59] [60] Areas near Point Hope have much less landfast ice than most areas on the Arctic coast due to deep waters near shore. To the south of the Point Hope is the Cape Thompson-Point Hope Polynya,[61] an area of unfrozen sea water surrounded by ice. Off the north shore of the village, between Point Hope and Cape Lisburne is the Cape Lisburne Polynya.[62] The polynyas provide areas for mating, spawning, and

[56] North Slope Borough. 2008. *Flood Analysis and Minimum Elevation Determination for Evacuation Route, Point Hope, Alaska*. Prepared for the North Slope Borough by Coastline Engineering.
[57] U.S. Army Corps of Engineers. 2008. *Erosion Information Paper – Point Hope, Alaska.* Accessed Sept. 1, 2015. www.poa.usace.army.mil/Portals/34/docs/civilworks/BEA/Point%20Hope_Final%20Report.pdf.
[58] North Slope Borough. 2008. *Flood Analysis and Minimum Elevation Determination for Evacuation Route, Point Hope, Alaska*. Prepared for the North Slope Borough by Coastline Engineering.
[59] Foote, Don Charles. 1962. *The Eskimo Hunter at Point Hope, Alaska Part II*. Submitted to the United States Atomic Energy Commission in Compliance with Contract No. AT(04-3)-315.
[60] Nelson, Richard K. 1969. *Hunters of the Northern Ice.* University of Chicago Press. June 1972.
[61] Polynya is an area of unfrozen sea water surrounded by ice.
[62] Stringer, W.T., and J.E. Groves. 1991. *Location and Areal Extent of Polynyas in the Bering and Chukchi Seas.* Arctic 44(1) Remote Sensing of Arctic Environments. Accessed Apr. 22, 2016. www.jstor.org/stable/40510994?seq=1#page_scan_tab_contents.

feeding for many species and are important for migrating whales, other sea mammals, and birds.[63] Both polynyas occur most frequently during the presence of regions of high-pressure weather systems over Alaska, which cause south winds to blow ice away from the shore, as shown in Map 6.

Map 6: Currents near Point Hope[64]



3.4 Soils and Permafrost

Most of the material of the gravel spit on which Point Hope is located is derived from the cliffs of Cape Thompson to the south, and has been deposited via a coastal current running north from Kotzebue Sound during the summer months.[65] Just inland from the spit is the Kuukpuk River delta, where sediment form the Ipewik and Kuukpuk branches of the Kuukpak River have been deposited over many years. The soils in the delta area usually consist of silt, sand, and extensive peat.[66]

In permafrost regions, the uppermost layer of soil that freezes and thaws seasonally is the active layer. Below the active layer lies permafrost, any soil or material that remains below freezing thorough the year. The upper surface of permafrost is called the permafrost table; the highest moisture content in the permafrost tends to be found in this layer. The Northwest Arctic is located in a transition zone between

[63] U.S Department of the Interior. Minerals Management Service. 2008. Alaska OCS Region. *Alaska Outer Continental Shelf Beaufort Sea and Chukchi Sea Planning Areas. Oil and Gas Lease Sales 209, 212, 2017, and 211.* Volume III Chapters 4.5 through 5, Bibliography. Accessed Apr. 22, 2016. www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Regional-Leasing/Alaska-Region/Alaska-Lease-Sales/Sales209-221/index.aspx.

[64] Bowen, William. 2005. *Currents in Point Hope.* Modifications by UIC in 2016.

[65] Kindle, E.M. 1909. *Notes on the Point Hope Spit, Alaska*. The Journal of Geology Vol. 17, No. 2. Feb. - Mar., 1909. Accessed Mar. 3, 2016. www.jstor.org/stable/30055772.

[66] U.S. Department of the Interior. 1967. *Areal Geology in the Vicinity of the Chariot Site Lisburne Peninsula Northwestern Alaska.* United States Government Printing Office, Washington. 1967. Accessed Mar. 7, 2016. http://pubs.usgs.gov/pp/0395/report.pdf.

continuous and discontinuous permafrost that spans east-west roughly in line with the Kobuk River.[67] Thick, continuous permafrost generally exists north of Kotzebue Sound, and is estimated to be several hundred feet deep in the Point Hope area.[68] Disturbance or removal of vegetation can lower the permafrost table, as does climate change.

3.5 Vegetation and Wetlands

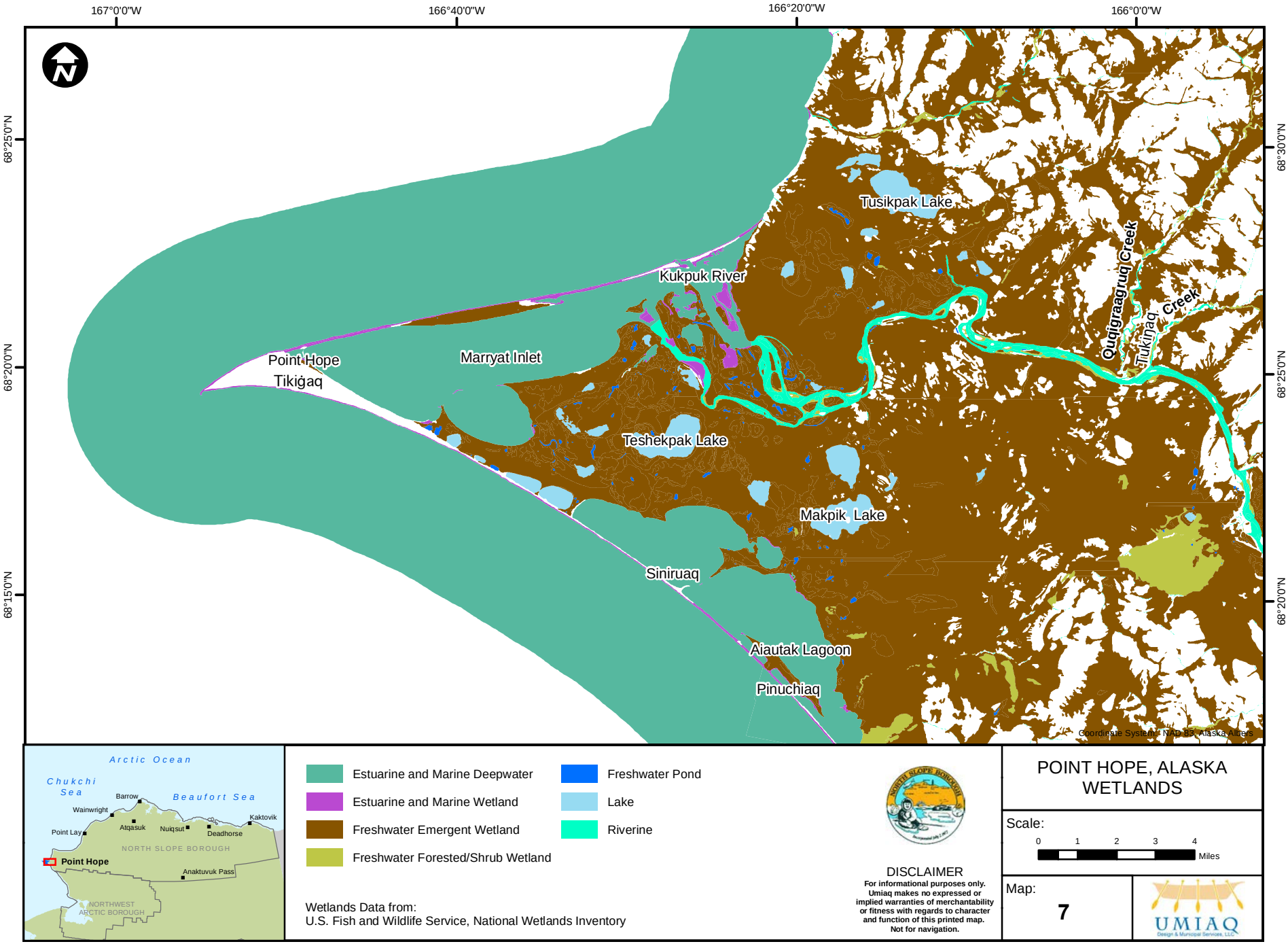
Low shrubs, mosses, sedges, and lichens cover the North Slope of Alaska. Arctic tundra receives little precipitation, but wetlands are abundant due to an impermeable layer of permafrost under the thin tundra soil.

Wetlands are defined by the U.S. Army Corps of Engineers (USCOE) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions".[69] The gravel spit underlying Point Hope is well drained and sparsely vegetated, and therefore does not meet the wetlands criteria.

Inland from the community, the Kuukpuk River delta and the Lisburne Peninsula, like most of the North Slope of Alaska, is predominately wetlands and dotted with freshwater lakes and ponds. Wetlands in the Point Hope area are shown on Map 7. Generally these are Freshwater Emergent wetlands, which includes wet meadows, marshes, swamps, or bogs where standing surface water and ice provide habitat for plants that grow through the water to reach air.[70]

Excavating or filling wetlands for any project that utilizes federal funding or involves federal authorization requires avoidance, minimization, and mitigation of wetlands impact. Mitigation efforts may include conservation of lands, restoration projects, or compensatory mitigation. The wetlands that surround Point Hope are important biologically because they support a vast number of species, some of which are listed under the Endangered Species Act (ESA). Mitigation of wetlands impact should be considered early in the life of a project to ensure successful development.

[67] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. Climate Change in Point Hope, Alaska: Strategies for Community Health. Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.
[68] North Slope Borough. 2005. *North Slope Borough Comprehensive Plan. Point Hope Village Profile*. Prepared by URS Corporation for the North Slope Borough. October 2005. Accessed Feb 2, 2016. www.north-slope.org/assets/images/uploads/PtHopeVillageProfile06.pdf.
[69] U.S. Army Corps of Engineers. 1982. *RGL 82-02 Clarification of 'Normal Circumstances' in the Wetland Definition*. February 11, 1982. Accessed Jan. 6, 2016. www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl82-02.pdf.
[70] Ibid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Tusikpak Lake
Kukpuk River
Qugigraagruq Creek
Tukiŋaq Creek
Point Hope
Tikiġaq
Marryat Inlet
Teshekpak Lake
Makpik Lake
Siniruaq
Aiautak Lagoon
Pinuchiaq
Coordinate System: NAD 83 Alaska Albers
Arctic Ocean
Chukchi Sea
Beaufort Sea
Barrow
Wainwright
Atqasuk
Nuiqsut
Kaktovik
Point Lay
Deadhorse
NORTH SLOPE BOROUGH
Point Hope
Anaktuvuk Pass
NORTHWEST ARCTIC BOROUGH
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
Wetlands Data from:
U.S. Fish and Wildlife Service, National Wetlands Inventory
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For informational purposes only. Umiaq makes no expressed or implied warranties of merchantability or fitness with regards to character and function of this printed map. Not for navigation.
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3.6 Wildlife

The lands and waters surrounding Point Hope are abundant with wildlife. According to the Tikigaq Corporation, the Point Hope area is home to 120 species of birds, 25 species of terrestrial mammals, 15 species of marine mammals, 55 species of fish, and 100 species of benthic invertebrates.[71]

Open water in the Chukchi Sea brings migratory birds to coastal breeding areas in late March through early May. Bays, lagoons, and river outlets provide feeding, breeding, and nesting habitat. Many birds can be found in the Point Hope region, including Red-throated and Pacific loon, Northern pintail, Common and King eider, Surf scoter, Sandhill crane, American Golden plover, Long-tailed jager, Horned puffin, Snow bunting, and multiple species of sandpipers.[72] All native birds in Alaska except grouse and ptarmigan are federally protected under the Migratory Bird Treaty Act (MBTA) (1918) which prohibits the "take" of migratory birds, their feathers, or their nests.

Terrestrial mammals and fur-bearers provide important subsistence resources to Point Hope residents. Alaska's largest caribou herd, the Western Arctic Caribou Herd, finds insect relief in their summer grounds on the Lisburne Peninsula. In addition to caribou, terrestrial mammals known to inhabit the Point Hope area include fox, ground squirrel, lemming, moose, muskox, porcupine, snowshoe hare, wolf, and wolverine.[73]

The Chukchi Sea supports a diverse biological system characterized by the seasonal presence of sea ice. A diverse selection of marine mammals reside in these icy seas, including Bowhead whale, Bearded, Ribbon, Ringed, and Spotted Seal, Beluga whale, and Polar bear. In many ways, the Bowhead whale is at the center of the Iñupiat community in Point Hope, but all marine mammals provide important subsistence resources.

Many species of freshwater and anadromous fish are known to occur in the streams and lakes of this region. These species include arctic cisco, arctic grayling, chum, king, pink, silver, and sockeye salmon, slimy sculpin, rainbow smelt, whitefish, Dolly varden, and arctic char. The Alaska Department of Fish and Game (ADF&G) maintains the Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes for the State of Alaska. The Point Hope area has not been cataloged as important for spawning, rearing, or migration of anadromous fishes.

Benthic organisms provide food for many larger animals such as walrus, bearded seal, gray whales, and diving ducks. These short food chains are indicative of high productivity, as in this region of the Chukchi

[71] Naniq Global Logistics. 2014. *Tikigaq & Point Hope.* Accessed Apr. 11, 2016. http://naniqglobal.com/about/tikigaqpoint-hope.
[72] U.S. Department of the Interior. Fish and Wildlife Service. 2000. Nongame Migratory Bird Management. *Inventory of Breeding Birds at Point Hope and Point Lay*. Brad A. Andres and D.L. Brann. Accessed Apr. 17, 2016. www.drbradandres.com/uploads/AkLandAndresBrann2000.pdf.
[73] North Slope Borough. 2013. *List of Subsistence Resources Utilized by Residents of the North Slope of Alaska.* Prepared by Joshua Bacon and Robert Akpik, Jr. Accessed Apr. 11, 2016. www.north-slope.org/assets/images/uploads/MASTER_LIST_OF_SPECIES_with_scientific_names_Oct_2013a.pdf.

Sea.[74] Arctic crab, Clams, and Least shrimp are important subsistence resources which reside in the benthos off of Point Hope. In addition, many species of bivalves, amphipods, and polychaetes reside in this highly productive region.

3.7 Threatened and Endangered Species

The Endangered Species Act of 1973 (ESA) requires federal agencies to work to conserve threatened and endangered species and the habitat on which they depend. Critical Habitat is defined for a threatened or endangered species when the U.S Department of Fish and Wildlife Service (USFWS) determines that a specific geographic areas contains features essential for the conservation of the species. Many whales with range in the Chukchi Sea are listed as threatened under the ESA, including: Bowhead, Fin, Humpback, Blue, Gray, and North Pacific right whales. Currently, the Pacific Walrus is a candidate for listing under the ESA. Terrestrial mammals in the Point Hope vicinity that are listed as Threatened under the ESA include Steller's and Spectacled eiders, and Polar bear.

Table 2: Threatened and Endangered Species within the Point Hope Area of Influence[75]

Threatened Species
Steller's eider (*Polysticta stelleri*)
Spectacled eider (*Somateria fischeri*)
Polar Bear (*Ursus maritimus*)
Critical Habitat
Spectacled eider (*Somateria fischeri*)

Point Hope is not within the breeding area of either Steller's or Spectacled eiders, however eiders migrate past Point Hope en-route to more northern breeding areas. After departure from their nesting and breeding grounds in the late summer and fall, both Steller's and Spectacled eiders undergo wing molt. Steller's eiders migrate south through the Chukchi Sea to southwest Alaska to molt and winter. Spectacled eiders gather along the Chukchi and Bering Sea coasts to molt in very large flocks of over 80,000 individuals. Ledyard Bay, just north of Cape Lisburne, is one of three known locations used for molting by Spectacled eiders (Map 8) and has been designated by USFWS as critical habitat for molting Spectacled eiders. During this time, the flightless birds are highly susceptible to disturbance by vessel. After molting, Spectacled eiders move to their wintering area. By late October, sea ice formation has begun and most marine and coastal birds have migrated out of the Chukchi Sea.

[74] Grebmeier, Jackie M. and Lee W. Cooper. 2005. *Benthic Processes and Ecosystem Change in the Chukchi Sea.* University of Tennessee, Knoxville, TN. Accessed Apr. 11, 2016. www.arctic.noaa.gov/rusalca/sites/default/files/atoms/files/GrebRUSALCA.pdf.
[75] U.S. Department of the Interior. Fish and Wildlife Service. 2016. *IPaC Information for Planning and Conservation*. Accessed July 24, 2016. http://ecos.fws.gov/ipac.

The USFWS identified and designated Polar bear critical habitat on December 7, 2010. Approximately two years later, the critical habitat designation was removed when the U.S. District Court for the District of Alaska found that the USFWS failed to comply with requirements of the ESA. On February 29, 2016, the Ninth Circuit Court of Appeals upheld the critical habitat that was originally designated in 2010. Three distinct types of critical habitat currently exist for Polar bear: sea ice habitat, terrestrial denning habitat, and barrier island habitat. Both sea ice and barrier island critical habitat areas are within the vicinity of Point Hope, as illustrated in Map 8. Sea ice critical habitat for the Polar bear exists offshore from the community in the Chukchi Sea and provides resources for bear feeding, breeding, denning, and movement. Barrier island critical habitat encompasses offshore islands offset from the mainland coast of Alaska, including the gravel spit of Point Hope, and areas within one mile of the barrier islands known as the no-disturbance zone. According to the USFWS, a one mile distance was chosen because female Polar bears were shown to react to snow machine traffic within this distance, and adult females are the most important age and sex class in the population.[76]

Pacific walrus are known to use Chukchi Sea waters offshore from Point Hope for foraging and transiting, and are known to haulout in large numbers to rest in many locations along the Chukchi Sea coastline. Each year since 2007 with the exception of 2008 and 2012, thousands of walrus used terrestrial haulout near Point Lay,[77] located north of Point Hope. Large herds of walrus at a haulout can panic and stampede if disturbed. Due to receding sea ice extent, walrus spend more time at terrestrial haulouts where calves and young suffer increased mortality due to stampeding.

[76] U.S. Department of the Interior. Fish and Wildlife Service. 2010. *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Polar Bear (Ursus Maritimus)*. 50 CFR Part 17 Federal Register Vol 75 No 234 (December 7, 2010). www.gpo.gov/fdsys/pkg/FR-2010-12-07/pdf/2010-30824.pdf.

[77] U.S. Department of the Interior. U.S. Geological Survey. 2015. *The Science Behind the 2015 Walrus Haul-out FAQ*. By Paul Lausten. August 25, 2015. Accessed Apr. 10, 2016. http://alaska.usgs.gov/science/biology/walrus/pdfs/The_Science_Behind_the_2015_Walrus_Haul-out_FAQ.pdf.

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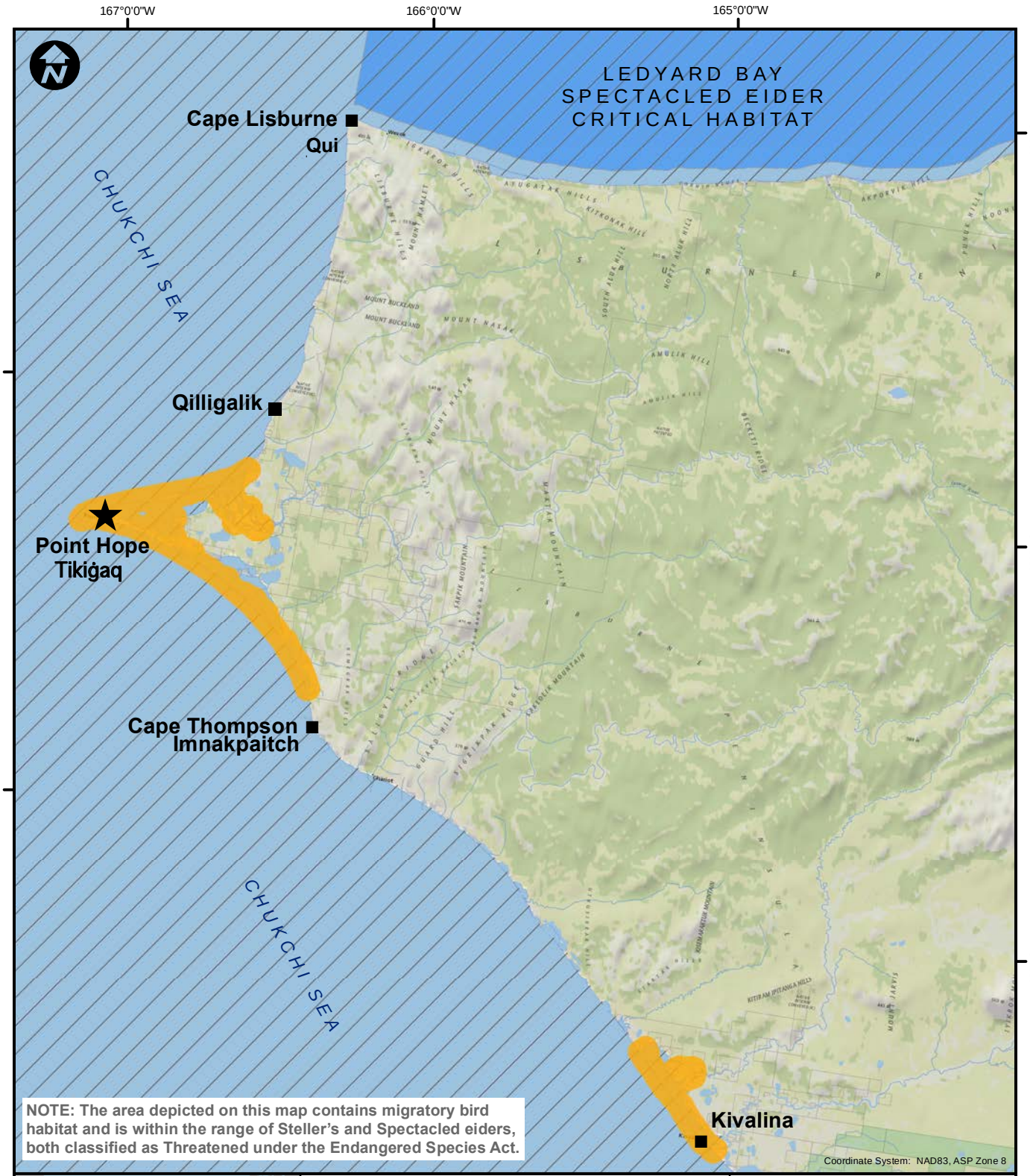

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3.8 Air Quality

Under the authority of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) that are applicable for outdoor air quality in the U.S. If an area does not meet the NAAQS, it is classified as a non-attainment area. The Alaska Department of Environmental Conservation (ADEC) maintains compliance of NAAQS in State of Alaska operating areas.[78] Point Hope is not classified as a non-attainment or maintenance area, or as an area that has regularly exceeded or is nearing violation of any health-based NAAQs.

Rural communities in Alaska are known to experience wind-borne dust and particulate matter and ADEC maintains a website to receive information regarding wind-borne dust from residents. ADEC has recognized Point Hope as a community with a dust control problem, but monitoring data is not currently being collected by the State.[79]

Inhaling wind-borne dust can cause health problems, especially in those affected by heart or lung disease, and respiratory issues. Eye and nose irritation, asthma, and respiratory problems are aggravated by inhaling dust, and these symptoms are greater in children and the elderly. In addition, windborne dust and particulates build up on subsistence foods when drying or curing outdoors in residential areas. This can result in the ingestion of dust, as removing it is often an impossibility. Regular road watering in the summer is practiced to reduce wind-borne dust from gravel roads.

3.9 Contaminated Materials and Hazardous Waste

The Alaska Department of Conservation (ADEC) defines a contaminated site as "a location where hazardous substances, including petroleum products, have been improperly disposed."[80] There are thousands of sites throughout the state, many contaminated during World War II and the Cold War.

ADEC maintains an online database of contaminated sites in Alaska. Contaminated sites are designated by ADEC as 'Open' or 'Cleanup Complete'. Cleanup Complete sites may require Institutional Controls, meaning the land use and activity must be maintained by the owner in an ADEC-specified manner to protect human health and the environment.[81] An Open designation indicates sites with pending remediation and/or the characterization of the contamination has not been completed. Open contaminated sites have the potential to become exposed or seep into surrounding soils, threatening public health and the environment. In Alaska, there are no landfills that accept hazardous materials; all hazardous materials are eventually shipped out of state for proper disposal.

[78] Alaska Department of Environmental Conservation. 2016. *Air Pollution in Alaskan Communities.* Accessed June 16, 2016. https://dec.alaska.gov/air/anpms/comm/comm.htm.
[79] Alaska Department of Environmental Conservation. 2011. *Dust Complaints in Rural Alaska*. Accessed June 16, 2016. https://dec.alaska.gov/air/anpms/Dust/Dust_docs/web%20map%2012-2011%20%282%29.pdf.
[80] Alaska Department of Environmental Conservation. 2016. Spill Prevention and Response. *Glossary.* Accessed May 2, 2016. https://dec.alaska.gov/spar/glossary.htm.
[81] Alaska Department of Environmental Conservation. 2015. *Contaminated Sites Program: The Cleanup Process.* Accessed Oct. 16, 2015. https://dec.alaska.gov/spar/csp/process.htm.

There are contaminated sites to the north and south of Point Hope, at Cape Lisburne and Cape Thompson. Both sites were used by the U.S. military beginning in the 1950s. Cape Lisburne houses one of many radar stations in Alaska constructed by the U.S. Air Force during the Cold War as an aircraft control and warning system for potential soviet activity. Contaminated soils were discovered surrounding the radar site, fuel tanks, and camps, which are in various stages of cleanup.

Twenty-six miles south of Point Hope and just south of Cape Thompson lies the site of Project Chariot, a project authorized in 1958 by the Atomic Energy Commission. The official intent of Operation Plowshare was to find peaceful uses for nuclear explosives; under Project Chariot, the Atomic Energy Commission planned to use nuclear explosives to create a deep water port. While it never came to fruition, tests were conducted that included storing and burying radioactive materials. Additionally, during well drilling, frozen diesel instead of traditional drilling fluid was used to prevent sloughing. Remediation of radioactive materials and diesel contamination was completed in 1993 and 2014. Petroleum-contaminated soil still exists below the permafrost table, which is impracticable to remove, therefore this site remains active.[82] The last five test holes were reportedly cleaned up in 2014.[83]

Within the community of Point Hope, ADEC has identified eight contaminated sites, with an additional 14 sites in the Point Hope area, listed in Table 3 and illustrated in Map 9. Two sites within the village of Point Hope are designated as Open – the drum storage area near the NSB Operations and Maintenance building and the Old BIA Former Tank Farm near the fuel station. Additionally, some residents have stated that although the clean-up has been deemed complete at the former post office, the site and area near the senior housing / senior center may still be contaminated and should be reevaluated.

Table 3: Contaminated Sites in the Point Hope Area[84]

No.	ADEC Hazard ID	Site Name	Location	Status	ADEC File ID
Within Point Hope					
1	1622	NSB Point Hope Gasoline Line	Point Hope	Cleanup Complete - Institutional Controls	420.38.001
2	1630	NSB Point Hope Drum Storage Area	South of NSB O&M Building	Open	420.38.002
3	2474	USPS Point Hope Post Office	Tuttu Street	Cleanup Complete	420.38.007
4	2641	NSB Point Hope Tikigaq School Diesel Tank	Point Hope	Cleanup Complete - Institutional Controls	420.38.004

[82] Alaska Department of Environmental Conservation. 2015. *Site Report: Project Chariot.* Accessed May 2, 2016. http://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1649

[83] Caldwell, Suzanna. 2014. Alaska Dispatch News. *Project Chariot cleanup proceeds, but community doubts linger.* Accessed May 7, 2016. www.adn.com/rural-alaska/article/project-chariot-cleanup-proceeds-community-doubts-linger/2014/08/17.

[84] Alaska Department of Environmental Conservation. 2016. *Contaminated Sites Search.* Accessed Sept. 8 2016. http://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/Search.

No.	ADEC Hazard ID	Site Name	Location	Status	ADEC File ID
5	2642	NSB Point Hope DMS Bldg. Holding Tank	Point Hope	Cleanup Complete	420.38.005
6	3071	AKARNG Point Hope FSA	Unnamed Road	Cleanup Complete	420.38.008
7	3074	NSB Point Hope Tuttu Street Trench	Tuttu Street	Cleanup Complete - Institutional Controls	420.38.006
8	25366	NSB Point Hope Old BIA Former Tank Farm	~300 Feet East of Fuel Station	Open	420.38.011
In Point Hope Vicinity					
9	139	Cape Lisburne LRRS Fuel Spill	Cape Lisburne	Cleanup Complete	465.38.001
10	150	Cape Lisburne LRRS (All Sites)	Cape Lisburne	Informational	465.38.001
11	151	Cape Lisburne LRRS White Alice Site	Cape Lisburne	Cleanup Complete - Institutional Controls	465.38.001
12	152	Cape Lisburne LRRS UC Transformer	Cape Lisburne	Cleanup Complete	465.38.001
13	153	Cape Lisburne LRRS LC Transformer	Cape Lisburne	Cleanup Complete	465.38.001
14	154	Cape Lisburne LRRS Landfill (LF001)	Cape Lisburne	Open	465.38.001
15	291	Cape Thompson Naval Camp	32 Miles SE of Point Hope	Cleanup Complete	475.38.019
16	1412	Cape Lisburne LRRS (LUST)	Cape Lisburne	Open	465.26.001
17	1649	Project Chariot	6 Mi. SE of Cape Thompson	Open	475.38.008
18	1949	Cape Lisburne LRRS Runway/Rd Oiling	Gravel Roads & Runway	Cleanup Complete	465.38.001
19	1950	Cape Lisburne LRRS Spill/Leak No. 1	Lower Camp	Cleanup Complete	465.38.001
20	1951	Cape Lisburne LRRS Spill/Leak No. 2	Runway	Cleanup Complete	465.38.001
21	1952	Cape Lisburne LRRS Dump No. 2	South Side of Upper Camp	Cleanup Complete	465.38.001
22	22884	Cape Lisburne LRRS	Cape Lisburne	Open	465.26.001

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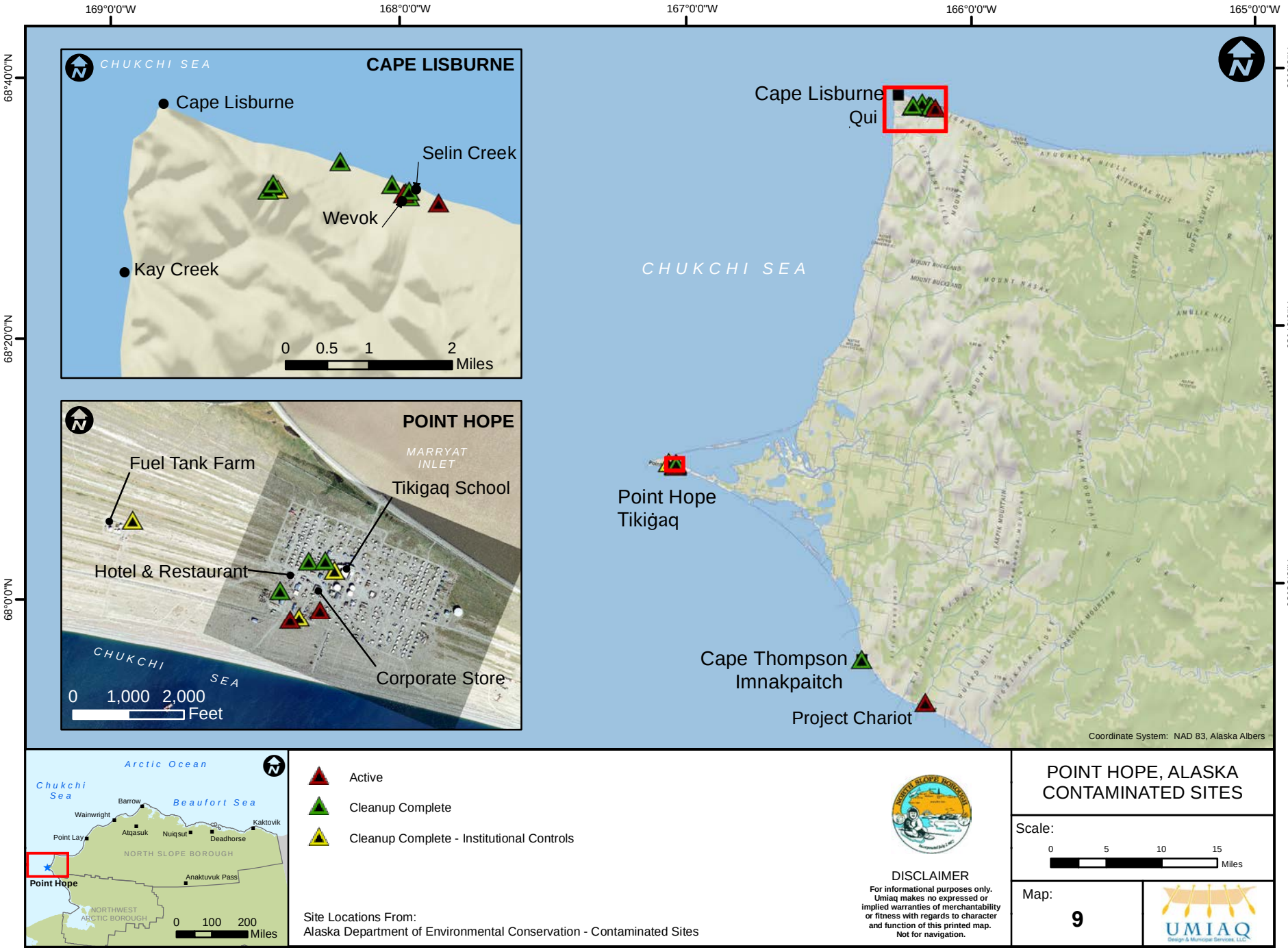
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Tikigaq School
Hotel & Restaurant
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Barrow
Wainwright
Point Lay
Atqasuk
Nuiqsut
Deadhorse
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Point Hope
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Cleanup Complete - Institutional Controls
Site Locations From:
Alaska Department of Environmental Conservation - Contaminated Sites
DISCLAIMER
For informational purposes only. Umiaq makes no expressed or implied warranties of merchantability or fitness with regards to character and function of this printed map. Not for navigation.
POINT HOPE, ALASKA
CONTAMINATED SITES
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3.10 Climate Change

The Arctic is on the front lines of climate change and Point Hope and the surrounding area is changing dramatically. Over the last 50 years, Alaska has warmed at more than twice the rate of the contiguous United States.[85] Point Hope and the northwest arctic felt a 3.2°F increase in average annual temperature in the 57 years between 1949 and 2006.[86] Average temperatures forecasted for Point Hope 50 years from now will not drop below 0°F for any month and the average monthly temperature will be between 5° and 30°F.[87] The changing climate has already begun to transform the traditional lifestyle enjoyed by Point Hope residents by changing subsistence harvest patterns and food security, which impact the health of residents.

Increased water and air temperatures have diminished perennial sea ice cover to record low levels seasonally.[88] Chukchi sea ice is forming later in the fall and breaking up earlier in the spring. An increase in ice-free days means a shortened winter hunting season. Maritime use of the Chukchi Sea during winter months is expected to increase, as the U.S. Coast Guard (USCG) projects additional vessel traffic through the Arctic as sea ice retreats.[89]

The changing climate is expected to result in global sea level rise due to melting ice reserves and thermal expansion. The State of Alaska and Point Hope has not established a sea level prediction, but studies have projected the greatest amount of sea level rise will occur in the Arctic.[90] Point Hope is especially vulnerable due to its unique location on a peninsula extending into the Chukchi Sea. A sea level rise of just over three feet would result in Point Hope being isolated from the mainland coupled with increased flooding during storm surges.[91]

A warming climate contributes to the thawing of the Arctic's thick, continuous permafrost. Thawing permafrost results in land subsidence, which can create sink holes and damage infrastructure. The gravel spit on which the city of Point Hope is built provides a layer of insulation and protects the underlying

[85] Fitzpatrick J., Alley R., Brigham-Gretto J., Miller G., Polyak L., Serreze M.. 2008. *Preface: Why and how to use this synthesis and assessment report.* Past Climate Variability and Change in the Arctic and at High Latitude. Synthesis and Assessment Product 1.2. U.S. Geological Survey, Reston, VA, pp. 8-21.

[86] Shulski, M. 2007. *Climatological Data and Trends for Kotzebue.* Presentation at Workshop: Planning and Preparing for Climate Change in the Northwest Arctic, Alaska Climate Research Center, Geophysical Institute, University of Alaska Fairbanks, Nov. 19-20, 2007.

[87] University of Alaska Fairbanks. 2010. *Community Charts.* SNAP: Scenarios Network for Alaska and Arctic Planning. Accessed Dec. 22, 2015. www.snap.uaf.edu/sites/all/modules/snap_community_charts/charts.php.

[88] U.S. Department of Homeland Security. United States Coast Guard. 2014. *Draft Programmatic Environmental Assessment: Arctic Operations and Training Exercises*. Juneau, Alaska: U.S. Coast Guard District Seventeen. Accessed Apr. 13, 2016. www.uscg.mil/d17/docs/DRAFT%20PROGRAMMATIC%20ENVIRONMENTAL%20ASSESSMENT.pdf.

[89] Jones, B.M., Arp, C.D., Jorgenson, M.T., Hinkel, K.M., Schmutz, J.A., Flint, P.L., 2009. *Increase in the rate and uniformity of coastline erosion in Arctic Alaska*. Geophysical Research Letters, 36, doi:10.1029/2008GL036205.

[90] Walsh, J, 2005. *Cryosphere and Hydrology*. Arctic Climate Impact Assessment. Cambridge University Press, Cambridge, UK, and New York, p 234. Accessed May 4, 2016. www.acia.uaf.edu/pages/scientific.htm.

[91] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. *Climate Change in Point Hope, Alaska: Strategies for Community Health.* Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.

permafrost.[92] However, roadways, the airstrip, and inland camps are at risk for land subsidence due to thawing permafrost. Under normal conditions, an active layer of soil thaws each summer and freezes each winter. As permafrost thaws and the active layer increases to greater depths in the summer, underground ice cellars can be damaged or fail. Ice cellars have been used traditionally to store harvested subsistence foods and are passed down in families for generations. Damaged and failing ice cellars threaten both food security and safety by causing meat to spoil and the fat from muktuk to separate from the skin, wasting food. Some families now use freezers, which often changes the taste of the food. Community members have also expressed a desire for both community freezers and for thermosyphons to keep ice cellars from failing.

[92] Jones, B.M., Arp, C.D., Jorgenson, M.T., Hinkel, K.M., Schmutz, J.A., Flint, P.L., 2009. *Increase in the rate and uniformity of coastline erosion in Arctic Alaska.* Geophysical Research Letters, 36, doi:10.1029/2008GL036205.

Chapter 4. Population

4.1 Historical Population and Population Trends

The U.S. decennial census provides data on the population of Point Hope as far back as 1890, when there was approximately 301 people living in the community. Since then, the population has increased overall and for every decennial census year since 1930 except for the period between 2000 and 2010, when it reportedly decreased from 757 to 674.[93] According to the NSB Census, Point Hope had 831 residents in 2010.[94] However, the most recent population estimate of 711 residents is certified by the State of Alaska Department of Commerce, Community, and Economic Development (DCCED) for the year 2015.[95] The number of residents can vary seasonally; subsistence activities may take residents out the community for weeks at a time and some teachers at Tikigaq School and their families may live elsewhere during the summer months.

Table 4 provides a historical perspective of Point Hope's population since the 1890s, a decade after the first U.S. Census was taken in Alaska.[96] Complementing Table 4 is Figure 5, a graphic depiction of the population changes between 1890 and 2015 using the U.S. Decennial Census population, with the sole exception of 2015, which is a DCCED-certified population estimate.

[93] Using a consistent population source, U.S Decennial Census, the population between 2000 and 2010 decreased by 80 people.
[94] The NSB carried out its own census in 1998, 2003, 2010, and 2015 due to chronic U.S. Census population undercounting in many villages.
[95] If an Alaskan municipality believes its population estimate does not reflect its permanent resident population the municipality may request an adjustment to the estimated population based on either a head count or housing unit count. If the request is approved, a revised population estimate becomes certified.
[96] Alaska Department of Labor and Workforce Development. 2013. *A History of Alaska Population Settlement*. Accessed Apr. 11, 2016. http://labor.alaska.gov/research/pop/estimates/pub/pophistory.pdf.

Table 4: Historical Population and Sources, 1939 to 2015

Year	Population	Source
1890	301	U.S. Decennial Census[97]
1900	623	U.S. Decennial Census
1910	243	U.S. Decennial Census
1920	339	U.S. Decennial Census
1930	139	U.S. Decennial Census
1940	257	U.S. Decennial Census
1950	264	U.S. Decennial Census
1960	324	U.S. Decennial Census
1970	386	U.S. Decennial Census
1980	464	U.S. Decennial Census
1990	639	U.S. Decennial Census
1998	*805*	*NSB Census*[98]
2000	757	U.S. Decennial Census
2003	*764*	*NSB Census*
2010	*831*	*NSB Census*
	674	U.S. Decennial Census
2014	*697*	*DCCED Certified*
2015	*711*	*DCCED Certified*

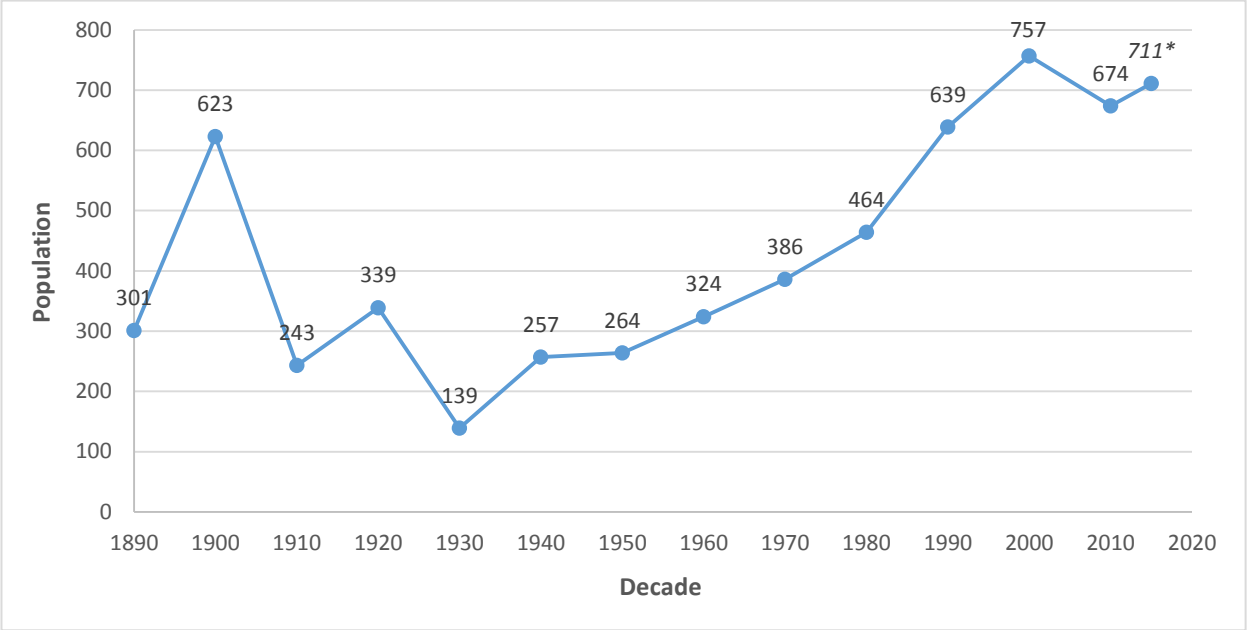
Point Hope experienced consistent population increases for well over half a century, since 1930 with increases and declines between 1890 and 1930. These early dramatic shifts in census counts could be attributed to the seasonal movements of residents for subsistence activities and the dates in which census takers arrived in the village (typically in April of the census year). Since 1930, the sustained positive rate of growth has ranged from a low of three percent between 1940 and 1950 to high of over 85 percent between 1930 and 1940, depicted in Figure 6. Yet a decline of over eleven percent, or 83 people, was reported between 2000 and 2010. The 2010 NSB Census, however, reports an increased population from 2003 to 2010 of an additional 67 Point Hope residents, up from 764 to 831 and an increase of 8.8 percent. The 157-person discrepancy between the two 2010 censuses is large for such a small community.

The NSB Census intends to have a more thorough process of counting residents than the federal government through consideration of the unique nature of subsistence lifestyles and housing choices. Because of this, the NSB Census is believed to provide more accurate population figures on which to rely for current and future community planning.

[97] U.S. Department of Commerce. U.S. Census Bureau. *1890, 1900, 1910, 1960, 1970, 1980, 1990. Census of Population, Alaska.* Accessed Feb. 19, 2016. www.census.gov/prod/www/decennial.html.

[98] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

Figure 5: U.S. Decennial Census, 1890 to 2015 by Decade



*2015 population is certified from the Alaska Department of Commerce, Community and Economic Development

Figure 6: Percent Change of Population, U.S. Decennial Census 1890 to 2010

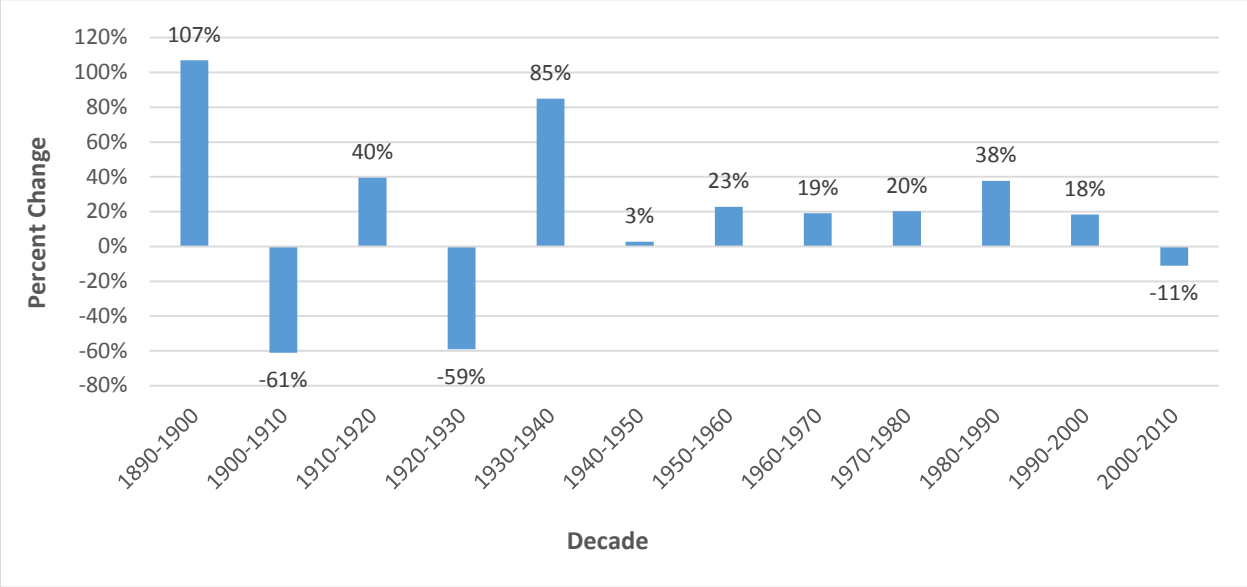


Table 5 provides details on specific Point Hope population characteristics and the changes that have taken place between 2003 and 2010 based on the NSB Census. Discussion of the information presented in Table 5 follows.

Table 5: 2003 and 2010 NSB Census Population Characteristics[99, 100]

Characteristic	2003	2010
Total Population	764	831
Female	47.1%	49%
Male	52.9%	51%
Median age of females	19.5	27.1
Median age of males	22	29.9
Median age of total population	22	28.1
Ethnicity		
Iñupiat	91.2%	92.6%
Caucasian	6.9%	5.0%
Other	1.9%	2.4%
Iñupiaq speakers (percent of population who are fluent)[101]	31.1%	28.4%
Size of labor force	293	376
Percent of population 17 years of age and younger	43.4%	38.2%
Percent of population between 16 and 64	46.1%	60.3%
Percent of population 65 years of age and older	3.9%	5.6%
Number of households	196	209
Average household size	3.99	3.84

The 2010 NSB Census indicated that, in general, there tends to be a sharp drop in the number of women between the ages of 20 to 24 that is generally attributed to migration to larger communities for better employment opportunities, while men of the same age group tend to remain in their communities because of their detailed knowledge of local subsistence activities. This partially appears to be the case in Point Hope, as illustrated in Table 5, that between 2003 and 2010, the median age of females increased more than seven years. However, the median age of males also increased more than seven years during the same time period. As expected due to the increase in the median age of both male and female residents, the age composition of the Point Hope residents has shifted significantly between 2003 and 2010. There were declines in the female population aged 10—14, 15-19, 30-34, and 40-44 and declines in the male population aged 0-4, 15-19, and much of the labor force, aged 25-29 and 40-64.[102] The combined female-male age distribution for 2003 and 2010 is presented in Table 6.

In addition to population increases and declines, dependency ratios are useful for estimating and preparing for social, economic, health, and educational needs and services. The dependency ratio is a calculation of the proportion of the population not in the workforce who are 'dependent' on those of

[99] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

[100] 2015 North Slope Census population characteristics were not available during the development of this plan.

[101] Includes Point Hope residents that responded to the census that they either s*peak fluently and prefer Iñupiaq* or *speaks Iñupiaq but prefers other language.*

[102] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

working-age. Those aged under 15 and over 65 years are classified as the dependents and those aged 15 to 64 years of age are classified as the working-age population. Interestingly, the NSB 2010 Census indicates that between 2003 and 2010 there was a significant decrease in the total dependency ratio in Point Hope, as noted in Table 6. The youth dependency ratio dropped nearly forty-seven percentage points between 2003 and 2010. Over the same time period, the Point Hope age dependency ratio rose slightly, from 7.9 percent in 2003 to 9.6 percent in 2010. The overall dependency ratio was significantly lower in 2010 than in 2003, indicating a greater percentage of the population is able to participate in the labor force.[103]

Table 6: Point Hope Age Distribution and Dependency Ratios, 2003 and 2010[104]

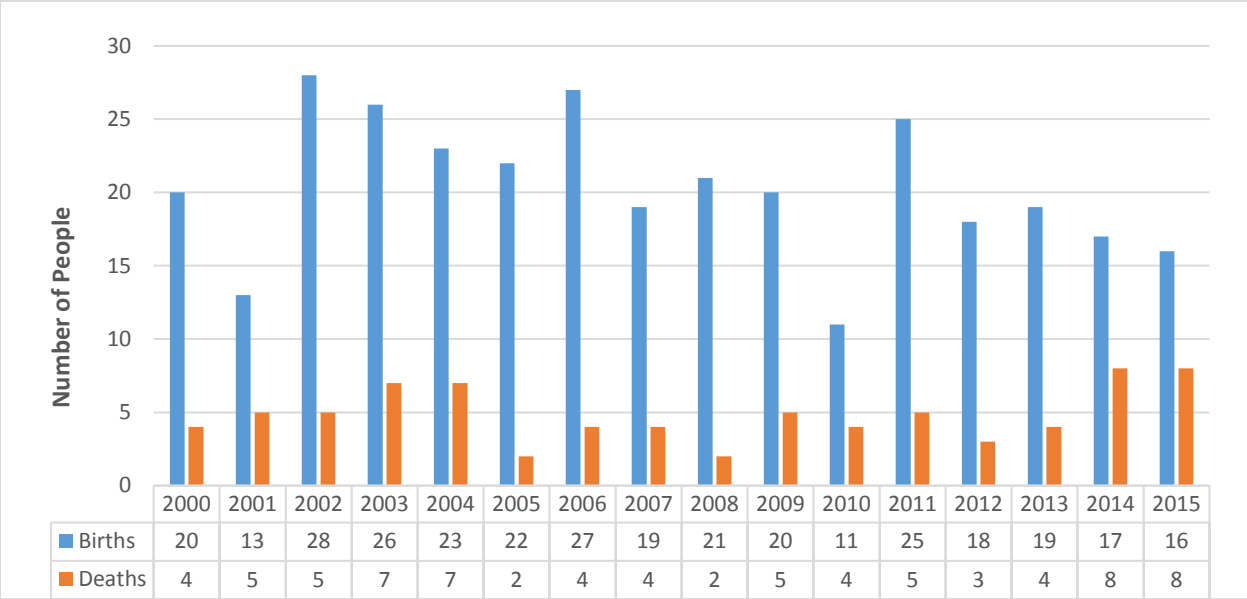
Age Range	2003	2010
15 years and under	30.6%	33.8%
18 years and under	36%	40.2%
18 – 24	-	14.6%
55 - 64	4.7%	9%
65 and older	3.9%	5.6%
Youth Dependency Ratio	108.5%	61.6%
Age Dependency Ratio	7.9%	9.6%
Total Dependency Ratio	116.4%	71.2%

4.2 Births and Deaths

The strongest component of population growth is natural increase, with more births occurring than deaths. Between 2000 and 2015, 325 residents were born and 77 persons passed away, for a net increase of 248 people. As illustrated in Figure 7, births have been variable over the fifteen-year period, ranging from a low of 11 in 2010 to a high of 28 in 2002; deaths have ranged from a low of 2 in 2005 to a high of 8 in both 2014 and 2015. Each year births have exceeded deaths.

[103] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010.
[104] Ibid

Figure 7: Births and Deaths, 2000 – 2015[105]



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Births	20	13	28	26	23	22	27	19	21	20	11	25	18	19	17	16
Deaths	4	5	5	7	7	2	4	4	2	5	4	5	3	4	8	8

4.3 In-Migration and Out-Migration

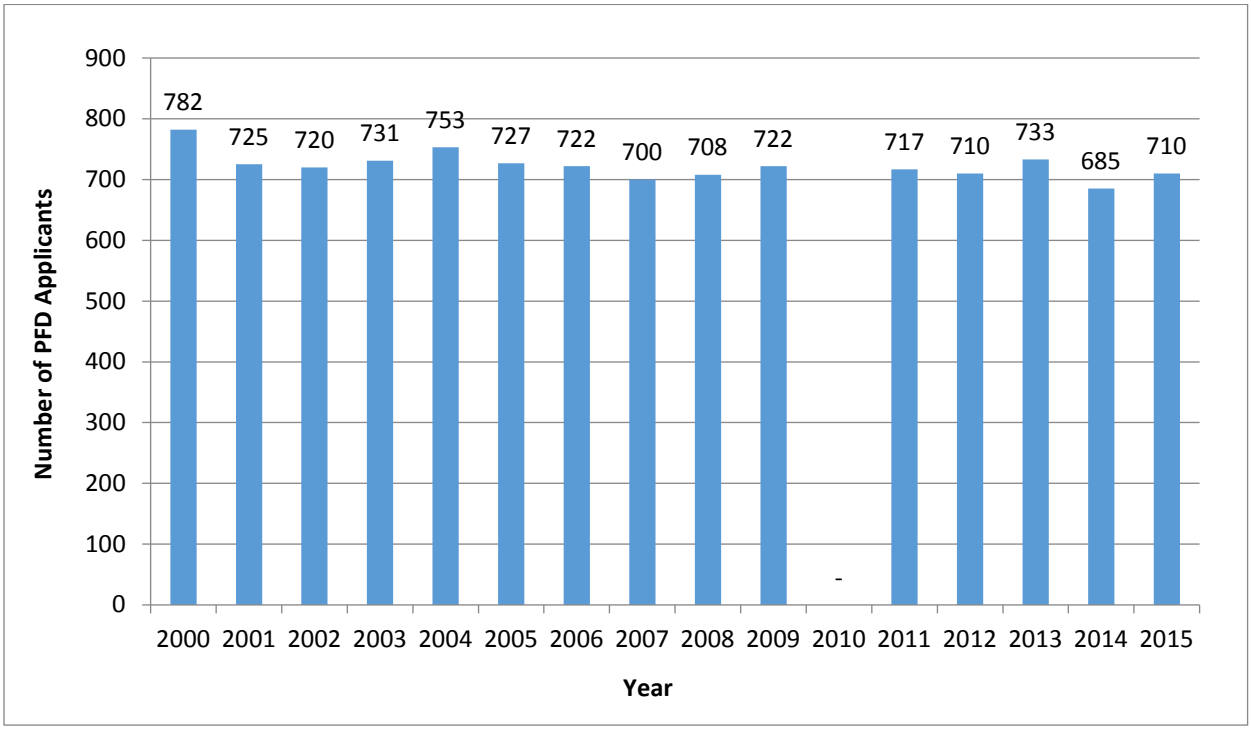
Data are not collected on new residents or existing residents moving out of the village, also known as resident in-migration and out-migration. Out-migration is usually attributed to high school graduates leaving to attend college, workers seeking employment opportunities elsewhere, or residents leaving to be close to other family members or loved ones. In-migration would most often be attributed to new residents moving to the village to live with or near family members or for employment.

One potential indicator of the prevalence of in- and out-migration in Point Hope may be the number of people who qualify for the annual Alaska Permanent Fund Dividend (PFD). The Permanent Fund program tracks the dividend recipients by zip code. Figure 8 illustrates the combined number of adults and children applicants for the PFD program with a postal code for Point Hope during the 2000 to 2014 time period.

In 2000, 782 persons with a 99766 zip code successfully applied to the Permanent Fund Dividend (PFD) program, decreasing by nearly 100 to 685 by 2014. Twenty-five more people were included in the 2000 U.S Decennial Census than applied for PFDs, while in 2014 twelve more people were included in the DCCED population estimate for Point Hope than applied for the PFD that same year. PFD data for 2010 was not available. However, the number of applicants was likely similar to 2009 and 2011, both of which are significantly below the 2010 NSB Census estimate of 831 and significantly higher than the U.S Decennial Census of 674.

[105] Gibson, David. Research Analyst II. State of Alaska Vital Statistics. Personal Communication. February 29, 2016.

Figure 8: Total Permanent Fund Applicants, 2000 to 2014[106] [107]



4.4 Population Growth Projections

Calculations of the size of future populations are useful for land use planning; economic development initiatives; transportation and health service needs; infrastructure capacity determinations; water demand assessments; and natural resource management, among others. Population projections used by planners and policymakers to assist in the preparation of planning for future development are often imprecise. Projections are especially difficult for small communities or populations, particularly when combined with an unanticipated conditions that may affect in- and out- migration. Examples of these conditions are employment opportunities,[108] availability of land for development, or, as is the case of many rural Alaska communities, the abundance of subsistence wildlife.

A no growth rate shown in Table 7 below assumes that energy costs rise and subsistence activity declines, and a stable or reduction in government and construction jobs; resulting in an overall population decline of one-half percent per year, with a projected population in 2035 of 643 people. The modest growth scenario of one-half percent per year assumes a stable job market in areas of temporary construction and government services, with a projected population in 2035 of 786 people. The high one percent annual growth rate scenario assumes that there is some moderate growth in government services, perhaps coupled with other industry development nearby that may provide jobs for residents in Point Hope, with

[106] Alaska Department of Revenue. Permanent Fund Dividend Division. *Annual Reports.* Accessed Feb. 2, 2016. https://pfd.alaska.gov/Division-Info/Annual-Reports.
[107] PFD data for Point Hope was absent from the annual report for 2010.
[108] North Slope Borough. 2003. *North Slope Borough 2003 Economic Profile and Census Report.* Prepared for the North Slope Borough by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway.

a projected population in 2035 of 868 people. There are no foreseeable jobs or other economic indicators to support another decade or two with over two percent annual growth rate, especially given the slight population decrease over the last fifteen years. Lastly, the linear trend projection assumes that the Point Hope population will increase or decrease by the same number of people in each future decade as the average per decade increase or decrease observed during the interval between 1980 and 2010. This relatively simple method of projecting the future population is often as accurate as more complex methods.[109] The result is closely aligned with a one percent annual growth rate, and an increase of 138 people from the 2015 population.

Table 7: Five, Ten and Twenty Year Population Projections

Rate of Growth	2015 Base Year State Certified population estimate	5 Year Projection, 2020	10 Year Projection, 2025	20 Year Projection, 2035
High Growth (+1%)	711	747	785	868
Modest Growth (+.5%)		729	747	786
No Growth (-.5%)		693	676	643
Linear trend based on 1980 and 2010 U.S Decennial Census	N/A	744	779	849

[109] Rayer, Stefan. 2008. Population Forecast Errors: A Primer for Planners. University of Florida. Accessed May 2, 2016. www.bebr.ufl.edu/sites/default/files/Research%20Reports/Rayer%20(2008)%20-%20JPER.pdf.

Chapter 5. Subsistence

5.1 Definition of Subsistence

There are a number of definitions of subsistence and many different understandings of its meaning. What is clear is that the term means different things to people based on their cultural upbringing.

The North Slope Borough Municipal Code defines subsistence as

> *"An activity performed in support of the basic beliefs and nutritional needs of the residents of the Borough and includes hunting, whaling, fishing, trapping, camping, food gathering, and other traditional and cultural activities (NSBMC 19.20.020)."*

The State of Alaska defines subsistence uses as

> *"...the noncommercial, customary and traditional uses of wild, renewable resources by a resident domiciled in a rural area of the state for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption, and for the customary trade, barter, or sharing for personal or family consumption; in this paragraph, "family" means persons related by blood, marriage, or adoption, and a person living in the household on a permanent basis (AS 16.05.940(33))."*

While the term subsistence implies the use of natural resources for physical needs, it may not always convey the spiritual and cultural importance of those harvest activities. For Alaska Natives of the North Slope, subsistence is a connection to the land and the way the Iñupiat passed down traditional knowledge through generations. It is not only a way of life, but also the joy of living from the gifts that the Creator provides.

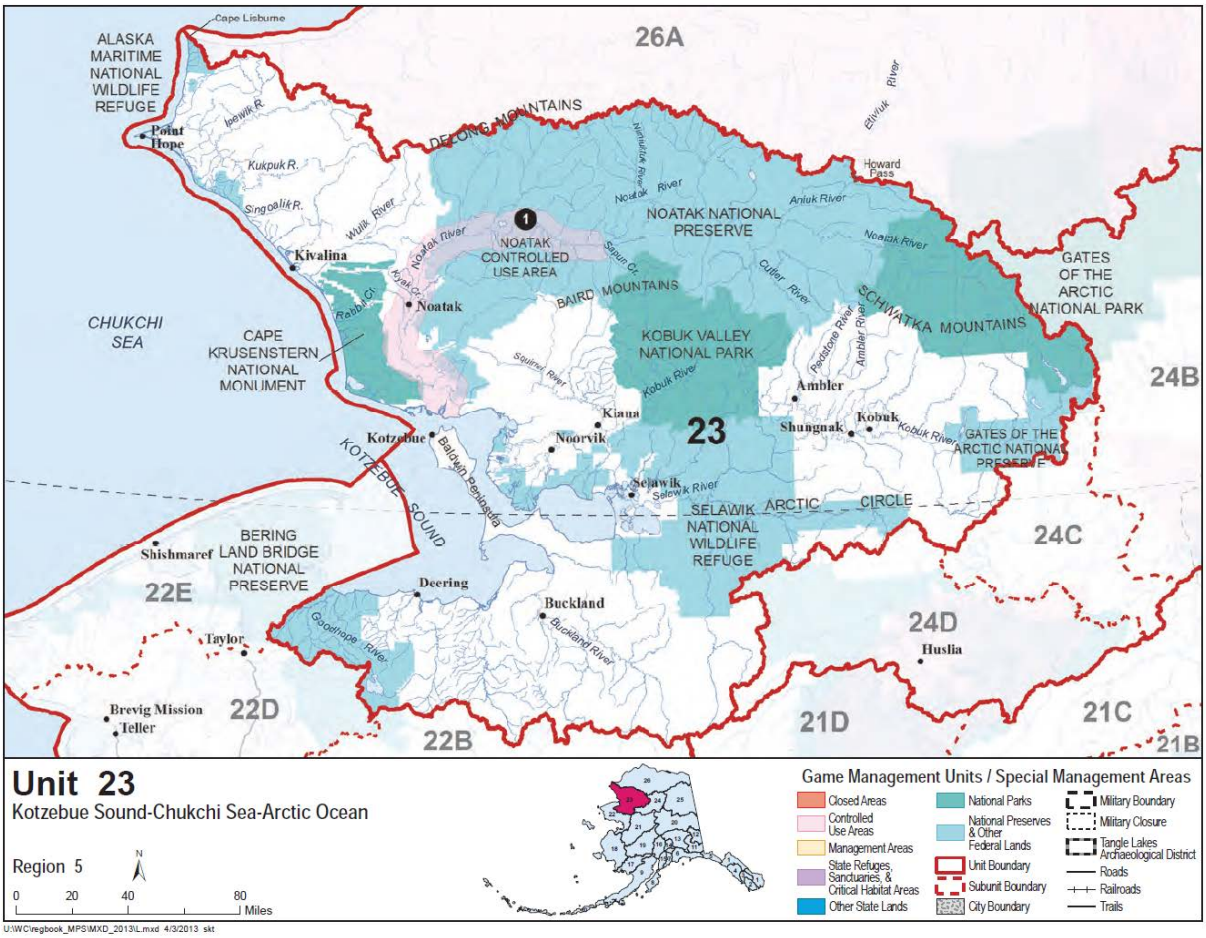
5.2 Village Area of Influence

Village subsistence users travel as far north as Point Lay (134 miles northeast), as far south as Cape Krusentern National Monument (approximately 140 miles southeast) and as far east into the Noatak National Preserve (100 miles east) to meet their subsistence needs. Point Hope residents subsist upon many marine mammals such as bowhead whales, beluga whales, ringed and bearded seals, and walrus. The Point Hope area also boasts an abundance of caribou, moose, waterfowl, and various species of fish.

The Point Hope Area of Influence depicted in Map 11 is an aggregation of traditional subsistence uses but is not the maximum extent that hunters will go for subsistence activities; it is a typical hunting range based on past hunting, fishing, and whaling use. This area can change over time as traditional subsistence land use patterns change based on the availability of animals and fish. The area of influence can be used to determine community stakeholders that may need to be consulted prior to activity that may affect their traditional use of the land.

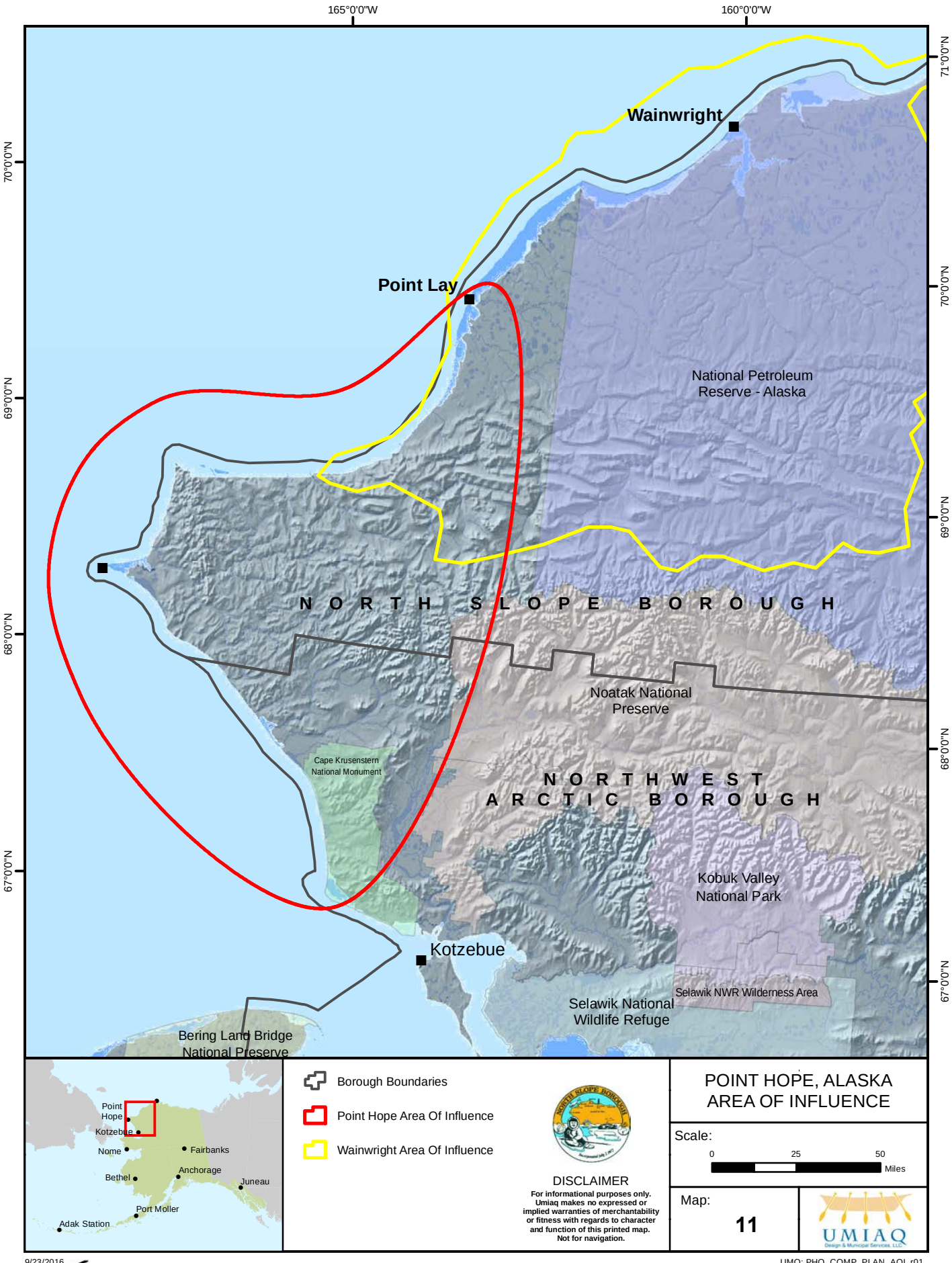
The Alaska Department of Fish and Game regulates hunting throughout the state. Point Hope is located within the Game Management Unit 23, shown in Map 10. Bag limits are defined by state and published annually.[110]

Map 10: ADF&G Game Management Unit 23[111]



[110] Specific regulations can be found on the Alaska Department of Fish and Game website at: www.adfg.alaska.gov/index.cfm?adfg=huntingmaps.bygmu&gmu=23.

[111] Alaska Department of Fish and Game. 2016. *Game Management Unit (GMU) Information Unit 23.* Accessed September 14, 2016. www.adfg.alaska.gov/index.cfm?adfg=huntingmaps.gmuinfo&gmu=23.



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5.3 Point Hope Subsistence Harvest

Subsistence users in the community of Point Hope rely upon a variety of terrestrial and, marine mammals, fish, and waterfowl for some or all of their diet. According to a 2015 North Slope Borough Social and Economic Profile and Census, nearly all of Point Hope households' diets included at least some subsistence foods (99.1 percent), up slightly from 2010 when 97.7 percent of residents reported having at least some subsistence foods in their diet. However, those households whose diets consisted of half or more of subsistence foods has decreased, from 69.3 percent in 2010 to 63.4 percent in 2015. The percentage of households whose entire diet is derived from subsistence foods has also decreased: from 14.1 percent in 2013 to 3.6 percent in 2010 and 2.6 percent in 2015.[112] [113]

While caribou, fish, and waterfowl are part of the subsistence diet, the bowhead whale is the foundation of the Iñupiat. Subsistence gathering and whaling preparation is a year around event. Beginning in March and April, women begin sewing the bearded seal skins for skin boats, called Umiat. Skin sewing is very important; the whaling crews depends on careful stitching to ensure their boats stay afloat during the hunt. Spring whaling season typically ends in May. After Qagruq, a festival in June that celebrates a successful whale harvest, whaling captains and subsistence hunters begin hunting a variety of marine mammals, including bearded seal, ringed seal and walrus. Caribou hunting is year-round but mostly takes place from June through September or as weather conditions allow. Caribou tendon is made into thread to sew bearded seal skins for the skin boats. The process begins again, a traditional practice of the Point Hope Iñupiat people throughout history.

Figure 9: Point Hope Whaling Umiaq[114]

The Alaska Eskimo Whaling Commission (AEWC) recorded a total of 15 registered whaling crews in the village of Point Hope for the 2016 spring whaling season. Due to the fall migration of the bowhead whale and Chukchi Sea ice conditions in October, the village of Point Hope only participates in the spring bowhead whale hunt, typically April through May. A single bowhead whale harvested in spring, typically feeds the entire community at least five times throughout the year. These times are times of celebration and gathering for the community and consist of

- The initial sharing of the maktak[115] and meat, providing each household a share;
- The Qagruq – a three day whaling festival event held in June after the spring whaling season ends. The whaling captain that harvested the first whale of the season selects the date of the event;

[112] North Slope Borough. 2015. Unpublished. Draft North Slope Borough 2015 Economic Profile and Census Report. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway for the North Slope Borough.
[113] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.
[114] ASRC Energy Services. 2016. Photo library. *Point Hope Whaling Umiaq*.
[115] Maktak is frozen whale skin and blubber.

- The Qiñu – The flipper of the whale is usually shared with community members in November or December. This traditional ceremony is reserved for whaling captains that have harvested less than five whales in their lifetime. Whaling captains that have harvested over fives whales in their lifetime, can share the flipper at any time;
- Thanksgiving feast; and
- Christmas feast.

Participation in subsistence activities varies. In addition to hunters and whaling crew members, many people engage in whaling support activities as well as other subsistence based activities, including: cooking and processing subsistence foods, sewing skin boats, making sleds and boats, trapping, gathering eggs, berries, and other plants. In 2010, 95.1 percent of residents reportedly participated in trapping fur bearing animals; 88.7 percent reported making sleds and boats; 82.5 percent reported gathering bird eggs; and 82.4 percent reported sewing skins and clothes. The activity with the least participation was picking berries and plants (36.6 percent).[117]

Figure 10: Point Hope Whaling Umiat[116]

[116] ASRC Energy Services. 2016. Photo library. *Point Hope Whaling Umiat*.
[117] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report.* Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

Chapter 6. Public Facilities

6.1 Recreation and Community Use Facilities

The Tikigaq School gym is an important gathering place for all local educational, business, cultural, and recreational use.[118] In addition to school activities, the gymnasium at Tikigaq School is used for public cultural and recreational use and events. It is utilized for Christmas, Thanksgiving, and whaling feast celebrations, summer basketball tournaments, health fairs, and guest speaker events. The gymnasium is also used by school clubs or local entities for fundraising activities such as lock-ins, dances, and movie showings. Outside entities, such as the Native Village of Point Hope, Arctic Slope Native Association (ASNA), Arctic Slope Regional Corporation (ASRC), City of Point Hope, Tikigaq Corporation, and other organizations also gather for meetings at the school gym.

The library in Point Hope is located at Tikigaq School. A full-time librarian staff the library during the school day and a library technician works during the evening for 12 hours a week. The library has a preschool through adult collection, including a special cultural books collection and a DVD collection. There are five computers and a printer with free internet access for patrons. The computers have been set up to include easy access to research and self-help databases provided by Iḷisaġvik College and the Alaska State Library.[119]

Point Hope also has an outdoor community playground that was replaced by a partnership between ASRC Energy Services, the Arctic Slope Community Foundation's Paannaq Program, Tikigaq Corporation and the City of Point Hope in 2013.[120] Residents have expressed a desire for a teen center as well as additional recreational facilities for children and youth.

The City of Point Hope has a city offices and a community center that is used for small functions such as bingo, NSB meetings, and teleconference classes.

Figure 11: Point Hope Playground[121]

Both the daycare and senior citizen center are in need of repair, but have lost local funding. The daycare facility is now being used as a volunteer based teen center. The NSB has initiated developing daycare centers in each of the villages. NSB capital funding is available for land acquisition

[118] Johnson, Lillian Aanauraq Lane, Dean of Students. Tikigaq School. Personal Communication. May 2, 2016.
[119] Szymoniak, Glen, Superintendent. North Slope Borough School District. Personal Communication. Apr. 4, 2016.
[120] Tutchaġiksuaq. *AES, ASCF & AFHC work with the Tikigaq community to Build an Arctic Playground.* Accessed May 2, 2016. https://tutchagiksuaq.wordpress.com/2016/04/14/playgrounds-in-the-arctic/#more-33.
[121] Ibid

and facility design for a Point Hope daycare. The NSB is working with the community to determine the best location for a facility. The community has expressed the need for two different recreation centers targeting younger children and middle/high school students. The senior center is closed, under construction, and is being leased out by SKW.[122]

There are three churches in Point Hope: the Baptist Church, Assembly of God Church, and the Episcopal Church.

6.2 Public Safety

The NSB Police Department staffs two full-time police officers in Point Hope, working staggered 10 to 12 hour shifts. The NSB Police Department also employs one local resident as a Community Public Safety Specialist. The Police facility includes a two-cell jail, booking area, office, garage, and living quarters for the police officers.[124]

Figure 12: Police Station[123]

Emergency 911 phone calls are handled through the Barrow Police Department Dispatcher and relayed to the local police officers and Fire Department personnel. Point Hope residents can also call a local phone number to report non-emergency incidents to the Police Department but have expressed frustration about staff not answering the phone. Arraignments for bail-able offenses are handled telephonically with the Kotzebue Superior Court. For more serious crimes, suspects are transported from Point Hope to Kotzebue by the Alaska State Troopers. In extreme public safety matters, re-enforcement personnel are flown from Barrow to assist the Point Hope police officers.

The NSB Fire Department employs a staff of four in Point Hope: one fire chief and three emergency responders. The Point Hope Volunteer Fire Department has four to six volunteer emergency responders. The facility is approximately 4,900 square feet and is supplied and maintained by the Borough. All paid staff and volunteers have basic fire training, cardiopulmonary resuscitation (CPR) (adult and small child/infant), and are certified as emergency trauma technicians. The Fire Department also provides emergency medical technician certification when instructors and funding are available. Fire Department personnel respond to all 911 phone calls, 24 hours per day, 365 days per year.

[122] Schaefer, Jack. Mayor of the City of Point Hope. Personal Communication. Apr. 7, 2016.
[123] UMIAQ Design & Municipal Services. 2016. Photo library. *Police Station.*
[124] Wretchen, Paul, Sargent. North Slope Borough Police Department. Personal Communication. Apr. 1, 2016.

The Fire Department equipment includes one tanker, one engine truck, one ambulance, one pick-up truck, and one sport utility vehicle. The tanker vehicle holds approximately 2,000 gallons of waters with a pump capacity of 750 gallons per minute. The engine vehicle holds approximately 1,000 gallons of water and a pump capacity of 1,250 per minute. The village has a total of 15 fire hydrants.[126]

Figure 13: Fire Station[125]

The NSB Search and Rescue Department visits Point Hope to discuss village needs. The Department lends personal locator beacons (PLB) to the village volunteer search and rescue unit. Distribution of the PLBs are coordinated through the village NSB Fire Department personnel. If a beacon is activated, an alert is sent to the local search and rescue volunteers. If needed, a helicopter is dispatched from the NSB Search Rescue headquarters in Barrow. Currently, a 1,350 square foot building is supplied by the NSB to house search and rescue equipment. Point Hope has a boat that can be dispatched in the event of an emergency.

Emergency village evacuation efforts are coordinated through the Point Hope Volunteer Search and Rescue, NSB Fire Department, Tikigaq Corporation, Native Village of Point Hope, Tikigaq School, and the City of Point Hope.[127]

6.3 Water System

The NSB owns and maintains the water treatment plant in Point Hope. Drinking water for Point Hope residents is extracted from a tundra pond named Qagiaq Lake located at the end of Kuukpuk Road, seven miles east of the town (see Map 12). The water is carried from the lake to town using 6-inch high density polyethylene (HDPE) plastic pipe. The pipe lays in the Kuukpuk Road right-of-way, on the top of the ground. Water is pumped during the summer months, treated in the treatment plant and then stored in four tanks located within the community. Tank T-4-1 is located adjacent to the water treatment plant and has a 3,800,000 gallon capacity. Additional water storage is available with three other tanks located near the Tikigaq School. The total capacity available for all tanks is 9,650,000 gallons.

A pump is located at the end of the Kuukpuk Road in a metal connex that remains there during the pumping season. A connector hose runs from the pump connex out to the pond edge. Pumping typically starts around July 1st each year, or whenever the weather is warm enough to allow thawed conditions.

[125] UMIAQ Design & Municipal Services. 2016. Photo library. *Fire Station.*
[126] Lane, Elijah, North Slope Borough Tikigaq Village Fire Chief and Lloyd Kanayurak, Volunteer Fireman. Personal Communication. Mar. 17 and 31, 2016; Apr. 1 and 4, 2016.
[127] Lane, Elijah, North Slope Borough Tikigaq Village Fire Chief. Personal Communication. Apr. 1, 2016.

When pumping discontinues in the fall, the pipe is drained and left in place over the winter. During the pumping off-season, the pump connex is relocated to the Public Works facility.

Over the past few years, the water source has dwindled in size and appears to be receding. Despite the projections of increased precipitation, the Arctic landscape is expected to become a 10 to 30 percent drier by the end of the century.[128] In Point Hope, summer warming combined with decreased precipitation has caused tundra ponds to dry, impacting the quality of the water and the quantity of available water.[129] During the summers of 2007 and 2008, water operators measured reduced quality in the raw water from the source lake.[130] Some Point Hope residents have expressed concern about the reliability and quality of the current water source and have suggested that another water source be investigated.

The water system was expanded in 2012 to provide service to an additional 13 residences; it now serves 233 homes, as shown in Map 13.[131] Typical demand in Point Hope is 30.6 gallons per person per day. Table 8 summarizes the estimated usage rate utilizing the population forecast calculated in Chapter 4 of this plan. As shown, the community of Point Hope will use almost 8,000,000 gallons per year, about 83 percent of the total tanks' capacity. Even with the most aggressive growth rate of one percent, the demand for water can be easily met until 2035 when the usage rate would almost equal the storage capacity.

Table 8: Water Generation and Treatment Forecast for High Growth Rate

Forecast Year (High Growth Rate, 1%)	Population	Daily Flow Usage (gallons/village/day)	Proposed Usage per Year (gallons/year)
2016	711	21,757	7,941,305
2020	747	22,858	8,343,170
2025	785	24,021	8,767,665
2035	868	26,561	9,694,765

[128] North Slope Borough. 2011. *Point Hope Kuukpuk Road Extension Emergency Evacuation Reconnaissance Report.* Prepared for the North Slope Borough by Hattenburg, Dilley and Linnell. Dec. 2011.
[129] Ibid
[130] Alaska Native Tribal Health Consortium (ANTHC) Center for Climate and Health. 2010. *Climate Change in Point Hope, Alaska: Strategies for Community Health*. Accessed Mar. 6, 2016. www.cidrap.umn.edu/sites/default/files/public/php/26952/Climate%20Change%20HIA%20Report_Point%20Hope_0.pdf.
[131] North Slope Borough. 2016. *Point Hope Wastewater Treatment Plant Expansion Project Analysis Report*. Prepared for the North Slope Borough by UMIAQ. Jan. 29, 2016.

6.4 Waste Water System

The NSB owns and maintains the wastewater treatment plant and wastewater system in Point Hope. The sewer system was expanded in 2012 to provide service to an additional 13 residences; it now serves 233 homes,[132] depicted in Map 14. The wastewater system includes connection boxes for each service, vacuum service laterals with electric heat trace, vacuum collection mains with hydronic (glycol) heat trace, and one vacuum collection station located at the wastewater treatment plant. The connection box contains a wastewater sump and vacuum valve that periodically opens to discharge wastewater from the sump to the vacuum collection system. Wastewater typically flows by gravity from each plumbing connection to the service connection box. The sewage treatment plant and vacuum station are located on the south side of the town, on Milviksaagiaq Drive.

Piping System. The majority of the piping system is 4- inch size pipe and is a vacuum type system. The sewer mains extend in north south directions along Umigragvik, Tuttu, Niqsagiaq, Aqvivik, Nanuq, and Sisuaq streets and the most eastern street, which is unnamed, providing service to 12 vacant lots. The extension to these lots allows for future growth when homes are constructed.

The vacuum collection main that extends along Niqsagiaq and Aqvivik streets repeatedly experiences low vacuum conditions and waterlogging of the main as wastewater backs up at collection boxes outside of homes or into residents' houses. Large school functions are suspected to capitalize the available vacuum pressure leading to waterlogging north of the school. Additionally, the intersection of Tikigaq Avenue and Aqvivik Street has two 45-degree elbows in the collection main that increase the vacuum pressure losses and are problematic for system recovery from a waterlogging event.[133]

Corrections to the system have been designed and will be repaired in 2017. The existing collection main, which is a 4-inch diameter pipe, will be replaced with a 6-inch main. The change will decrease the vacuum pressure loss over the length of pipe and increase the recharge rate of the vacuum pressure. The increased pipe size will also increase the design flow capacity of this collection main, which services the school and other public buildings. After construction is complete, the overall flow will not change. In addition, the new 6-inch main will be placed parallel to the 4-inch main, which will be abandoned in place with sections removed to connect laterals. This means minimal adjustments are necessary to reconnect current lateral services.[134]

Additional upgrades to the system will include replacement of the existing 45 degree elbows with 60 degree elbows. The cleanouts for the main are buried below the road surface. During this main replacement, the cleanout entrances will be moved to above grade and in the shoulder ditch area marked

[132] North Slope Borough. 2016. *Point Hope Wastewater Treatment Plant Expansion Project Analysis Report*. Prepared for the North Slope Borough by UMIAQ. Jan. 29, 2016.
[133] Ibid
[134] Ibid

with a bollard. The clean out entrances will be moved to the shoulder of the road for the main in discussion and protected with bollards.[135]

The road in the project area is currently paved. Upon completion of the sewer main replacement, the finished grade will be compacted and graded to meet the elevation of the pavement. The pavement will then be replaced when the airport runway is repaved at a later time. In the North Slope Borough's 2015 Capital Improvement Program (CIP) 6 Year Plan, $4,000,000 is anticipated for sewer main line upgrades in 2017.

Wastewater Treatment Plant. The Point Hope Waste Water Treatment Plant (WWTP) was commissioned for operation in 1999. The WWTP is an extended aeration activated sludge package plant housed in a prefabricated metal building. The design basis of the system, the treatment process, and physical components of the existing facility are described in this section.

The plant utilizes an extended aeration wastewater treatment process with chlorine disinfection. The treatment process is comprised of two secondary activated sludge package plants (treatment trains) working in parallel. Each train has a flow capacity of 14,000 gallons per day (gpd), for a total plant capacity of 28,000 gpd. Treated effluent is discharged to a drainfield, located behind the WWTP (Map 15). Waste sludge is dewatered and then transported to the local landfill for final disposal.[136]

The treatment processes has several steps. First, the plant influent is screened through a rotostrainer and then flow is split into the treatment trains. Screened influent then flows into an aerated equalization basin, which has a capacity of about 6,200 gallons. From the equalization basin, wastewater is pumped to an aeration basin (approximately 12,960 gallons) and then flows into a secondary clarifier (approximately 2,000 gallons). From the secondary clarifier, effluent flows over a weir into a chlorine contact chamber (approximately 650 gallons). Some of the required chlorine contact time occurs in effluent piping. Following dechlorination process, effluent is then discharged to the drainfield. The treated effluent is discharged through a perforated pipe on grade in the summer when thawed and through an above grade pipe nozzle in the winter when the perforated pipe is frozen. [137]

The estimated wastewater usage per capita for Point Hope is 30.6 gallons per day (gpd) per person. With a peak factor calculated at 1.6 times the average daily flow of wastewater usage equates to 35,156 gpd, which is over the wastewater plant capacity of 28,000 gpd. But the daily average flows for the entire community are well below plant total capacity. By 2035, the average daily flow is projected to be 26,561 gpd, or about 94 percent of the existing WWTP capacity. At these usage and growth rates, average daily flow would not exceed plant capacity for many years.

[135] North Slope Borough. 2016. *Point Hope Wastewater Treatment Plant Expansion Project Analysis Report.* Prepared for the North Slope Borough by UMIAQ. Jan. 29, 2016.
[136] Ibid
[137] Ibid

Table 9: Wastewater Generation and Treatment Forecast for High Growth Rate

Forecast Year (High Growth Rate, 1%)	Population	Average Daily Flow (gpd)	Daily Generation Peak Flow 1.6 times (gpd)	Treatment Plant Capacity
2016	711	21,757	35,156	28,000
2020	747	22,858	36,573	28,000
2025	785	24,021	38,434	28,000
2035	868	26,561	42,498	28,000

Point Hope has experienced discharge permit violations in the past, most frequently for flow, five-day biological oxygen demand (BOD), total suspended solids (TSS), and fecal coliform levels. Flow violations are most likely due to the difficulty in operating the current equalization (EQ) tank effectively and having inadequate EQ volume. BOD, TSS, and fecal coliform violations appear to be related to operational difficulties with the secondary clarifier, recycle, wasting, and disinfection processes.[138]

A Project Analysis Report (PAR) was completed in January 2016 that investigated the recent violations. Several upgrades that reduce the likelihood of permit violations by increasing capacity or improving operations were evaluated based on their benefits, limitations, and capital costs. These potential improvements include demand reduction, various plant modifications, flow equalization, biofilm treatment process upgrades, and adding another 14,000 gpd package treatment unit. If the recommended improvements were incorporated into the treatment system, it would simplify the operation of the plant, and provide a more consistent effluent quality to avoid future violations. Based on the population growth anticipated, and with the current issues within the existing plant, recommended improvements outlined in the PAR for plant expansion should be considered.[139]

[138] North Slope Borough. 2016. *Point Hope Wastewater Treatment Plant Expansion Project Analysis Report.* Prepared for the North Slope Borough by UMIAQ. Jan. 29, 2016.
[139] Ibid

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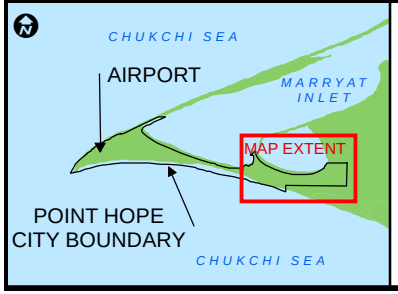

Road & Utility Right-Of-Way, per Barrow Plat 90-3, Barrow Recording District

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POINT HOPE, ALASKA
WATER SOURCE

Scale: 0 1,000 2,000 3,000 Feet

Map: 12

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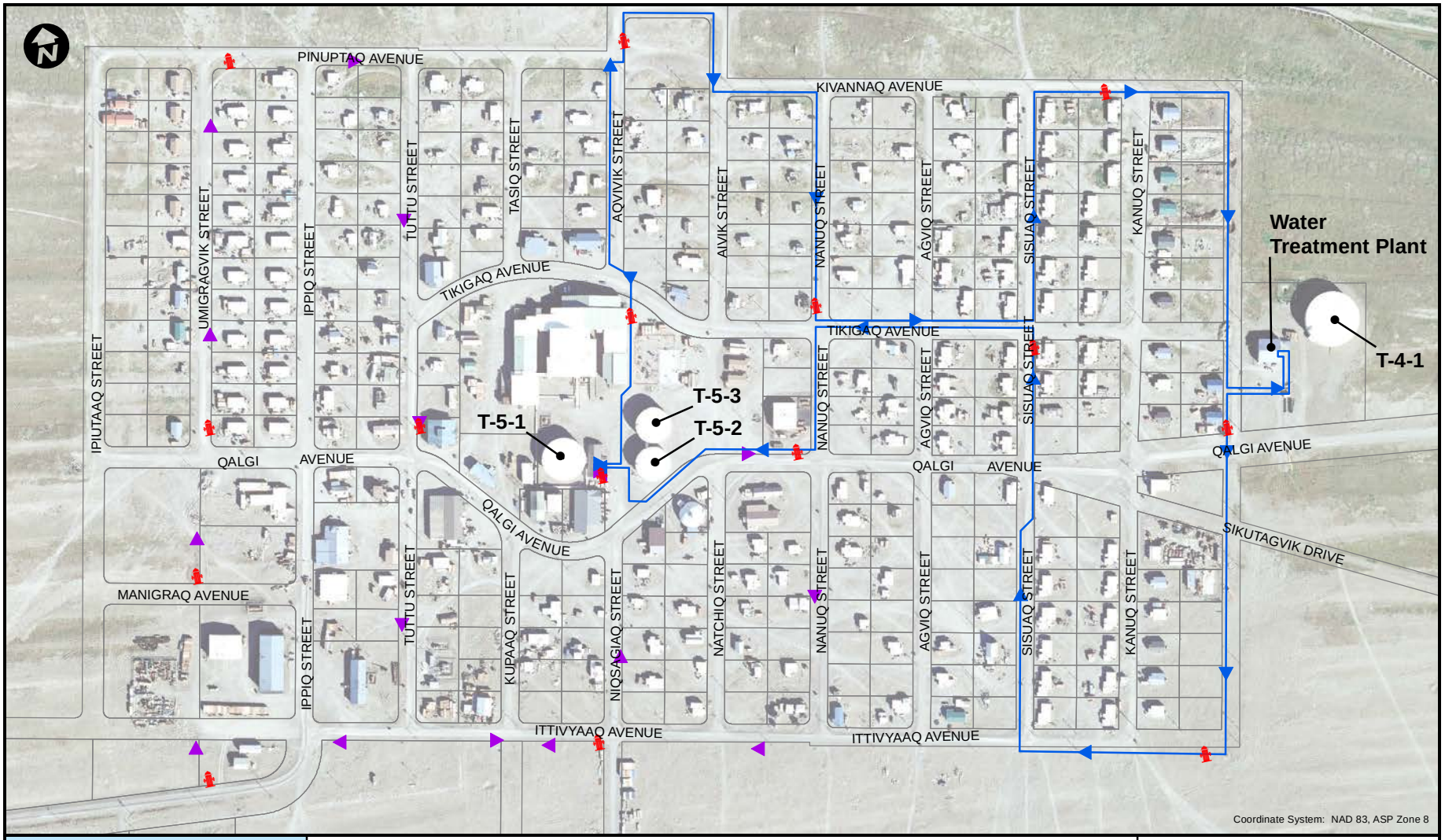

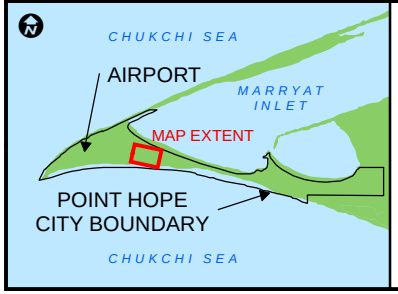

Water Main Loop 1

Water Main Loop 2

Fire Hydrant

Parcels & Right-Of-Way

STORAGE TANK	CAPACITY
T-4-1	3,800,000 gal.
T-5-1	2,578,000 gal.
T-5-2	1,636,000 gal.
T-5-3	1,636,000 gal.

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POINT HOPE, ALASKA WATER DISTRIBUTION

Scale: 0 200 400 600 Feet

Map: 13

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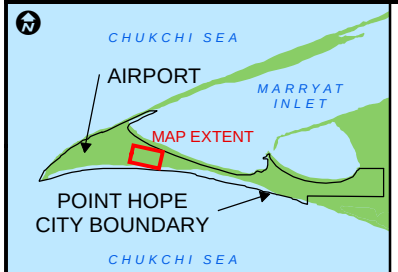

Vacuum Sewer Main East

Vacuum Sewer Main West

Access Vault

Parcels & Right-Of-Way

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POINT HOPE, ALASKA WASTE WATER

Scale:

0 210 420 630 Feet

Map: **14**

UMIAQ Design & Municipal Services, LLC

9/23/2016

UMQ: PHO_COMP_PLAN_SEWER_r00

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166°45'10"W
166°45'0"W
166°44'50"W
166°44'40"W
166°44'30"W
166°44'20"W
68°20'50"N
68°20'48"N
68°20'46"N
68°20'44"N
68°20'42"N
68°20'40"N
MILVIKSAAGIAQ DRIVE
ITTIVAYAAQ AVENUE
NAUYAQ STREET
Vacuum Sewer Mains
Sewage Treatment Plant
Effluent Lines
(Approximate - Not To Scale)
Coordinate System: NAD 83, ASP Zone 8
CHUKCHI SEA
AIRPORT
MARRYAT INLET
MAP EXTENT
POINT HOPE CITY BOUNDARY
CHUKCHI SEA
Effluent Lines
Vacuum Sewer Mains East
Vacuum Sewer Mains East
Fence
Parcels & Right-Of-Way
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POINT HOPE, ALASKA
DRAIN FIELD
Scale:
0 100 200 300
Feet
Map:
15
UMIAQ
9/23/2016
UMQ: PHO_COMP_PLAN_DRAIN_FIELD_r00

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6.5 Solid Waste

Point Hope's landfill is a Class III Material Storage Waste Landfill (MSWLF) and is owned and operated by the NSB, free of charge to local residents and businesses. A Class III Landfill is a landfill that accepts less than five tons of municipal waste, based on an annual average.[140] The landfill was constructed in 1981 and serves as the community disposal site for municipal wastes, septage, and dried sewage solids for Point Hope. Burnable waste stockpiles near the gravel berms on the west side of the landfill are incinerated before disposal. The landfill site is located on Milviksaagiaq Drive, the road providing access to the airport as shown in Map 16. It consists of both sewage lagoons and a solid waste landfill.

Based on studies completed in 2011 in support of the NSB Areawide Permit Application to ADEC in June 2011, the landfill was estimated to handle 1.45 tons (2,900 pounds of solid waste) per day or 4.3 pounds per person per day, with an annual expansion rate of 3,621 square feet (SF).[141] The 2011 permit estimate based on an on-the-ground field survey and aerial photography determined that the remaining area in the landfill was 55,194 SF. At the time of the permit application submittal, the landfill life was estimated at an additional 16 years of use, with an estimated closure date of July 2027. The anticipated closure was based on a population growth rate of 0.18 percent.[142] Based on an analysis using current aerial photography and an estimation of the amount of waste generated by a one percent growth rate, the landfill is not expected to exceed capacity before 2027.

In 2015 and 2016, the City of Point Hope requested to find a new landfill site via resolutions identifying capital project priorities. The community residents are concerned about the effects of having the landfill too close to both the beach and the community. A storm event or flooding being capable of compromising the current location and smoke from the burn cages affects the village's air quality.

[140] Alaska Statute. *18.AAC. 60.300 Purpose, Scope, and Applicability: Classes of Landfills*. www.touchngo.com/lglcntr/akstats/aac/title18/chapter060/section300.htm.
[141] North Slope Borough. 2011. *Areawide Class III Landfill Permit Application to Alaska Department of Conservation, Solid Waste Division.* June 14, 2011.
[142] Ibid

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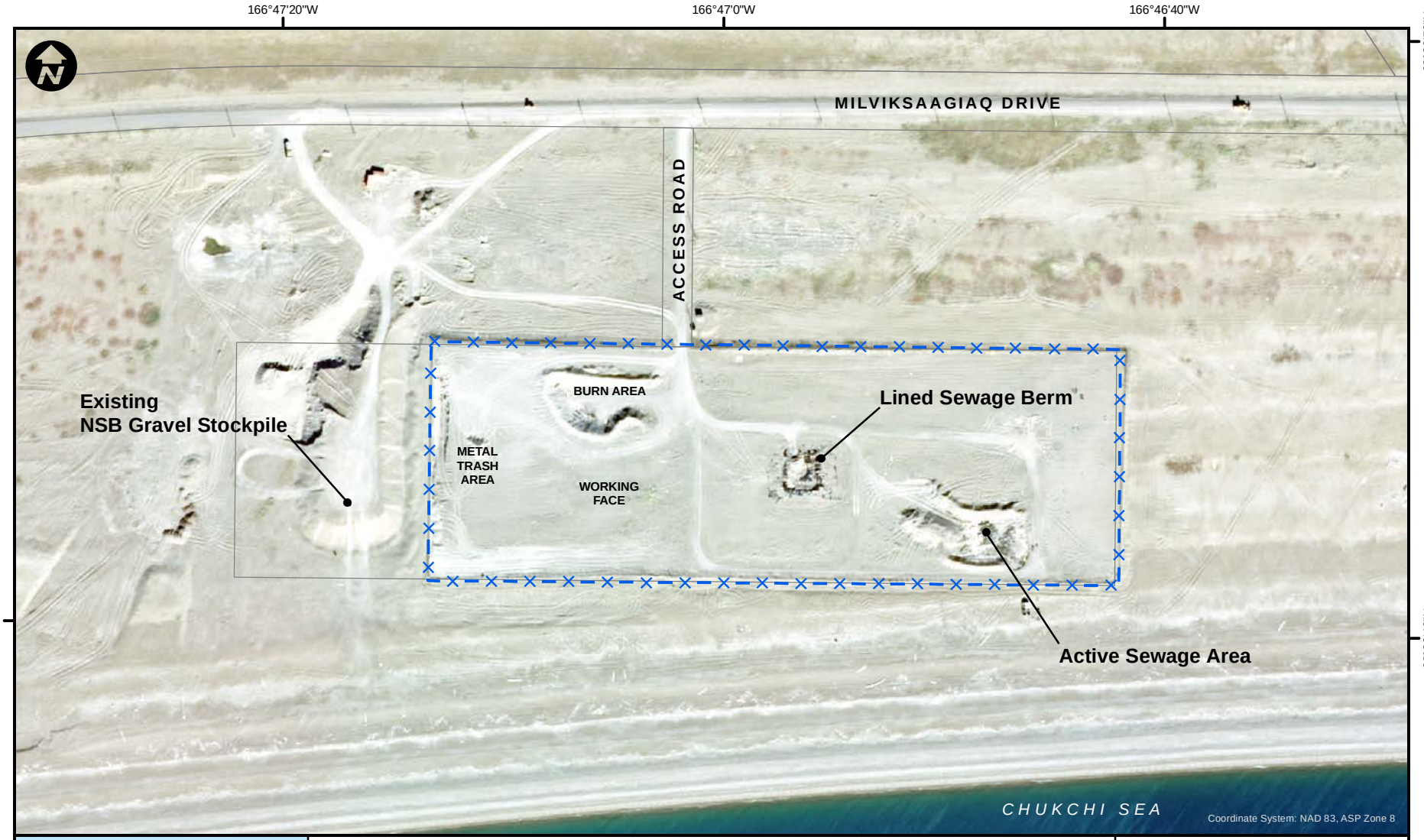

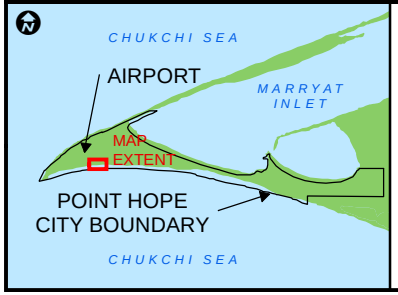

Fence

Parcels & Right-Of-Way

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POINT HOPE, ALASKA
LANDFILL AND GRAVEL

Scale:

0 130 260 390 Feet

Map: **16**

UMIAQ

9/23/2016

UMQ: PHO_COMP_PLAN_LANDFILL_r00

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6.6 Power Generation

The Point Hope power plant was originally constructed in 1978 and is located in the center of town, near the school and health clinic. The building is used solely for power generation and is owned and maintained by the NSB. Remodeling work and upgrades have occurred over the years with the last remodel occurring in 2015. The upgrade in 2015 included the addition of the new Caterpillar 3512 965 kW generator along with new switchgear, building controls, and fire suppression system. New building additions, including an office area, break room, lockers and shower room, and storage space were included in the 2015 remodel.

Currently there are four generators in the plant and they are all in good working condition. The generators are listed in Table 10. Engines #6, #7, and #8 have all had major engine overhauls and #9 is a newly added engine.

Table 10: Power Generator Units

Unit	Make/Model	Capacity (Kilowatts – kW)	Serial Number	Installed
6	Caterpillar 3512	520 KW	67Z1167	2005
7	Caterpillar 3512	520 KW	67Z1266	2005
8	Caterpillar 3512	910 KW	67Z1165	2005
9	Caterpillar 3512C	965 KW	LLD00249	2015

With the current demand loads, the power plant is able to meet the village electric needs by running one of the larger Caterpillar 3512 generators most of the time. Generator #8 can handle the community needs until the demand reaches 800 kilowatt hours (kWh). At this point, Generator #9 kicks in to handle those peak loads over 800 kWh, which has a maximum output capacity of 965 kWh. The current normal peak winter load during winter months is between 850 - 1,010 kWh, most of which is handled by Generator #9. In the case that additional power is needed, a smaller Caterpillar 520 kW is run concurrently with the larger Caterpillar 965 kW.[143]

NSB Light and Power personnel indicate that the two smaller Caterpillar 3512 (520 kWh) can be run concurrently. After 1,000 hours of operation, the non-utilized Caterpillar 3512 generator is started to allow the operating generator to be shut down and serviced. With regular and continuous maintenance and recommended intermittent major overhauls, the generator life of the Caterpillar 3512 is expected to be well over 100,000 hours of operation. There are 8,760 hours in one year; each generator is available to operate for over 11 years.[144]

[143] Mueller, Kim. 2016. NSB Public Works, Power and Light Division. Personal Communication. May 2, 2016.
[144] Ibid

The three smaller generators were installed in 2005. With all three smaller generators expected to operate for 33 years combined, the power plant is well equipped to meet demand until 2038. The new generator installed in 2015 should be well functioning into 2026, even if run constantly with regular 1,000 hour maintenance cycles. The four generator units are rotated on a regular 1,000 hour schedule, allowing for the extended life of all the generators to well past the planning horizon of this plan.

With the surplus of generators in Point Hope, several combinations of generator pairing are possible. For example, the two smaller units could be run concurrently during higher winter demand; the larger generation could be used exclusively during the summer months. NSB Power and Light Division staff have reported that the smaller Caterpillar 3512 generators use more fuel than the larger Caterpillar 3512, and running two Caterpillar 3512s will only yield about 600 kW. Additionally, all of the generators in use in Point Hope are de-rated to use the new ultra-low sulfur diesel fuel. The use of the ultra-low sulfur fuel is a federal requirement and the fuel itself is not the same consistency and not as heavy as regular diesel fuel, causing the generators to not produce the intended amount of horsepower. However, the reduction in horsepower is minimal for purposes of calculating power loads.

For forecasting future peak use with future anticipated population growth, a rate of 1.3 kW per person/per day is used. This usage rate was calculated from the estimated peak usage in winter at 950 kW and a population count today of 711. For average winter load calculations, 750 kW is used and the 2015 population count of 711 for a rate of 1.1 kW per person/per day. During summer months, the demand drops to 700 - 900 kWh per day, with peak loads rarely going over 900 kWh. Records of the daily peak loads were obtained showing the actual demand from the community by the hour. The peak demand usually occurs around 9 - 10am each morning.[145] Table 11 provides anticipated power usage over the next 20 years.

The NSB tracks power usage at all the power plants on the North Slope, including Point Hope. Averages calculated from hourly tracking are provided below.

- Average Total Monthly Loads - 534,115 kWh
- Average Daily Load - 18,500 kWh
- Average Monthly Fuel Used In Plant - 36,000 gallons
- Average Monthly Power Sold - 443,503 kWh
- Average Monthly Residential Usage - 129,866 kWh
- Average Monthly Commercial Usage - 307,382 kWh
- Average Monthly Community Facility Usage - 7,638 kWh

The cost of transporting fuel to Point Hope, now and likely in the future, warrants an analysis of the potential for local, renewable energy sources for electric power generation, such as wind power or microturbines.

[145] North Slope Borough. 2015. Point Hope Summary *Power Plant Operator Report.*

Table 11: Power Usage for High Growth Rate

Forecast Year (High Growth Rate, 1%)	Population	Daily Peak Usage (kW/per day)	Average Winter Usage (kW/per day)
2015	711	924	782
2020	747	971	822
2025	785	1021	864
2035	868	1128	955

Point Hope was one of the 184 Alaskan communities that participated in the Alaska Energy Authority's (AEA) Power Cost Equalization (PCE) program in 2014 - 2015. The goal of the program is to provide economic assistance to customers in rural areas of Alaska where the kilowatt-hour charge for electricity can be three to five times higher than in more urban areas of the state. Costs for utilities are provided in Table 12. The PCE program subsidizes 30 percent of a customer's electric utility cost. Residential customers are eligible for PCE credit up to 500 kWh per month. Community facilities, as a group, can receive PCE credit for up to 70 kWh per month multiplied by the number of residents in the community. In Point Hope, electricity costs a flat rate of $15 for up to 100 kWh; 101 to 600 kWh costs an additional 15 cents per kWh; over 600 kWh costs 35 cents per kWh. Elders and residents with disabilities pay $0.35 per kW when usage exceeds 600 kWh; there is no charge for usage below 600 kW.

The February 2015 draft North Slope Regional Energy Plan identifies energy improvement opportunities and alternatives for each North Slope community. The draft plan indicates that Point Hope has a high potential for wind and solar energy generation and from heat recovery as well as upgrades to existing systems. The draft plan identifies priority action improvements, including wind turbine design and permitting in the immediate term, conducting energy audits on both the USDW Building and Fire Station in the short term, upgrading the electrical system in the medium term, and upgrading the fuel pump house in the long term. [146]

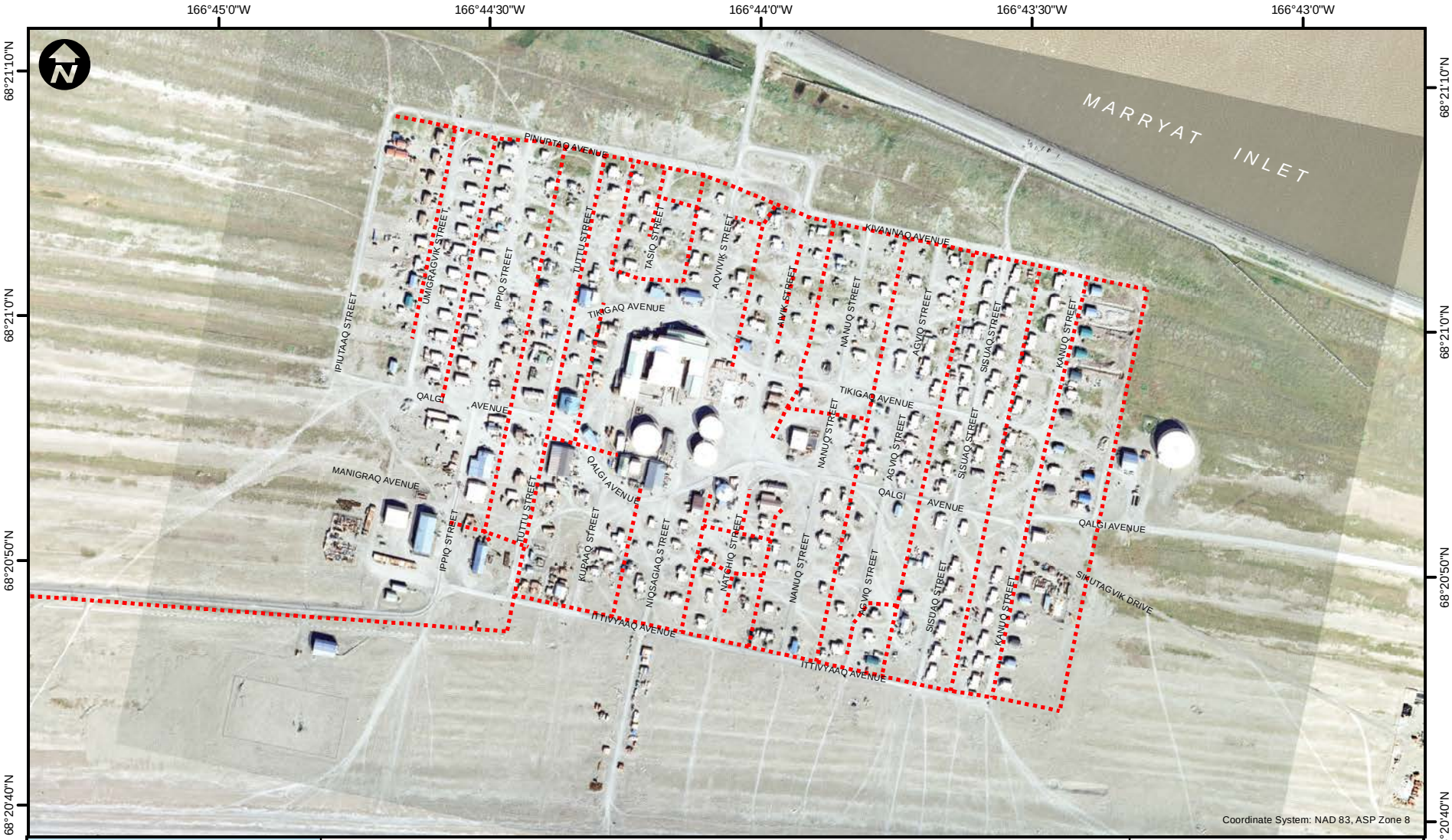
[146] North Slope Borough. 2015. *Draft North Slope Borough Regional Energy Plan*. Prepared by WHPacific for the North Slope Borough. Feb. 2015. Accessed Sept. 12, 2016. www.north-slope.org/assets/images/uploads/Feb2015_draft_NSB_Energy_Plan_2.6.15.pdf.

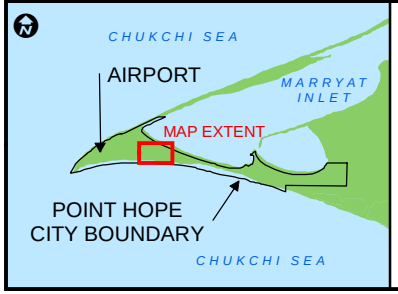
Table 12: 2016 Utility Costs*

Utility	Cost
Fuel**	
Heating Fuel (gallon) Residential	$1.74/gallon
Heating Fuel (gallon) Commercial Delivered	$7.99/gallon
Heating Fuel/Diesel Delivery Charge for Residential	$0.25/gallon
Diesel (Low Sulfur) Residential	$1.74/gallon
Diesel (Low-Sulfur) Commercial	7.99/gallon
Propane (Pound)	$2.73/pound
Propane Delivery Charge per 100# Tank	$10.00/tank
Propane (gallon)	$11.57/gallon
Gasoline (gallon)	$5.76 gallon
Electricity (Residential)**	
0 - 100 kWh	$15 minimum
0 - 600 kWh	$0.15
601 kWh or more	$0.35
Elders and Residents with Disabilities (Seniors over 60)	
0 - 600 kWh	No Charge
601 kWh or more	$0.35
Electricity (Commercial)	
0 - 75 kWh	$15 minimum
0 - 1000 kWh	$0.20 per kWh
1,001 - 10,000 kWh	$0.30 per kWh
Water/Sewer Piped or Delivered (Commercial and Residential)	
0 – 3,000 gallons per month (residential)	$69.00 flat rate
0 – 3,000 gallons per month (Seniors)	$14.00 flat rate
More than 3,000 gallons	$0.02/gallon
Commercial	$0.08/gallon
Sewer	No Charge

*Current as of July 2016

*Rates provided by Tikigaq Corporation. Diesel and heating fuel are same fuel but listed twice for clarity.





Overhead Electric

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POINT HOPE, ALASKA ELECTRIC

Scale:

0 310 620 930 Feet

Map: **17**

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6.7 Alternative Energy

Wind Generation. There have been a series of reports to investigate the feasibility of utilizing wind power as an alternative energy source in Point Hope. A measurement or met tower was installed to collect data on wind speeds, directions, wind power, and air densities to understand the feasibility of wind power generation. The met tower, installed in the northeast corner of Point Hope between the village water storage tank and the large snow fence, collected wind data from June 2009 to July 2010. The measured wind velocities show that Point Hope as a viable location for using wind as an alternative energy source because of a stable, strong wind resource available.[147,148] Point Hope has relatively high average wind speed, high wind power density, highly directional winds, and lack of extreme wind events, all of which make it an excellent location.

A 2011 feasibility study compiled and analyzed met tower data and recommended that the NSB pursue additional conceptual design for a wind-diesel power system.[149] Several sites were investigated and two were rated higher than others: Site A, located 2 ½ miles due east of the village; and Site B, located near the airport immediately west of an old fuel tank farm, shown in Map 27. The Conceptual Design Report followed the feasibility study, which recommended Site B as the preferred site; Tikigaq Corporation prefers Site A.[150] The report also recommended the most suitable type of wind turbine for the area. The wind turbines that have been considered for Point Hope are rated outputs of 100 to 350kW as this load closely matches the Point Hope demand loads. This size would eliminate the smaller battery-charging turbines and small grid-connect home and farm scale turbines, insufficient to meet village load requirements. Conversely, it also eliminates the larger utility-scale turbines that would over power the village system.[151]

During site visits in March 2014 funded by the Alaska Energy Authority and sponsored by the NSB, representatives from the NSB traveled to three turbine manufacturers that could potentially supply wind turbines for NSB wind power projects. Wind development will require a large funding commitment and commitment over the long-term since expected life span of the wind equipment is typically a 20-year span.[152] Tentative costs for purchase, shipping, and installation of a 100kW single turbine is just over $1,000,000 dollars (2011 cost), which equates to an installed cost/kW of $10,475.[153] The number of turbines needed would be determined during design.

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[147] North Slope Borough. 2010. *Point Hope Wind Resource Report*. Prepared by Douglas Vaught, P.E. at V3 Energy LLC for the North Slope Borough. August 26, 2010. Accessed Sept. 12, 2016. www.v3energy.com/point-hope.

[148] North Slope Borough. 2011. *Point Hope Wind-Diesel Hybrid Feasibility Study*. Prepared by Douglas Vaught, P.E. at V3 Energy LLC for the North Slope Borough. December 22, 2011. Accessed September 12, 2016. www.v3energy.com/point-hope.

[149] Ibid

[150] North Slope Borough. 2014. *Point Hope Wind Diesel Conceptual Design Report*. Prepared by WHPacific and Douglas Vaught, P.E. at V3 Energy LLC for the North Slope Borough. December 12, 2014. Accessed September 12, 2016. www.v3energy.com/point-hope.

[151] Ibid

[152] North Slope Borough. 2014. *Report of Site Visits to Wind Turbine Manufacturers for NSB Wind Development.* Prepared by Douglas Vaught, P.E. at V3 Energy LLC for the North Slope Borough and Hattenburg, Dilley and Linnell, LLC. March 31, 2014. Accessed September 12, 2016. www.v3energy.com/point-hope.

[153] North Slope Borough. 2011. *Point Hope Wind-Diesel Hybrid Feasibility Study*. Prepared by Douglas Vaught, P.E. at V3 Energy LLC for the North Slope Borough. December 22, 2011. Accessed September 12, 2016. www.v3energy.com/point-hope.

Permitting and environmental reviews would be required for installation of wind tower(s) and turbines. There are threatened and endangered species in the Point Hope area that may affect the location of wind turbines. Additionally, the Migratory Bird Treaty Act prohibits the taking of active bird nests, eggs, and young, which could also affect the final location and design of wind turbines. The USFWS has developed "bird windows" statewide for clearing activities to occur outside the nesting periods of migratory birds.

Solar Generation. During the summer months on the North Slope, there is 24 hours of daylight while during the winter, there are several months when the sun does not rise. According to research completed for the NSB in the Regional Energy Plan, solar power has been shown to defer energy costs.[154] The report states that in Ambler, Alaska, five solar panels installed in January 2013 at the power plant (8.4kW) have displaced approximately 700 gallons of diesel fuel, for a savings of $6,000 and a CO2 offset of 13.08 tons.[155] The benefits are considerable for both energy savings and impacts to the environment.

Solar panels are a possible source of alternative energy for Point Hope. However, research or conceptual design work has not been undertaken. Because of the success in other regions of Alaska, solar appears to be a viable option that is available to help reduce the growing cost of conventional power generation. The Cold Climate Housing Research Center project, in partnership with Tagiugmiullu Nunamiullu Housing Authority (TNHA), constructed a prototype home in Anaktuvuk Pass that included use of solar photovoltaic panels. The North Slope Regional Energy Plan rated energy improvement opportunities and alternatives in villages across the Slope, and in the case of in Point Hope both wind and solar types are listed as high potential opportunities that should be pursued.

Currently, there are no utility scale solar power plants in Alaska; there are only small residential and commercial systems.[156] Solar development is driven by a higher cost for electric power. According to the Renewable Energy Alaska Project, the price for individual solar photovoltaic panels and arrays have gone down since the late 1970s. New technology in the field continues to improve the reliability and affordability, even in remote Alaska sites, but shipping, construction and general installation costs are higher in Alaska than other locations. There are systems that have been installed in the Arctic Northwest Borough, and the cost for a 10kW system was approximately $55,000, with $22,000 of this total price paying for travel expenses, freight, and labor.[157] Many villages have managed to apply and receive grants through the Coastal Impact Assistance Program and, according to Renewable Energy Alaska Project, approximately solar capacity of installed systems is reaching up towards a total of 88.45kW in the Northwest Arctic Borough.

[154] North Slope Borough. 2015. *Draft North Slope Regional Energy Plan.* Prepared by WHPacific for the North Slope Borough. Feb. 2015. Accessed Sept. 12, 2016. www.north-slope.org/assets/images/uploads/Feb2015_draft_NSB_Energy_Plan_2.6.15.pdf.
[155] Ibid
[156] Renewable Energy Alaska Project. 2016. *Renewable Energy in Alaska*. www.alaskarenewableenergy.org/why-renewable-energy-is-important. Accessed September 12, 2016.
[157] Ibid

6.8 Fuel

Point Hope has storage capacity for 1,100,000 gallons of diesel fuel and 150,000 gallons of gasoline. There are three large diesel tanks: PHO-01 holds 500,000 gallons, PHO-02 holds 350,000 gallons, and PHO-03 holds 250,000 gallons. PHO-04 holds 150,000 gallons and is used solely for gasoline. There are additional diesel tanks located at various NSB Public Works buildings and shops, Nunamiut School, the NSB power plant, and all other community facility buildings in town. Fuel storage tanks are connected above ground and distributed via pipeline and truck depending on whether the end user is commercial or residential.[158]

6.9 Transportation

The primary modes of transportation in Point Hope are regional airline flights into and out of the community, vehicles and all-terrain vehicles (ATV)/snowmachines on local roads and trails, small skiffs on local rivers and ocean and finally barge traffic during open ocean water. Typical of remote communities, the distance, climate and geography tend to keep Point Hope residents isolated, but visions for future transportations systems will broaden and diversify the region's network and create economic opportunities for the community.

Airport. The State of Alaska owns and maintains the public airport at Point Hope, which is located about two miles from the community. The 75 feet x 3,992 feet paved airstrip is in fair condition, with lateral cracks one to three inches across the width of runway, spaced about 200 - 500 feet along length of the runway.[159] An existing 480 feet x 250 feet parking apron is located on the southeast side of the runway that provides an area for passenger and freight loading and unloading. The non-precision instrumented runway is oriented on a geodetic bearing of 01-19 to align the runway with the prevailing wind and provide 77.4 percent wind coverage. The approach visibility minimum is one mile.[160]

The navigational aids operating at the airport include Visual Approach Slope Indicators (VASI). There is also a rotating beacon, non-directional beacon, lighted wind cone, and a segmented circle. The runway lights are medium intensity runway lights (MIRL), medium intensity taxiway lights (MITL), and floodlights for apron lighting. There is an Automated Weather Observation System (AWOS) positioned adjacent to the airport property. The total area for the State of Alaska-owned airport property is 22 acres.

The Point Hope airport is classified and designed to accommodate B-II aircraft, which is a classification based on wingspan and aircraft approach speeds. B-II aircraft has a wing span from 49 feet up through 78 feet with approach speeds between 91 knots through 120 knots.[161] Airport operational statistics

[158] North Slope Borough. 2005. *North Slope Borough Comprehensive Plan. Point Hope Village Profile.* Prepared by URS Corporation for the North Slope Borough. October 2005. Accessed Feb 2, 2016. www.north-slope.org/assets/images/uploads/PtHopeVillageProfile06.pdf.
[159] AirNav. 2016. *Point Hope Airport.* Accessed May 9, 2016. www.AirNav.com/airport/PAPO.
[160] Alaska Department of Transportation and Public Facilities. 2004. *Point Hope Airport Layout Plan.* Aug. 30, 2004.
[161] U.S. Department of Transportation. Federal Aviation Administration. 2014. *FAA Advisory Circular AC 150/5300-13A Airport Design Change 1*. Feb. 26, 2014

indicate that there are approximately 28 flights per week; 78 percent are commercial flights, 14 percent are air taxi flights, 4 percent are transient general aviation and 4 percent are local general aviation (based on 12 month period ending December 31, 2010).[162] Based on U.S. Department of Transportation Federal Aviation Administration (FAA) statistics, there were 4,518 passenger boardings (enplanements) for the 2014 calendar year, a 4.6 percent decrease from the 2013 documented enplanements of 4,735.[163] As a result, Point Hope's airport is classified as "commercial services – non primary" because it has between 2,500 and 10,000 enplanements per year.

The 2016 Capital Improvement Project Plan submitted by the NSB Department of Public Works to the FAA lists three priority upgrades for the Point Hope Airport. The first item is rehabilitation of the existing Non-Directional Beacon (NDB) dipole antenna and replace with a guyed, lattice-tower antenna and new ground plane. This is a non-federal expense and the existing antenna routinely fails and is difficult and expensive to maintain.[164]

The second and third improvements will be included with the State of Alaska, Department of Transportation and Public Facilities (ADOTPF) airport realignment project. The second improvement item is the construction of a small passenger shelter. Its construction is dependent on finding an entity that will maintain and operate this facility. The third identified improvement item is the actual re-alignment of the runway itself and the enhanced Runway Safety Area (RSA). ADOTPF has indicated that the project is needed to provide minimum standard runway safety area lengths and to protect the RSA extensions and other airport improvements from erosion.[165]

The list of improvements on the Point Hope Airport from 1991 through 2004 includes the installation of runway lighting, acquisition of land for development, taxiway rehabilitation, runway extension, apron expansion, improvements to the snow removal equipment building, and runway rehabilitation. The amount of expended FAA funding totaled $3,603,475.[166] ADOTPF was planning to repave the runway as the next airport improvement, but it became apparent that there was a serious erosion problem that posed an immediate threat to the runway over the next five to ten years. As a result, the scope of the project was revised to address the erosion concern and take steps to reestablish a RSA that meets FAA standards. This change of scope actually gave the improvements higher prioritization over other statewide airport projects.

On November 19, 2014, ADOTPF, in cooperation with the FAA, sent a Preliminary Scoping Letter and Request for Comments to support the preparation of an environmental document for the proposed

[162] AirNav. 2016. *Point Hope Airport.* Accessed May 9, 2016. www.AirNav.com/airport/PAPO.
[163] U.S. Department of Transportation. Federal Aviation Administration. 2015. *Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports.* Accessed May 3, 2016. www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger.
[164] North Slope Borough. 2016. Department of Public Works. *2016 Capital Improvement Project Plan*. Prepared by Hattenburg, Dilley and Linnell for the North Slope Borough. Jan. 28, 2016.
[165] Ibid
[166] U.S. Department of Transportation. Federal Aviation Administration. 2016. *Airport Improvement Program FY 1982-FY 2014*. Accessed Apr. 22, 2016. www.faa.gov/airports/alaskan/aip/media/ARP-AAL-AIP-Program-FY1982-FY2014.pdf.

airport improvements in accordance with the National Environmental Policy Act (NEPA). The proposed improvements are significant and include a realignment of the runway approximately 15 degrees to reestablish a sufficient RSA on the north end of the runway.[167]

ADOTPF has indicated that the proposed runway realignment project is needed to maintain the existing level of safe, reliable year-round air service to the community. It is estimated to cost $20-30 million and would have achieve a 50-year design life. According to ADOTPF, the realignment project will be funded in 2018 with construction to start the following year. The project is anticipated to be two construction seasons in duration,[168] assuming community support and the development of the environmental document proceeds as anticipated. ADOTPF asserts that if the runway is not realigned and the RSA continues to erode away, the runway will fall below the 4,000 feet minimum standard for larger aircraft; only smaller aircraft capable of operating on a minimum 2,500 feet runway would be able to fly into the community. The realignment and reconstruction of the runway would require temporary shutdowns and that a shorter, temporary runway that meets the 2,500 feet length minimum would operate until the longer 4,000 feet runway could be reestablished.[169]

ADOTPF conducted runway realignment scoping meetings in Point Hope on February 3 - 4, 2015. During the meetings, community residents expressed a desire to relocate the runway farther inland. Erosion is a continuing concern at the current location. The community expressed that the proposed action to realign the existing runway would only be a "band-aid"; relocating the airport inland would be a long-term solution. Residents identified general locations that could be suitable for a new airport, shown in Map 27. The ADOTPF representative responded that they "understand that it's been a long-term goal of the community to relocate the airport for the long-term." It was further commented that "this proposed project isn't designed to satisfy that goal, but is considered an interim solution to solve the current safety deficiencies and maintain the existing level of service." ADOTPF has indicated that with an estimated cost of $47 million and 5 to 7 years needed to plan, design, and permit an airport relocation and added time required to secure funding and to construct the project makes it impractical to move the airport and that the community can still work to build a case to gain support for a full airport relocation farther inland over the long-term, but the proposed runway realignment project will maintain the current level of service for the immediate future.[170] While the majority of community residents are strongly in support of the airport's relocation, several Point Hope residents voiced concern about relocating the airport, stating that it is already difficult to get a ride to the existing airport; going farther inland would be even more difficult. Additionally, it would be difficult to clear the longer road to an inland airport after blizzards. However, the community remains steadfast in opposition to the airport realignment and continues to seek the airport's relocation.

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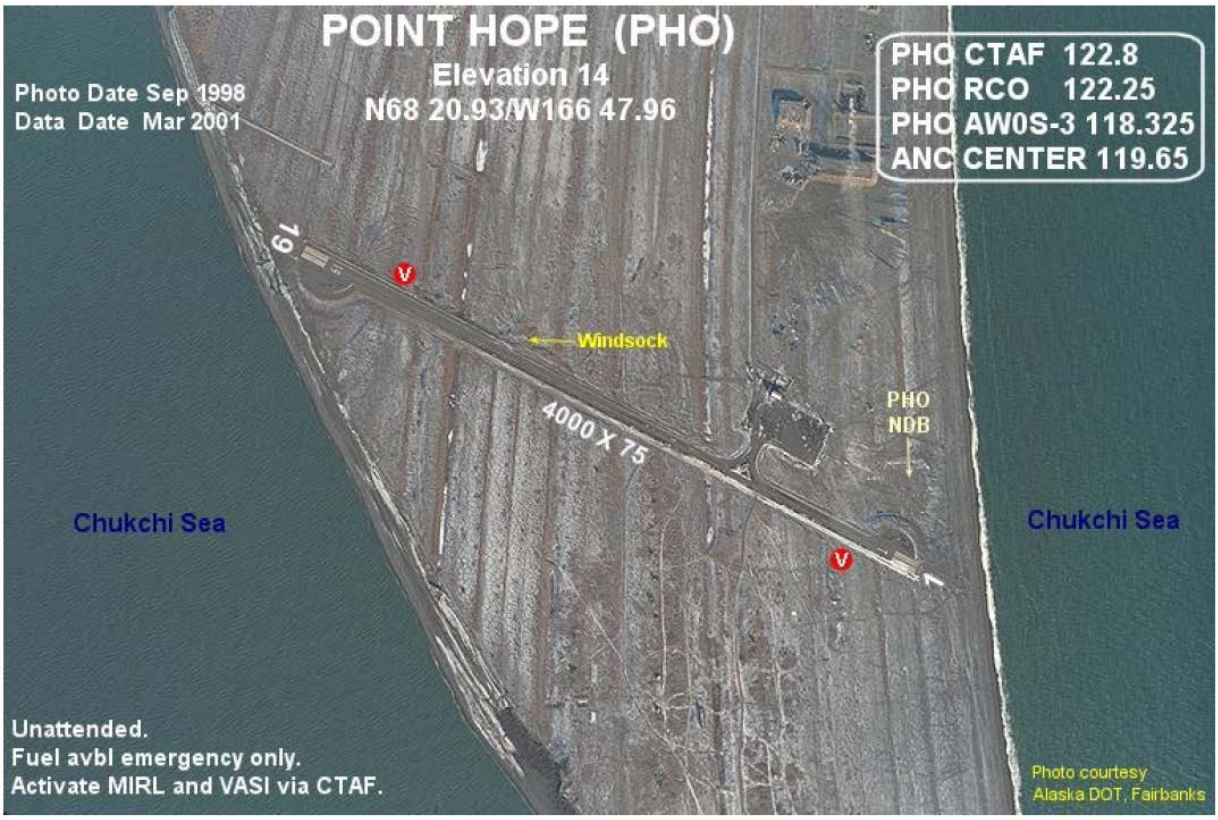
[167] Alaska Department of Transportation and Public Facilities. 2014. *Point Hope Runaway Realignment Request for Comments.* Nov. 19, 2014.
[168] Beck, Al, P.E., Project Manager. Alaska Department of Transportation & Public Facilities, Northern Region. Personal Communication. July 27, 2016.
[169] Alaska Department of Transportation and Public Facilities. 2015. *Notes from Point Hope Runway Realignment Scoping Meetings, February 3-4, 2015.*
[170] Ibid

Another concern raised at the February 2015 ADOTPF scoping meetings was the number of passengers that an aircraft can carry. Community members expressed concerned that the length of the runway may not be long enough to allow for the maximum amount of passengers per flight to keep the cost of airfare reasonable. According to the ADOTPF, the design aircraft for the runway is a Beech1900D and the current runway length of 4,000 feet will accommodate full operations for both passengers and freight. The Beech1900D aircraft can accommodate up to 19 passengers, however the specifics of the Point Hope airport and new FAA regulatory requirements currently only allow for a maximum of nine passengers. The recent FAA regulation change now requires that the Point Hope airport meet increased airport rescue and firefighting equipment requirements in order to allow more than nine passengers per flight.[171] Since the proposed realignment by the ADOTPF does not include airport rescue or firefighting equipment or a structure to house that equipment, the maximum aircraft passenger capacity would remain at nine or less passengers.

An additional concern raised by the community at the ADOTPF meeting is the need for a permanent terminal to provide for a restroom and shelter from the cold weather and wind. Point Hope is a stopping point for flights between Kotzebue and Barrow and traveling passengers need a place for breaks during stop overs. The ADOTPF responded that they can include a shelter to the airport realignment project plan, but it will be up to the community to take ownership and responsibility for maintenance of the shelter. The State of Alaska typically waives any lease space cost since it would benefit the community.

[171] Alaska Department of Transportation and Public Facilities. 2015. *Notes from Point Hope Runway Realignment Scoping Meetings, February 3-4, 2015.*

Map 18: Point Hope Airport Layout Plan[172]



Two additional issues that were raised during scoping by the community were regarding the close proximity of the landfill to the airport and potential improvements to the roadway access to the airport. The current landfill is approximately 2,100 feet from the airport, which does not meet the FAA regulations that stipulate the distance between a landfill and airport must be greater than 5,000 feet to lessen the impacts of bird activity near an active runway. ADOTPF reported that an exemption is available which will allow the airport to fall under an allowable waiver. Regarding roadway improvements, upgrades are allowable from the airport to the turnoff access point to the landfill. Federal FAA funding can be used to improve roadway access that is used for airport access only, meaning that the section of road from the airport to the first intersection identified as the landfill access road would be eligible for improvements.[173]

These are all similar concerns raised by community during NSB comprehensive planning community meetings held in 2016.

Roads. Point Hope's future road transportation priorities focus on improving both pedestrian and driver safety along with improved access within the community and subsistence areas outside of the City limits. The community has long expressed interest in roadway upgrades, new road construction, and trail

[172] Alaska Department of Transportation and Public Facilities. 2004. Point Hope Airport Layout Plan. Aug. 30, 2004.
[173] Alaska Department of Transportation and Public Facilities. 2015. *Notes from Point Hope Runway Realignment Scoping Meetings, February 3-4, 2015.*

marking. The Native Village of Point Hope submitted for and received a Transportation Investment Generating Economic Recovery (TIGER) grant that will be used for improvements to redesign and construct five critical roads and sidewalks, with American Disability Act (ADA) improvements. These projects will provide safer options, and better access for vehicles, pedestrians and bicyclists.[174]

According to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA) Indian Reservation Roads (IRR) Program Inventory Data for fiscal year (FY) 2009, Point Hope has approximately 13 miles of developed roadways within the community. Approximately 12 miles of roadway are gravel and one mile is paved. The Native Village of Point Hope identified an additional seven miles of road to meet the expansion of the community and to develop a permanent access road that travels inland. Most roads are constructed from rounded sea gravel which is predominant on the spit. The gravel material is of high quality, but must be crushed in order to provide an adequate ratio of fine to course grained material that help bind the material. The local roads are constructed utilizing two feet of gravel and silt embankments, topped with crushed gravel. The roads are generally in fair condition with adequate drainage, although there are occasional problems with rutting and potholes. Trucks and ATVs are used year-round to the extent permitted seasonal road conditions, and snowmachines are primarily used during the winter.

Land transportation beyond the community of Point Hope is limited since no there are no road links to other communities. There are 30 miles of local trails that are listed in the IRR Inventory Data for Point Hope, which provide access to subsistence hunting and fishing area, as well as to remote cabins and Native allotments. Regional trails are also included in IRR Inventory Data, one between Point Hope and Kivalina (46 miles) and a second between Point Hope and Point Lay (83 miles).

Because Point Hope is presently located at an elevation of 13 to 18 feet, it is susceptible to flooding either from ocean storm surges or from the Marryat Inlet as it fills from winter snowmelt from nearby foothills. Flood events occurred in 2006 and 2007 during spring breakups that caused concerns from the community about safety, both in the short-term and long-term. An existing six mile roadway from the community to the water source also serves as an evacuation route inland to higher grounds. Portions of the road reach elevations of 40 to 46 feet. However, lower elevation sections of this roadway are susceptible to flood damage, as proven by the 2006 and 2007 flood events. As a result, the community has heightened its concern about their exposure to floods and the potential of being isolated with no reliable escape route to the foothills. This concern led to the execution of a Memorandum of Understanding (MOU) between the ADOT&PF and the NSB. The April 3, 2007 MOU states that the flooded section of the existing evacuation road will be repaired and the evacuation road will be extended to a terminus above the flood stage elevation. Approximately $5 million was identified from two Federal Highway Administration (FHWA) funding sources.[175]

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[174] Native Village of Point Hope. N.d. *The Native Village of Point Hope (NVPH) Transportation Infrastructure and Transit Improvement for Enhanced Community Safety, Mobility and Security Project.* Accessed May 19, 2016. www.attwg.org/yahoo_site_admin/assets/docs/NVPH_TIGER7_grant_app_FINAL.9183305.pdf.

[175] North Slope Borough. 2008. *Reconnaissance Report: Point Hope Evacuation Road Rehabilitation/Extension*. Prepared by Hattenburg, Dilley and Linnell for the North Slope Borough. May 22, 2008.

A portion of the Kuukpuk Road was repaired in 2009 using one of the two FHWA funding sources. The repair work included the restructuring of 3,400 feet of the roadway section immediately south of the Marryat Inlet. The repairs included raising the road top elevation a foot above the 100 storm surge flood elevation, which was established at +7.3 feet, with potential wave run-up to +10 ± 12 feet.[176] As time goes on, the repair will be further susceptible to future flooding because of subsidence into the tundra of the roadbed.

The foremost road concern in Point Hope would be the need for an evacuation Road that would allow for access to higher ground during storm and flooding events. The second federal funding source, allocated for an extension of the evacuation road, was partially used to begin field reconnaissance to investigate possible routes for the new road. A roadway corridor was established, beginning from the existing Kuukpak Road. The three alignments that were considered were: 1) the City Route suggested by the City of Point Hope; 2) Project Analysis Report (PAR) Route which was the road looked at in the 2003 CH2MHill Project Analysis Report; 3) Jakie Koonuk's Route submitted by the Native Village of Point Hope. The proposed road corridors are known locally as the "7-Mile Road" and it generally follows the route of a well-established 17(b) trail into the foothills.[177] The Evacuation Road Studies were halted by the NSB until the funding could be located to fund the construction of the new road. The possible development of a material site south of the community would impact the schedule of this road project by providing a source of the necessary gravel but also provide another a common use for the new road access.

The NSB Public Works Department regularly waters down village roads to suppress dust. Despite this, residents comment that it is difficult to control dust from road traffic in the summer months and that increased dust contributes to respiratory problems and conditions. They cite that Elders and youth are most affected by outdoor dust. The North Slope Borough also provides senior van services for elders.

Marine Transportation. Because there are no year round roads into Point Hope, residents are dependent on marine and air travel. Marine traffic has increased in recent years due to a relatively ice-free Arctic. Higher air and water temperatures have caused permanent ice cover to diminish to low levels seasonally, and scientists predict this trend will continue.[178]

Cargo barges deliver supplies to Point Hope during ice-free months in the summer. Barges leave from Seattle on or about July 1st of each year and carry about 3,000 to 5,000 tons of cargo, which is estimated to be 75 percent business usage and 25 percent individual goods. Barges offload onto the beach located on the south side of the spit. Here, the beach is gravely sand with very gradual grades that can accommodate beach docking for barges. Natural water depths at the Point Hope Beach drop to 30 to 40

[176] North Slope Borough. 2008. *Reconnaissance Report: Point Hope Evacuation Road Rehabilitation/Extension*. Prepared by Hattenburg, Dilley and Linnell for the North Slope Borough. May 22, 2008.
[177] Ibid
[178] U.S. Department of Homeland Security. 2013. *Arctic Strategy*. May 2013. Accessed Mar. 5, 2016. www.uscg.mil/seniorleadership/docs/cg_arctic_strategy.pdf.

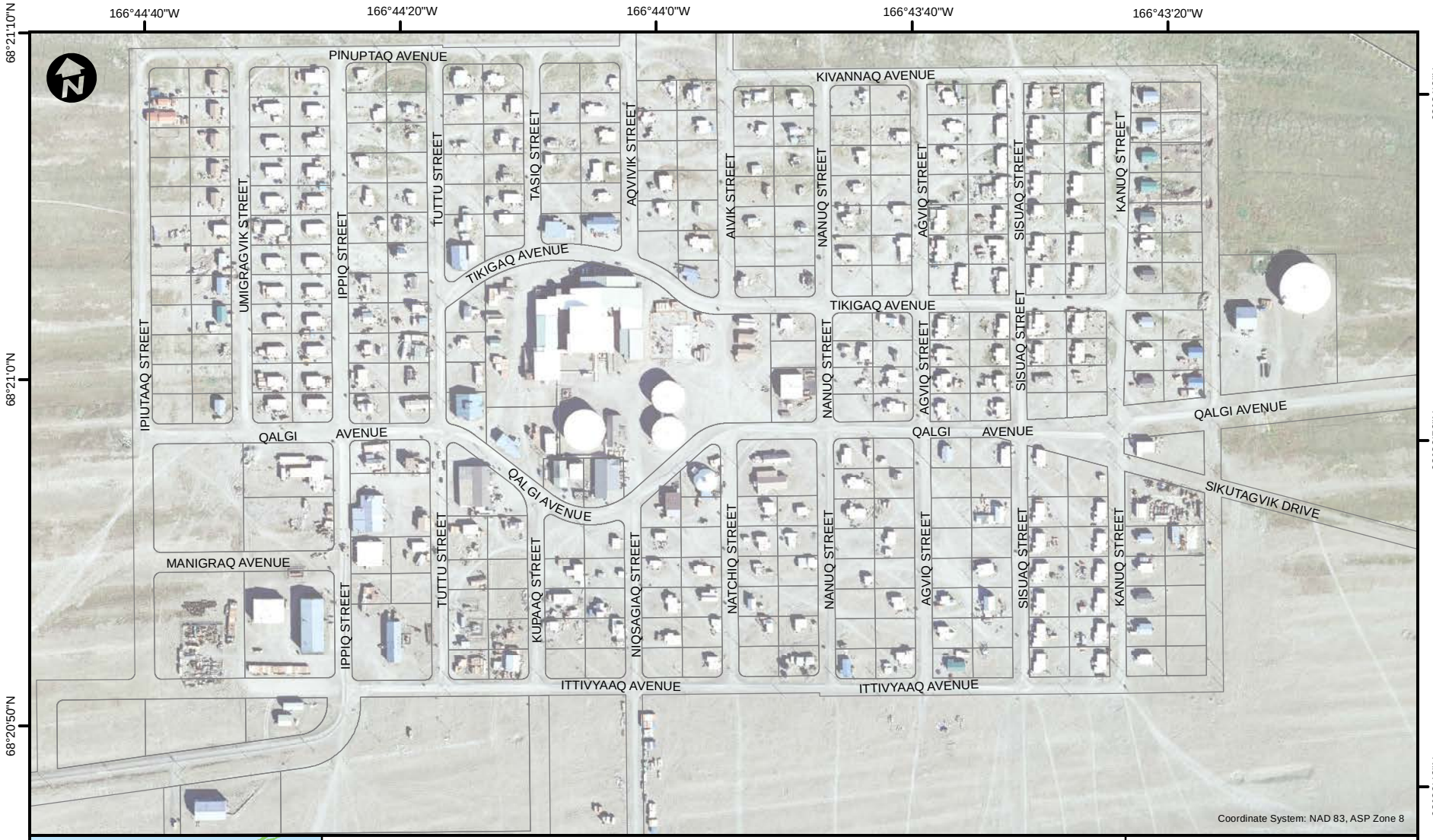
feet, within 150 feet of the shore. Cargo unloading is more difficult because of the pea gravel consistency of the beach rock, which provides a low traction.[179]

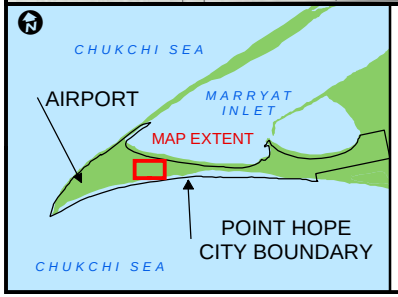
Fuel and cargo deliveries are made by barge during the summer ice-free season. The landing and unloading is weather dependent. They nose the barges up on the beach, and hold position by pushing in and onto the beach. Fuel is off loaded by pulling hose a short distance over to the marine header that connects into the tank farm. Cargo unloading is more difficult because of low traction of beach gravel. Fifty foot platforms are used as ramps to allow loaders to travel on the gently sloping beach to hard ground upland.[180]

Due to undeveloped shore-based infrastructure, unloading the barges in Point Hope can be a risky and time-consuming task. According to the USACOE Barge Final Report, barge operators have stated that a permanent barge unloading facility would not be desirable because it restricts unloading at a specific location. Now they have options to move up and down the beach to best work with current sea and weather conditions which changes due to the level of swell present when making the stop. In addition, the ramps used would not stay in place if placed permanently, during periods of land fast ice and erosion.[181]

Arctic tourism is increasing rapidly; it is estimated that one million adventure tourists visited the Arctic in 2013.[182] Higher-risk activities such as adventure and eco-tourism often involve transportation via passenger vessel. In past years, small inflatable boats have been used to bring passengers ashore to Point Hope from cruise ships. The cruise industry schedules tours through the Northwest Passage and into the U.S. Arctic. Some community members have expressed interest in creating a port authority for Point Hope to regulate all marine traffic in the area and the need for greater coordination at the local level.

[179] U.S. Army Corps of Engineers. 2009. *Alaska Barge Landing System Design Final Report* Design Statewide Phase 1. Final Report. Accessed Mar, 27, 2016. www.poa.usace.army.mil/Portals/34/docs/civilworks/archive/alaskabargelandingsystemdesignstatewidephase1.pdf.
[180] Ibid
[181] Ibid.
[182] U.S. Department of Homeland Security. 2013. *Arctic Strategy*. May 2013. Accessed Mar. 5, 2016. www.uscg.mil/seniorleadership/docs/cg_arctic_strategy.pdf.





Parcels & Right-Of-Way

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POINT HOPE, ALASKA ROADS

Scale:

0 13,000 26,000 39,000 Feet

Map: **19**

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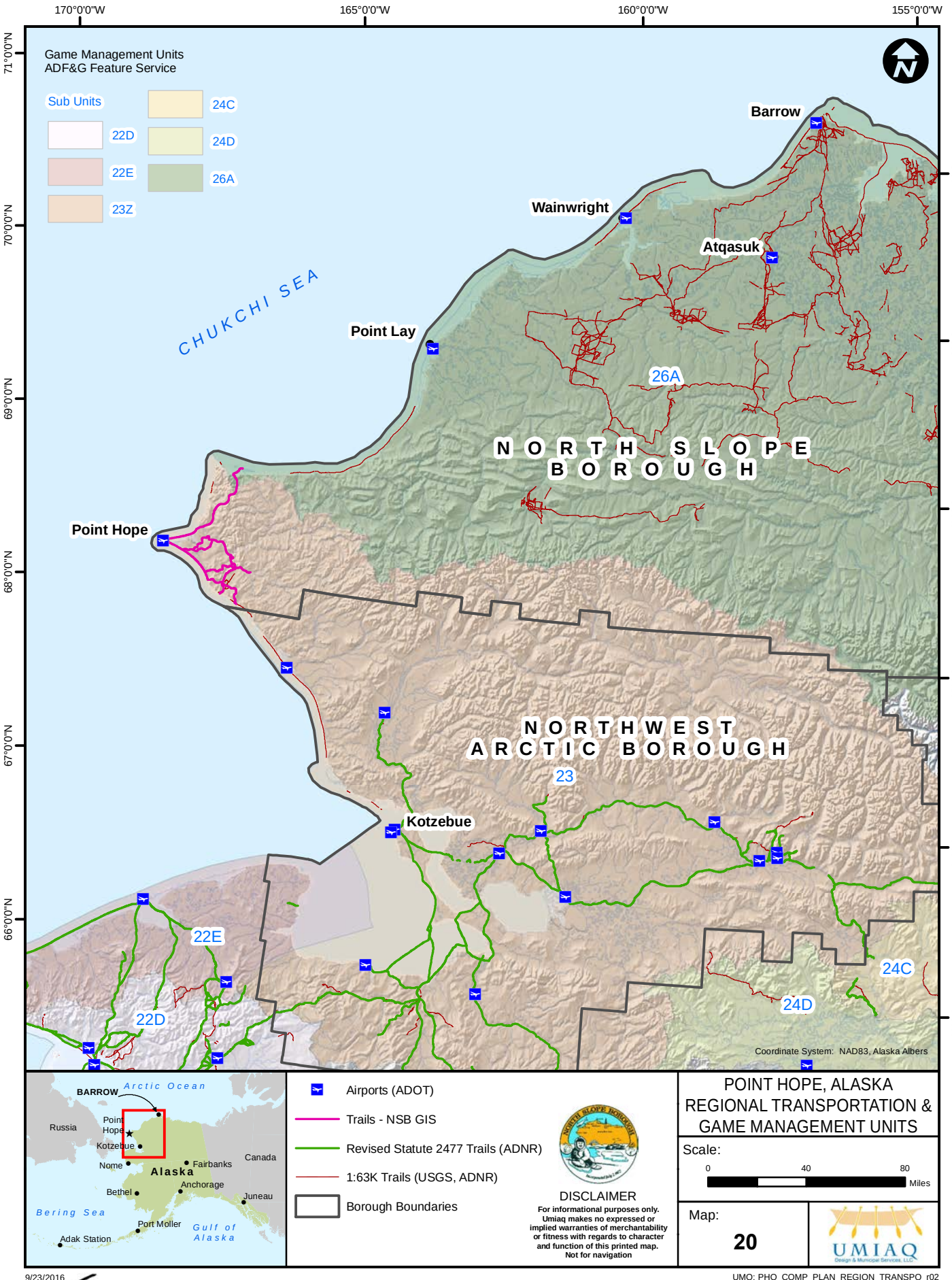

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6.10 Communications

Telecommunications services in Point Hope include a fully digital local exchange telephone service, local dial-up Internet, a widely-used citizen's band (CB) radio, cable television, and the community access public teleconferencing center. A public radio station, KOTZ, is available in the community and is broadcast out of Kotzebue. Interconnection with the regional and global telecommunications network is via satellite circuits which present a limitation to the residents needing access to higher bandwidth services, especially the internet. The Arctic Slope Telephone Association Cooperative (ASTAC) provides internet and local and long-distance telephone service. GCI provides cellular, internet and local and long-distance telephone service. The Alaska Teleconferencing Network provides NSB teleconferencing services to the village.

High speed fiber optic telecommunication infrastructure is planned for Point Hope, with construction and installation anticipated to occur in the summer of 2016, and final connectivity planned for early to mid-2017.183 Quintillion, an Alaska-based company, is currently developing a subsea fiber optic communication network linking six remote Alaska communities with the existing terrestrial fiber optic network supplying the Prudhoe Bay, Alaska. The Quintillion Fiber Optic Project will consist of a main trunk line offshore following the northern and western coast of Alaska between Prudhoe Bay and Nome with branch lines extending to the communities of Nome, Kotzebue, Point Hope, Wainwright, Barrow, and Oliktok Point (Prudhoe Bay).

6.11 Gravel

Gravel is needed to build roads, pads, and related civil projects and maintenance of the community existing infrastructure. Armor rock is needed for protection against erosion. In the recent past, the gravel material used for these purposes was rounded beach gravel material, which has always presented a compaction problem, and is difficult to crush for use as an aggregate suitable for construction and does not bind together well to form a strong gravel subbase. The extent to which extraction from beach sites has enhanced erosion of the coastline is unknown. However, mining from beach sites has been discontinued due to this concern and the possibility of further erosion.

The North Slope Borough owns a small gravel stockpile directly west of the landfill and operated by both the NSB and Tikigaq Corporation. The stockpile was mined from the beach gravel south of the runway and is used for maintenance and smaller project needs in the community. The material is sandy gravel with little silt and is good for foundations and road subbase, although it lacks a silt binder for driving surfaces.184

The lack of gravel drives up the cost of larger infrastructure projects, often making them cost prohibitive. Because there is not a nearby gravel source capability of supplying large infrastructure projects, gravel

[183] Sears, Sandy, Associate Scientist. UMIAQ Environmental. Personal Communication. May 19, 2016.
[184] North Slope Borough. 2011. *Areawide Gravel Inventory Project Analysis Report*. Prepared by UMIAQ for the North Slope Borough.

must be obtained through barge transport and is costly. In 2008, a field investigation for a new material site was conducted to support the Kuukpuk Road repair project, located a potential material source site. The site appeared promising from a visual surface evaluation during the project's design. However, after additional geotechnical research was completed, the site did not contain suitable material. In 2011, gravel field work in the Point Hope area was resumed to investigate multiple material sites in support of the Evacuation Road project, possible using a Federal Highway grant.[185] Several sites were investigated and four were short listed for additional geotechnical investigation, completed in 2015. These four sites are depicted in Map 21. The geophysical work for these four sites consisted of seismic survey to measure shear wave velocities of the subsurface. Higher velocities in general will correlate to more competent rock. The most promising site is PHRK-04, located approximately 1 ¾ miles from the beach and 18 miles southeast of the village. Additional drilling has been recommended to further quantify the gravel located there.[186]

[185] North Slope Borough. 2013. *Point Hope Materials Source Evaluation.* Prepared by UMIAQ and Hattenburg, Dilley and Linnell for the North Slope Borough. April 25, 2013.

[186] North Slope Borough. 2015. *Phase II Material Source Study, Point Hope Coastal Erosion Mitigation*. Prepared by UMIAQ and Hattenburg, Dilley and Linnell for the North Slope Borough. March 29, 2015.

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Chapter 7. Health, Education, and Economy

7.1 Health

Personal health is influenced by many factors, and using conventional health indicators can only tell one part of the story. However, individuals in Point Hope appear to be slightly behind the NSB as a whole and the State of Alaska in some health indicator categories. Specific health indicators are provided below in Table 13.

Table 13: Results of the 2010 NSB Baseline Community Health Analysis Report[187]

Characteristic	Point Hope Adults	NSB Adults	State of Alaska Adults
Excellent general health	36%	46%	56%
Fair to poor general health	21%	16%	13%
Tobacco use	47%	49%	22%
Obese heads of households	48%	--	28%
2 or more soda/sugar sweetened beverage consumption/day	60%	--	30%

Despite the 2010 findings, there is reason to believe that community of Point Hope may be healthier than the conventional indicators would suggest. A 2013 community health forum in Point Hope highlighted health themes important to residents, the most common of which was *subsistence hunting and gathering/traditional Iñupiat lifestyle.*[188] The suite of activities involved in preparation, harvesting, and utilizing subsistence resources provide residents with physical exercise and mental health benefits such as cultural identity and a sense of purpose. In addition, subsistence foods are incredibly nutrient-rich and provide protection against diabetes, heart disease, and other chronic illness. The 2010 Baseline Community Health Analysis Report suggested that, "The commitment of local leadership supporting strong cultural values and subsistence participation in school, home, work, and community environments through policies such as subsistence leave, community festivals and feasts, and many other programs may be imparting resilience and contributing to mental and physical health in the community."[189]

[187] North Slope Borough. 2010. *Baseline Community Health Analysis Report Appendix A: Point Hope Health Profile.* Prepared for the North Slope Borough by Jana McAninch, MD, MPH. Accessed May 1, 2016. www.north-slope.org/assets/images/uploads/ptHope_health_profile1.

[188] North Slope Borough. 2013. *Point Hope Community Health Forum Report.* Accessed May 1, 2016. www.north-slope.org/assets/images/uploads/Point_Hope_Forum_Report.pdf.

[189] North Slope Borough. 2010. *Baseline Community Health Analysis Report Executive Summary.* Prepared for the North Slope Borough by Jana McAninch, MD, MPH. Accessed May 1, 2016. www.north-slope.org/assets/images/uploads/executive_summary.pdf.

A subsistence lifestyle provides residents with many health benefits; however a warming environment may lead to the shortening of hunting and harvesting windows, inability to keep food safe and secure through the summer, and reduced availability of subsistence food sources. In 2010, it was reported that 24 percent of household heads in Point Hope had family members did not have enough to eat at times, as compared to 11 percent of adults statewide who reported some level of food insecurity.[190] Supplementing with outside food sources may be required, however processed and canned or frozen foods are no substitute for the numerous benefits provided through subsistence living and eating.

A community health forum was held in Point Hope in 2013 by the North Slope Borough Health and Social Services Department. The purpose was to present findings of the 2012 Baseline Community Health Analysis Report to the community, start to address issues identified in the report and hold discussion on the best ways to facilitate the changes needed to address community health issues. The five most common themes voiced by participants at the community health forum included:

- Subsistence hunting and gathering/traditional Inupiat lifestyle;
- Healthcare system;
- Social problems: drugs and alcohol, suicide, sexual assault;
- Health concerns; and
- Youth education and activities.

The discussions from the community health forum were entered into an online program that generated a picture of words that were most often used during the discussions, with larger words representing words that were used most often.[191] The results are displayed in Figure 14.

Figure 14: 2013 Community Health Forum Picture of Words

[190] North Slope Borough. 2010. *Baseline Community Health Analysis Report Executive Summary.* Prepared for the North Slope Borough by Jana McAninch, MD, MPH. Accessed May 1, 2016. www.north-slope.org/assets/images/uploads/executive_summary.pdf.

[191] North Slope Borough. 2013. *Point Hope Community Health Forum Report.* Accessed May 1, 2016. www.north-slope.org/assets/images/uploads/Point_Hope_Forum_Report.pdf.

While people's health is influenced by personal decisions, it is also shaped by how a community is designed and built, such as land use, road network and the location or existence of parks, recreation facilities and other services. People tend to be more active when they can easily walk or have access to recreational facilities. Land use, typically addressed by comprehensive planning and land use regulations, affects the quality of life in many ways, such as the location of recreational facilities, pedestrian safety and existence and location of greenhouses or community gardens. Also important are access to a healthy diet, physical activity, and a healthy environment.

Adequate access to healthy food is critical in achieving and maintaining a nutritious diet. Healthy eating is associated with a lower risk for chronic diseases such as diabetes, hypertension and obesity. According to the U.S. Department of Health and Human Services' Office of Disease Prevention and Health Promotion, healthy eating and regular physical activity can help achieve and maintain good health while also reducing the risk of chronic disease. The 2015-2020 Dietary Guidelines provides five overarching guidelines that encourage healthy eating:

- Follow a healthy eating pattern across the lifespan;
- Focus on variety, nutrient density, and amount;
- Limit calories from added sugars and saturated fats and reduce sodium intake;
- Shift to healthier food and beverage choices; and
- Support healthy eating patterns for all.

Harvesting local subsistence food has been central to the culture of many remote Alaska communities. However, the evolution to partial cash economy often means greater reliance on store-bought food. In Point Hope, like much of rural Alaska, the quality and availability of store-bought food is subject to fluctuations outside the control of local residents. Access is dependent on a person's ability to pay high prices that can be twice as much or more than the cost of food in Anchorage. Options are limited to what is available on the shelves. Perhaps most importantly, store-bought foods do not fulfill the important roles that traditional foods play in Point Hope.

Certainly local foods are more affordable than store bought foods. Many believe that wild foods provide a better protection against the cold weather, and that harvesting and processing local foods requires considerable exertion which sharpens the physical and mental well-being of individuals. The North Slope Borough Wildlife Management Department regularly tests samples of harvested wildlife to monitor the overall health of subsistence animals and their ability to provide nutrients and dietary health to Borough residents.

Physical activity is essential to good health. Regular exercise helps maintain healthy weight and reduces the risk of high blood pressure, type 2 diabetes, heart attack, and stroke. Planning efforts that promote physical activity might include pedestrian safety initiatives, access to a park and playground, a swimming pool or other recreational facilities could facilitate increased physical activity. Point Hope has a new outdoor playground at Tikigaq School. The school also has a gymnasium and swimming pool that are open to the public.

Point Hope has a Health Clinic where health services are provided by multiple agencies including the North Slope Borough Health Department, Maniilaq Association, Arctic Slope Native Corporation (ASNA), and the Native Village of Point Hope. The health clinic, staffed by community health aides, is open each day and is available at all hours for emergencies.

North Slope Borough owns the clinic and oversees its maintenance. Maniilaq Association hires and administers the community health aide program and is funded by Indian Health Services. Maniilaq Association provides regional medical services, public health nursing, dental, Screening for Life (cancer screening), medical travel, medical housing, the Women, Infants, and Children (WIC) program, and eye care. Arctic Women in Crisis (AWIC) Safe Homes, children's and youth services, senior services, vet clinic services, tobacco prevention, and health education (prevention) are provided by the NSB. Medical travel family assistance and the child care development fund is provided by ASNA.[192]

Point Hope residents have expressed frustration regarding the level of medical service provided Maniilaq Association, ASNA, and NSB. Specifically, the community has stated the need for additional staffing and services as well as housing for medical staff and a new healthcare facility.

The North Slope Borough has a Health Board that is comprised of nine members: one from each village and two from Barrow. Per NSBMC 9.24.060, the duties of the Health Board include making recommendations to the Assembly regarding resolutions and ordinances dealing with public health; reviewing NSB Health and Social Services Department programs; recommending priorities for Health Department programs; reviewing and considering patient complaints and public recommendations and rendering a decision; and annually evaluating Health Department programs. Some Point Hope residents have commented that the Health Board should have more power to make changes rather than make recommendations. This is especially true in Point Hope, where several different entities must cooperate to provide medical care.

7.2 Education

Tikigaq School is the farthest northwest school in Alaska. It provides education for students from pre-school through 12th grade. During the 2015 school year, there were 238 students enrolled, with 21 teachers, one counselor, and 13 support staff. The school bus transportation system runs three times a day, making 140 total stops daily.[193] Extracurricular activities available to students include basketball, volleyball, football, and wrestling along with school clubs in robotics, band, battle of the books, journalism, geography bee, spelling bee, reading club, and Future Teachers of America.

In 2012, funds from the NSB CIP were allocated to begin a school renovation and gymnasium expansion. The remodeled school includes remediation of structural deficiencies; replacement of doors, windows,

[192] Brower, Jennifer. Deputy Director, North Slope Borough Health and Social Services Department. 2016. Personal Communication.
[193] Szymoniak, Glen, Superintendent. North Slope Borough School District. Personal Communication. Apr. 4, 2016.

and interior finishes; siding replacement; pool renovation; and repairs and upgrades to the mechanical and electrical systems. The exterior construction is complete and the interior renovation is projected to be complete by the end of 2016.[194]

Paralleling the overall community population gains and losses shown in Table 4, Tikigaq enrollment dropped between 2000 and 2010 as did the overall community population. It has been increasing since 2010, as the community population also rises. Student enrollment is shown in Table 14. The increase in student population could create the need for additional classroom space.[195]

Table 14: Tikigaq School Enrollment, 1999-2000 to 2015-2016 School Years[196]

School Year	Number of Students
1999-2000	227
2000-2001	235
2001 -2002	251
2002-2003	261
2003-2004	216
2004-2005	212
2005-2006	221
2006-2007	197
2007-2008	224
2008-2009	223
2009-2010	208
2010-2011	222
2011-2012	222
2012-2013	230
2013-2014	234
2014-2015	231
2015-2016	238

Iḷisaġvik College and the North Slope Borough School District entered into a partnership to support students advancing academically. NSBSD students have the opportunity to take courses for both high school and college credit. Iḷisaġvik also offers online courses via the teleconference center. The North Slope Borough employs a village liaison who is available to assist students with enrolling, ordering

[194] Johnson, Lillian Aanauraq Lane, Dean of Students. Tikigaq School. Personal Communication. May 2, 2016.
[195] Ibid
[196] Alaska Department of Education and Early Development. 2015. *Report Card to the Public.* https://education.alaska.gov/Alaskan_Schools. Accessed Sept. 9, 2015.

textbooks, and basic computer troubleshooting. The Ipiutak Community Foundation is a 501(c)(3) organization that provides scholarships to students.

The average graduating class is between four and eight students each year.[197] The 2014-2015 graduation rate was 57 percent, with a dropout rate of 7 percent. In comparison, the total NSB School District graduation rate was 70 percent with a dropout rate of 9 percent.[198]

Between 2003 and 2015, the high school graduation rate has increased by eight percent. The percent of those earning a General Educational Development (GED) has also increased, by 2.2 percent over the same time frame. However, those with some college level education has dropped by nearly five percent over the twelve year period; those attending vocational-technical school has dropped by more than 50 percent. The number of people with bachelors and other professional degrees have remained fairly constant between 2003 and 2015 while those with master's degrees has dropped by more than half, as shown in Table 15.[199]

Table 15: Educational Attainment, 2010 - 2015[200]

Individual Highest Level of Education	2003		2010		2015	
	Number	Percent	Number	Percent	Number	Percent
Has not started school	62	10.5%	80	12.8%	62	11.1%
Elementary School	98	16.6%	102	16.3%	103	18.4%
Middle School	51	8.6%	30	4.8%	35	6.2%
High School	47	7.9%	101	16.2%	35	6.2%
Did not finish high school	58	9.8%	32	5.1%	54	9.6%
High School diploma	129	21.9%	151	24.2%	168	29.9%
GED	16	2.7%	16	2.6%	24	4.3%
Vocational/Tech graduate	21	3.6%	8	1.3%	9	1.6%
Some College	72	12.2%	73	11.7%	41	7.3%
Bachelor's Degree	20	3.4%	19	3.0%	22	3.9%
Master's Degree	9	1.5%	8	1.3%	4	.7%
Professional Degree	3	.5%	3	.5%	3	.5%
Other	4	.7%	2	.3%	1	.2%
Total	**590**	**100%**	**625**	**100%**	**561**	**100%**

[197] Szymoniak, Glen, Superintendent. North Slope Borough School District. Personal Communication. Apr. 4, 2016.
[198] Alaska Department of Education and Early Development. 2015. *Statistics & Reports.* Accessed Apr. 28, 2016. https://education.alaska.gov/stats.
[199] North Slope Borough. 2015. Unpublished. *Draft North Slope Borough 2015 Economic Profile and Census Report.* Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway for the North Slope Borough.
[200] Ibid

7.3 Economy

Tikigaq Corporation, Point Hope's village corporation, owns the Point Hope Native Store (PHNS) and sells groceries, clothing, first-aid supplies, hardware, and sporting goods. PHNS is the only general store in the community. It is operated by Point Hope residents, 100 percent of which are Alaska Native Corporation shareholders. Tikigaq Corporation has approximately 1,600 Iñupiat shareholders.[201] Most of these shareholders reside in Point Hope, and are also shareholders of the Arctic Slope Regional Corporation.[202] Most of the residents of Point Hope purchase the majority of their groceries from PHNS while also ordering items from urban Alaska cities to supplement what is available locally.[203] Tikigaq Corporation also rents vehicles and sells fuel.

Tikigaq Corporation owns and operates the Whaler's Inn. The Whaler's Inn hosts 20 rooms, which are available for single or double occupancy. There are communal shower and restroom facilities as well as a common area with a refrigerator/freezer, toaster, and microwave. There is also a restaurant located on premise, serving breakfast, lunch, and dinner daily.[204]

The local Point Hope economy is largely based on subsistence hunting, fishing and whaling. As a subsistence community, the creation and sale of arts and crafts is an important contributor to the local economy while also facilitating ties to the community's traditional heritage. Some of the artwork that Point Hope is known for includes baleen baskets, bone masks, Eskimo yo-yos, ivory and bone carvings, ivory and baleen jewelry, and scrimshaw pieces. Tikigaq Corporation frequently purchases Native arts and crafts to support Tikigaq shareholders' ability to lead a subsistence lifestyle. Tikigaq Corporation also purchases booth space at many of the arts and craft fairs throughout Anchorage, where people often seek a particular item or work by a particular artist.[205] Some residents have identified tourist services, such as sight-seeing and traditional dances to cruise ships passengers and developing commercial reindeer herding as potential economic develop opportunities.

The average annual household income in 2015 was $62,415 and the per capita income was $15,872. Approximately one in four households receive social security payments (24.3 percent). Point Hope has the lowest proportion (38 percent) of household heads with permanent full-time employment of villages on the North Slope. Slightly over 60 percent of Point Hope residents earn wages through employment, shown in Table 16.

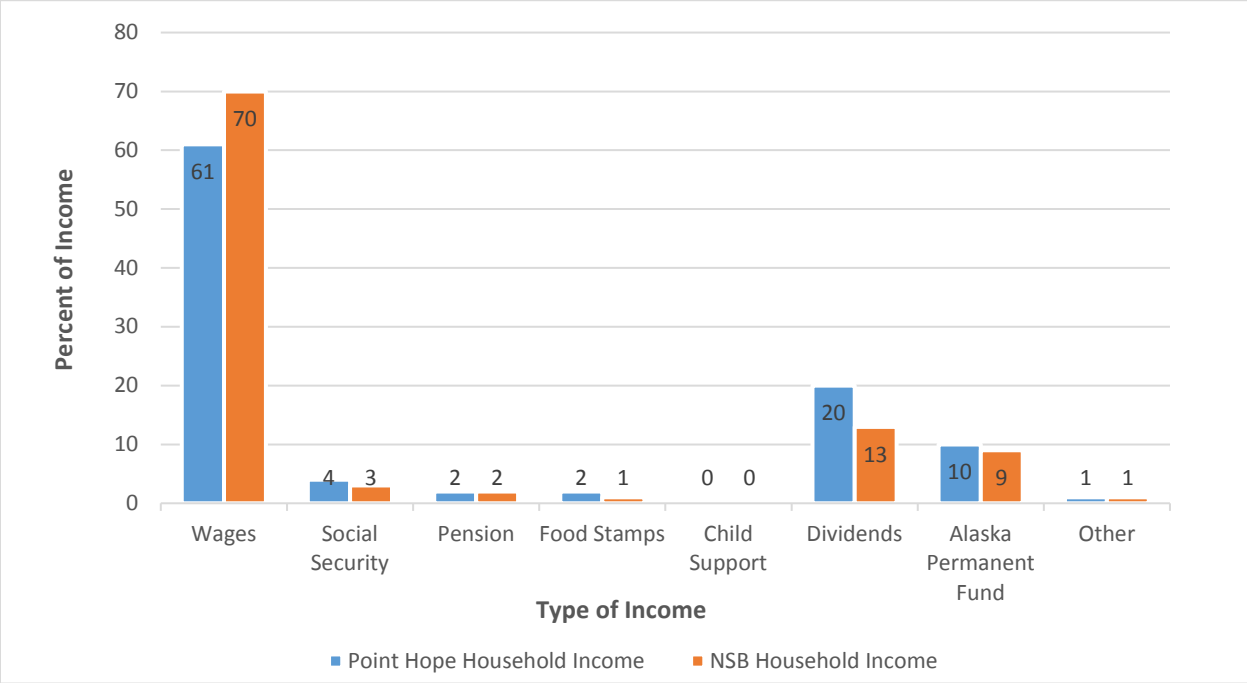
[201] Nash, Emma, Tikigaq Corporation Board Secretary. Personal Communication. Sept. 22, 2016.
[202] Tikigaq Corporation. 2016. Shareholders. Overview. Accessed Apr. 14, 2016. www.tikigaq.com/category/shareholder/shareholders-overview.
[203] Tikigaq Corporation. 2016. Shareholders. Point Hope. Accessed Apr. 14, 2016. www.tikigaq.com/category/shareholder/point-hope.
[204] Ibid
[205] Ibid

Table 16: Source of Income and Type of Employment, 2010 and 2015[206]

All Point Hope Households	2010	2015
Households receiving social security payments	28.2%	24.3%
Households receiving a pension or retirement monies	16.0%	13.8%
Households receiving food stamp monies	20.9%	26.1%
Households receiving child support monies	8.0%	5.8%
Permanent full-time employment	44.4%	37.6%
Temporary seasonal employment	6.9%	14.9%
Part-time employment	9.4%	8.9%
Unemployed	26.3%	23.8%
Retired	13.1%	14.9%

The three sources of income that contribute most to Point Hope and NSB households are wage work, corporation dividend income, and permanent fund dividends from the State of Alaska, as shown in Figure 15.[207] Wages account for 61 percent of all income within Point Hope, while Native corporation dividends are 20 percent and the Alaska Permanent Fund is 10 percent.

Figure 15: Proportion of Source Income for all Income, Point Hope and NSB[208]



[206] North Slope Borough. 2015. Unpublished. *Draft North Slope Borough 2015 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway for the North Slope Borough.
[207] Ibid.
[208] Ibid

According to the Alaska Department of Commerce, Community, and Economic Development, there are nine active business licenses in Point Hope:[209]

- Alisah Jewels
- Harpooners[210]
- Ipiutak Community Foundation
- Northern Inn
- Point Hope Native Store
- Tikigaqmiut Senior Housing
- Whalers Inn

Jobs, however, remain scarce, and unemployment high. As in many of Alaska's rural communities, those in Point Hope with full-time work are employed by the City, School, Borough, or Native Village. Although there is considerable effort to hire locally, and to educate, train, and develop local capability, there remains a need to recruit from outside the region.[211]

[209] Alaska Department of Commerce, Community and Economic Development. 2016. *Community Database Online – Point Hope.* Accessed Mar. 18, 2016. http://commerce.state.ak.us/cra/DCRAExternal.

[210] Harpooners and Whalers Restaurant are listed separately on the DCCED business licenses spreadsheet but are the same business.

[211] Szymoniak, Glen. North Slope Borough School District Superintendent. Personal Communication. Apr. 4, 2016.

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Chapter 8. Housing

Alaskans in many rural communities such as Point Hope are grappling with aging infrastructure, extraordinarily high energy and transportation costs, as well as a multitude of housing issues that include overcrowded conditions and housing cost burden. This chapter examines these issues in Point Hope, focusing on both existing conditions and future housing needs.

8.1 Existing Conditions

The 2010 NSB Census indicates that there were 165 housing units in Point Hope, including 24 mobile homes/trailers; 134 single family homes; two buildings with three to four housing units each; four buildings with five or more units each; and 0.6 characterized as *other*. The 165 housing units from the 2010 NSB Census represents an increase of 14 total housing units since 2003, and 19 units since 1998. [212]

The 2010 U.S. Decennial Census reports 221 housing units, of which 186 were occupied and 35 were vacant. Of the 35 vacancies, 15 were attributed to being vacant but available for rent; five were used for seasonal, recreational, or occasional use; one was sold but not occupied; the remaining 18 were vacant for other reasons.[213] The 2010-2014 American Community Survey (ACS) 5-Year Estimates indicates that approximately 71 percent of homes were constructed 1970 and 1989 with 15.8 percent built between 1990 and 2000. No new house were reportedly built between 2000 and 2010.[214] Nearly all (94 percent) of homes are single family detached and the remaining six percent are multi-unit buildings. Eleven percent of Point Hope homes have one bedroom; 71 percent have two to three bedrooms; and 16 percent have four or more bedrooms.[215]

[212] North Slope Borough. 2010. *North Slope Borough 2010 Economic Profile and Census Report*. Prepared by Circumpolar Research Associates Shepro, C., Maas, C. and D. Gallaway with J. McAnich for the North Slope Borough. www.north-slope.org/your-government/census-2010North Slope Borough.

[213] U.S. Department of Commerce. U.S. Census Bureau. 2010. *2010 Census.* Accessed May 20, 2016. www.census.gov/2010census.

[214] U.S. Department of Commerce. U.S. Census Bureau. *2010 – 2014 American Community Survey 5-Year Estimates – Point Hope City, North Slope Borough, Alaska State*. http://factfinder.census.gov. Accessed May 20, 2016.

[215] Ibid

Table 17: 2000 and 2010 Decennial Census Housing Characteristics[216, 217]

Housing Characteristic	2000		2010	
	Number	Percent	Number	Percent
Total number of housing units	215	100%	221	100%
Occupied housing units	186	86.5%	186	84.2%
Vacant housing units	29	13.5%	35	15.8%
Owner occupied homes (of occupied units)	124	66.7%	121	65.1%
Renter occupied homes (of occupied units)	62	33.3%	65	34.9%
Percentage of overcrowding	39 (of 183)	21.3%	64 (of 248)*	25.8%
Percentage of severe overcrowding	17 (of 183)	9.3%	38 (of 248)*	15.3%

Overcrowding. The U.S. Department of Housing and Urban Development (HUD) defines an overcrowded home as one in which more than one person per habitable room resides in the house and a severely overcrowded dwelling as one with one and a half or more people per habitable room. The 2014 Alaska Housing Finance Corporation Housing Assessment estimates that 21.4 percent of the population in the seven remote North Slope villages reside in overcrowded conditions.[218] The 2010-2014 ACS 5-Year Estimates indicates that in 2014, 41 percent of Point Hope households were either overcrowded or severely overcrowded, over 12 times the national average. In a 2014 unpublished white paper prepared by Tagiugmiullu Nunamiullu Housing Authority (TNHA), major housing issues facing North Slope communities are identified and potential solutions are analyzed. The paper indicates that there is dramatic housing need in Point Hope; 152 families are living in overcrowded conditions with a shortage of 68 homes. This housing shortage results in multiple generations living under one roof in overcrowded conditions.[219] The 2010 U.S. Census and 2010-2014 ACS 5-Year Estimates substantiate the extent of overcrowding in Point Hope. The 2014 ACS percentages of overcrowded and severely overcrowded households is depicted in Figure 16.

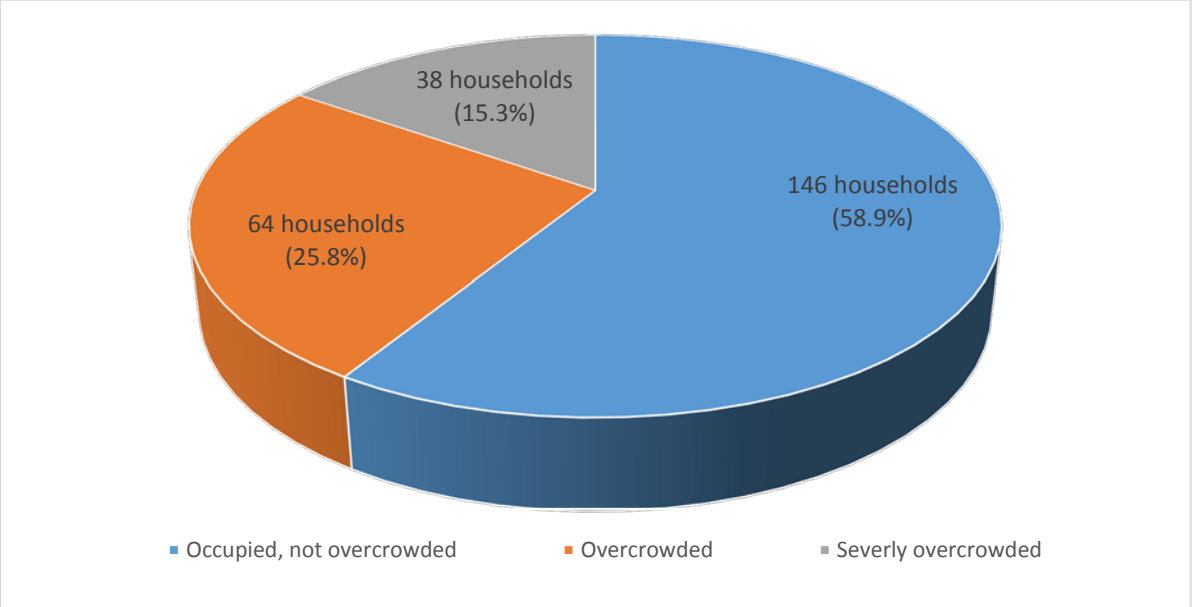
[216] * denotes date source is ACS 2010-2014 American Community Survey 5-Year Estimates

[217] U.S. Department of Commerce. U.S. Census Bureau. 2010. *2010 Census*. Accessed May 20, 2016. www.census.gov/2010census.

[218] Wiltse, N., Madden, D., Valentine, B., Stevens, V. 2014. *2013 Alaska Housing Assessment.* Cold Climate Housing Research Center. Prepared for the Alaska Housing Finance Corporation. www.ahfc.us/efficiency/research-information-center/housing-assessment.

[219] Tagiugmiullu Nunamiullu Housing Authority. 2014. Unpublished white paper. *North Slope Borough Housing: A Brief Analysis of Issues and Options with Budgetary Quotes*.

Figure 16: Incidence of Housing Overcrowding [220] [221]



Housing Condition. Residents are concerned about the condition of much of the housing stock. Most homes were constructed with a post and pad foundation and may require releveling due to changes to the underlying permafrost from ground thaw. Homes are also in need of renovations, including air quality assessments and energy efficiency upgrades.

Housing Affordability. HUD defines affordable housing as that which costs no more than 30 percent of a household's monthly income. Households paying more than this for mortgages, rents, fees, utilities, taxes, and insurance are considered cost-burdened.[222]

The median household income in 2014 in Point Hope was $67,500.[223] Thirty percent of the median household income is $20,250 indicating that as per the HUD definition, affordable housing would need to be less than $20,250 annually or approximately $1,688 monthly for the average household. The median owner costs for those with a mortgage payment was $1,075; for those homeowners without a mortgage it was $505; and for renters it was $857.[224] These figures indicate that the majority of homeowners and renters in Point Hope are not cost-burdened. Housing costs, as a percent of household income, are shown in Figure 17 for Point Hope, the NSB, and the State of Alaska.

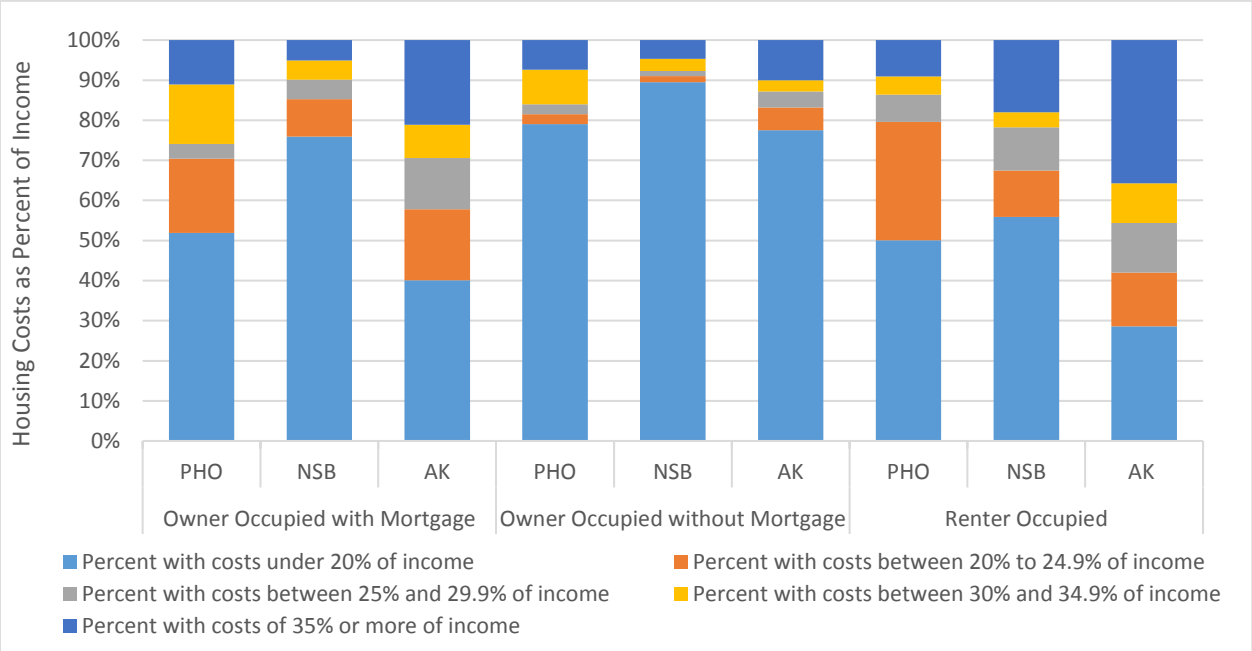
[220] U.S. Department of Commerce. U.S. Census Bureau. *2010 – 2014 American Community Survey 5-Year Estimates – Point Hope City, North Slope Borough, Alaska State*. http://factfinder.census.gov. Accessed May 20, 2016.
[221] Total dwelling units estimated in the 2010 – 2014 ACS 5-Year Estimates is 176.
[222] U.S. Department of Housing and Urban Development. 2016. *Affordable Housing*. Accessed Feb. 2, 2016. http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing.
[223] U.S. Department of Commerce. U.S. Census Bureau. *2010 – 2014 American Community Survey 5-Year Estimates – Point Hope City, North Slope Borough, Alaska State*. http://factfinder.census.gov. Accessed May 20, 2016.
[224] Ibid

The chart indicates that of the three groups – owner-occupied homes with mortgages; owner-occupied homes without mortgages; and renters – the most cost burdened households in Point Hope are owner-occupied homes with mortgages. This is different than elsewhere in the state, where renters in both the NSB and the State of Alaska are generally the most cost-burdened. In Point Hope this group is the least cost-burdened.

The availability of housing and the cost to construct new housing is an issue that significantly contributes to the lack of housing in Point Hope and across the North Slope and rural Alaska. The overcrowding and severe overcrowding may be a larger issue than cost-burden; it is the lack of housing availability that affects the community.

The Alaska Housing Finance Corporation (AHFC) prepares an annual construction cost survey that collects contractor pricing for a market basket of materials determined by the design of a model home. This market basket of materials represents approximately 30 percent of the materials needed to construct the model home but does not represent 30 percent of the total cost to build it. The 2015 Construction Cost Survey shows that a market basket of materials that costs $23,405 in Anchorage and $26,971 in Fairbanks, cost a shocking $61,510 in Barrow, or 263% of the Anchorage cost.[225] Barrow is the only community on the North Slope included in the cost survey.

Figure 17: Housing Costs as Percent of Income[226]



[225] Alaska Housing Finance Corporation. *2015 Construction Costs Survey.* Accessed Feb. 7, 2016. http://laborstats.alaska.gov/housing/constcost.pdf.

[226] U.S. Department of Commerce. U.S. Census Bureau. *2010 – 2014 American Community Survey 5-Year Estimates – Point Hope City, North Slope Borough, Alaska State*. http://factfinder.census.gov. Accessed May 20, 2016.

Tagiumiullu Nunamiullu Housing Authority. The housing authority for the North Slope, TNHA, administers the Mutual Help Homes Program in Point Hope. This program allows Indian Housing Authorities (IHA) to help low-income Native families purchase a home. A family makes monthly payments based on 15 to 30 percent of their adjusted income and payments are credited to an equity account that is used to purchase the home.[227] In total, there have been 98 homes in Point Hope financed through this program since its inception. There are 20 homes still within TNHA's purview.[228]

HUD provided a portion of the funding to construct a five-unit housing development for Elders in the community. Because the 5-plex was built using federal funds, income restrictions limited the number of people that were eligible to occupy the units. Elders who are ASRC and Tikigaq Corporation shareholders earn an annual income from dividends which often exceeded the HUD income eligibility criteria for senior housing and, therefore, many local Elders could not occupy those units. TNHA arranged to have the senior housing purchased from HUD; the new owners are owner boards established for the purpose of managing the senior housing. The units were then rented to local Elders. TNHA spends approximately $83,000 annually for utilities and maintenance of the senior housing in Point Hope.[229] Due to the high cost of maintaining the building, TNHA recently issued eviction notices to residents. The situation remains uncertain. There are no other rental properties in Point Hope managed by TNHA.

Native Village of Point Hope. The Native Village of Point Hope (NVPH) also administers housing programs within the community. The primary program is the Native American Housing Assistance and Self Determination Act of 1996 (NAHASDA) through HUD. This block grant program include both the Indian Housing Block Grant (IHBG), a formula based grant program, and the Title VI Loan Guarantee, that provides financing guarantees to Indian tribes for private market loans to develop affordable housing.[230]

One of the primary needs that NVPH is seeking to address is funds to rehabilitate homes. The waiting list is long and the budget is in sufficient to address the need. Grant funds and NAHASDA funds are used to help homeowners. NVPH would also like to construct homes for the community but currently do not have sufficient resources. An additional need identified by the NVPH Housing Director was the need for transitional homes for families that have experience a fire, flood, or other event that does not allow them to live in their home. NVPH has one such home and would like one or two additional homes to assist families in the event of an emergency.[231]

NVPH's mission is to promote and provide a quality housing program that includes the development and rehabilitation of safe, sanitary, and affordable housing to low-income Tribal member families while also

[227] U.S. Department of Housing and Urban Development. 2016. *Mutual Help Homeownership Opportunity Program for Indian Areas*. Accessed May 6, 2016. http://portal.hud.gov/hudportal/HUD?src=/programdescription/muthelp.
[228] Garoutte, Claude. 2016. TNHA Construction Services Project Manager. Personal Communication. March 24, 2016.
[229] Ibid
[230] U.S. Department of Housing and Urban Development. 2016. *NAHASDA*. Accessed May 6, 2016. http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/nahasda.
[231] Nash, Bernie. 2016. Native Village of Point Hope Housing Director. Personal Communication. May 31, 2016.

advocating and coordinating with local, state and federal agencies to enhance economic and community development.

- NVPH's long-term housing plan includes construction of new housing units, including duplexes and/or apartments while also rehabilitating existing homes, providing training and workforce development for staff, appraising property and applying for grants.
- NVPH's mid-term housing plan involves development of new housing, collecting survey data, completing environmental reviews as needed, purchasing tools to facilitate housing rehabilitation, and applying for program-related grants.
- Lastly, NVPH's short term plan includes rehabilitating three homes by the end of to meet necessary building codes and improve housing eligible low income homeowners to extend useful life of their homes while also seeking program-related grant opportunities.[232]

8.2 Current and Future Housing Needs

There is currently a housing shortage in Point Hope. This shortage often results in multiple generations, and families, residing in the same household and in overcrowded conditions, reflected in U.S Decennial Census data.

If the high population growth scenario of one percent growth occurs and the current shortfall of approximately 64 housing units were developed, Point Hope would need an additional 13 homes by 2020, an additional 14 homes by 2025, and another 31 homes by 2035. This represents a total net increase of 58 habitable dwelling needed by 2035. If the no growth scenario of a 0.5 percent decline in population occurs, much of the overcrowding in housing could be relieved due to smaller size households. The moderate growth scenario of half of a percent growth would result in the need for an additional 14 homes over the next 20 years beyond the current need of 64 homes.

Table 18: Five, Ten and Twenty Year Projected Housing Needs

Growth Rate	Base Year 2015		5 Year Forecast 2020		10 Year Forecast 2025		20 Year Forecast 2035	
	Population	Current Homes Needed	Population	Cumulative Homes Needed	Population	Cumulative Homes Needed	Population	Cumulative Homes Needed
High Growth (+1%)	711	64	747	77	785	91	868	122
Moderate Growth (.5%)			729	71	747	77	786	92
No Growth (-.5%)			693	57	676	51	643	39
Linear trend based on 1980 and 2010 U.S Decennial Census			744	76	799	89	849	115

[232] Native Village of Point Hope. 2016. *November 17-18, 2015 NSB Housing Summit Updates*. Correspondence with Patsy Neakok, North Slope Borough Administration and Finance Department.

Chapter 9. Land Use and Zoning

The original townsite of Point Hope was damaged by flooding and erosion before the mid-1970s. Annual storms during the three to four month open-water period raised the water level, eroding the beaches and beach ridges while also flooding the village occasionally. During 1978 and 1979, the community moved approximately two miles inland on the spit to its present location with assistance from the North Slope Borough.[233] There was not a formal agreement between the corporation and the city for 14(c)(3) land conveyances. Land transfers occurred via quitclaims, as the corporation had not received patent to the lands.

9.1 Land Ownership

The Alaska Native Claims Settlement Act (ANCSA), enacted into law on December 18, 1971, was intended to settle outstanding land claims and establish clear title to Alaska's land and resources. The Act established regional and village corporations. The village corporations received title to the surface estate in and around the village. Section 14(c)(3) provides that the village corporation shall convey to a municipal corporation (city), or the state in trust (where an incorporated city does not exist), lands identified for present and future community needs.[234, 235]

Tikigaq Corporation, the village Native Corporation established under ANCSA, is the primary landowner in Point Hope area. Tikigaq Corporation has selected and received 3,165 acres under ANCSA in and around the community that include the old and new village sites, and has a remaining 227.09 acres to receive its full ANCSA land entitlement.[236]

The NSB owns property in Point Hope that is used to provide services to the community. NSB land ownership includes the school tract and two parcels for teacher housing, utility tracts for public utilities (fuel tank farm, storage, sewage lagoon, power plant, water treatment plant, wastewater treatment plant, etc.). The Borough also has easements throughout the community for access to water and sewer infrastructure.

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[233] U.S. Army Corps of Engineers. 2008. *Erosion Information Paper – Point Hope, Alaska.* Accessed Sept. 1, 2015. www.poa.usace.army.mil/Portals/34/docs/civilworks/BEA/Point%20Hope_Final%20Report.pdf.

[234] Alaska Department of Commerce, Community and Economic Development. 2016. Division of Community and Regional Affairs. *Planning and Land Management.* Accessed Sept. 6, 2016. www.commerce.alaska.gov/web/dcra/PlanningLandManagement/ResourcesforANCSA14c3.aspx.

[235] Additional information on the 14(c)(3) process can be found in the *Getting Started on 14(c)(3): A Basic Guide for City and Village Councils* prepared by the Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs, www.commerce.alaska.gov/web/Portals/4/pub/14c3Getting%20Started2004.pdf.

[236] Chinn, Ramona. Supervisory Land Law Examiner. U.S. Bureau of Land Management. Personal Communication. May 31, 2016.

The Native Village of Point Hope holds deed to six parcels within the community. The State of Alaska owns the airport property.

There are two types of protected (restricted) land for Native Alaskans: Native allotments and restricted townsite lots. Restricted land is inalienable; the property owner cannot lease, sell or convey the land, or any inherited interest in the land, without first obtaining approval from the Bureau of Indian Affairs (BIA). Generally speaking, restricted land is also not subject to state or local laws, including taxation and land use regulations, such as zoning. Native restricted land will remain tax-exempt unless changed by the United States Congress or the restrictions are removed with expressed approval by the BIA.[237, 238]

Generally, restricted lots were distributed via two federal statutes: the Alaska Native Allotment Act of 1906 and the 1926 Alaska Native Townsite Act. The Alaska Native Allotment Act of 1906 authorized the Secretary of the Interior to grant individual Alaska Natives ownership of up to 160 acres of vacant, non-mineral and unappropriated land. The majority of Native allotments are near villages and along rivers, streams, lakes and coastal waters. There are 142 Native allotments within twenty miles of Point Hope.[239] In 1971, one of the provisions in the Alaska Native Claims Settlement Act repealed the authority to grant Native allotments, with the expectation of those applications that had already been submitted. Native allotment land is still being conveyed by the Bureau of Land Management (BLM).[240] [241]

The 1926 Alaska Native Townsite Act was passed by the United States Congress for the purpose of conveying public lands to Native Alaskans for homes within villages. All townsite acts were repealed by the passage of the Federal Land Use Policy and Management Act (FLPMA) in 1976 but lots that were already designed as 'Native restricted' under the Townsite Act did not lose their status. The majority of land parcels within the Point Hope townsite are Native restricted. Restricted deeds are managed for Native land owners by the federal government. The owners' ability to sell or transfer the property is limited, but since federal law limits state and municipal jurisdiction over land uses on property held in trust by the U.S. government, restricted lots are not subject to NSB land use regulations nor are they subject to property tax. There are approximately 215 restricted lots within the relocated Point Hope townsite.[242]

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[237] Kawerak Land Management Services. 2014. *Restricted Native Land.* Accessed July 17, 2014. www.kawerak.org/forms/nr/informational%20sheet.pdf.

[238] Case, David, Hudson, Roger, Landreth, Natalie, Kindall-Miller, Heather, Resseguie, Linda and Schutt, Aaron M. 2007. *Native American Land Base*. Alaska Bar Association, June 2007. Accessed July 17, 2014. www.alaskabar.org/servlet/clecatalog?id=333.

[239] U.S. Department of the Interior. Bureau of Land Management. 2016. *Spatial Data Management System (SDMS)*. Accessed Mar. 13, 2016. http://sdms.ak.blm.gov/isdms/imf.jsp?site=sdms.

[240] Kawerak Land Management Services. 2014. *Restricted Native Land.* Accessed July 17, 2014. www.kawerak.org/forms/nr/informational%20sheet.pdf.

[241] U.S. Department of the Interior. Bureau of Land Management. 2013. *Land Transfer.* Accessed July 17, 2014. www.blm.gov/ak/st/en/prog/ak_land_transfer.html.

[242] North Slope Borough. 2016. *Assessor's Division GIS data*.

Unlike other forms of property which are subject to the probate jurisdiction of state or Tribal courts, Native restricted property is completely within the U.S. Interior Department's jurisdiction. Because some restricted landowners do not always have wills that specify beneficiaries, heirs in common inherit the land, often for several generations. Some property may have multiple owners and with each passing generation, the portions of property interest become smaller and smaller, causing the property to become fractionalized. Even without probate issues, it may be difficult to reach a consensus amongst multiple property owners, a status which jeopardizes the usefulness of a property.

Native restricted land can become unrestricted. Once the restricted status is removed, the land can be taxed and it can be sold without BIA approval or oversight. For example, if a restricted property is sold or willed to a non-native, it will be conveyed to that person in an unrestricted status. Natives that chose to will a restricted property to a non-Native can opt to leave it as a life estate. The non-Native heir would use the property during his or her lifetime and; when he/she passes away, the property is transferred to the second choice named in the owner's will, thus potentially returning it to restricted status.[243]

There are several land use concerns with Native restricted property. If a structure on a restricted property becomes a safety hazard for the community, local land use regulations cannot require that property owners mitigate the property to remove the risk. This, coupled with fractionalization that may come with many owners of a Native restricted land parcel, land and structures on the property are often not well maintained.

[243] Maniilaq Association. 2014. *Probates and Estate Services.* Accessed July 22, 2014. www.maniilaq.org/Probates%20&%20Estate%20Services.doc.

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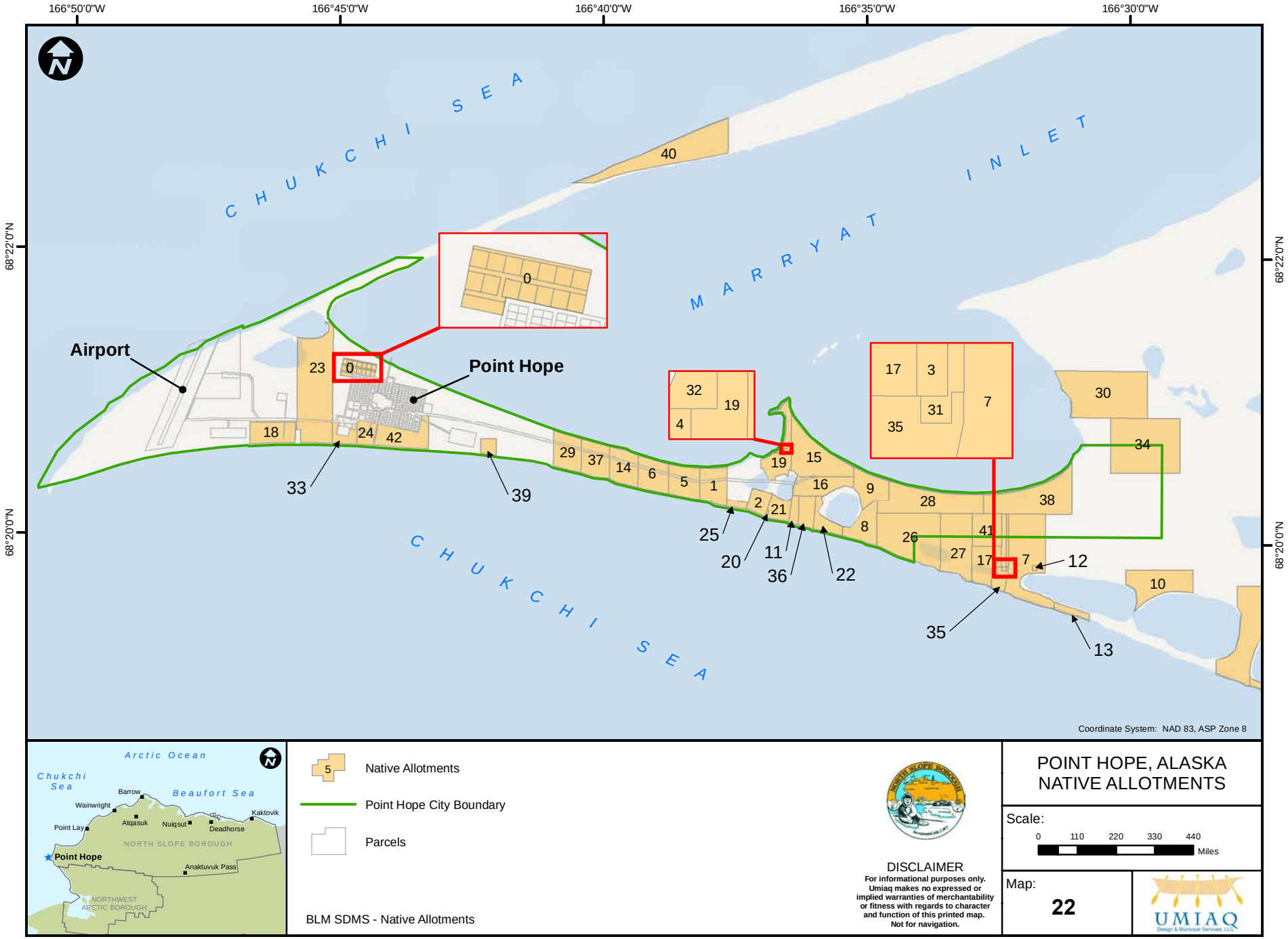
166°50'0"W
166°45'0"W
166°40'0"W
166°35'0"W
166°30'0"W
68°22'0"N
68°20'0"N
CHUKCHI SEA
MARRYAT INLET
CHUKCHI SEA
Airport
Point Hope
0
23
18
24
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25
20
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36
22
26
41
27
17
7
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3
31
35
7
30
34
10
35
13
Coordinate System: NAD 83, ASP Zone 8
Arctic Ocean
Chukchi Sea
Beaufort Sea
Barrow
Wainwright
Atqasuk
Nuiqsut
Kaktovik
Deadhorse
Point Lay
NORTH SLOPE BOROUGH
Point Hope
Anaktuvuk Pass
NORTHWEST ARCTIC BOROUGH
5
Native Allotments
Point Hope City Boundary
Parcels
BLM SDMS - Native Allotments
DISCLAIMER
For informational purposes only. Umiaq makes no expressed or implied warranties of merchantability or fitness with regards to character and function of this printed map. Not for navigation.
POINT HOPE, ALASKA
NATIVE ALLOTMENTS
Scale:
0 110 220 330 440
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Map:
22
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UMQ: PHO_COMP_PLAN_NA_r02

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9.2 Zoning and Land Use Regulation

A major component of local planning is zoning, the division of areas into land use districts and the regulation of lands within those districts. Zones are designed to accommodate current and potential uses. Detailed regulations guide how each district can be used. The NSB is charged with administering platting and zoning on behalf of residents. The entirety of the city of Point Hope is contained within the Village District. The surrounding area outside of the municipal boundaries is within the Conservation District, as shown in Map 23.

The NSB has created zoning districts for all land within its jurisdiction, public and private. The Village District is described in the NSBMC Title 19 (§ 19.40.060). The intent of the Village District is to accommodate uses which:

- Reinforce traditional values and lifestyles;
- Are in accord with the Borough Comprehensive Plan, Capital Improvements Program and Comprehensive Development Plan for the village; and
- Are in accord with the desires of the residents of the village.

Although Point Hope is within the Village District, Native restricted properties are not subject to the NSB's zoning regulations. Because there is a significant number of Native restricted properties within the Point Hope townsite, adopting new zoning regulations may not have a substantial effect on regulating land use activities or directing future growth in a specific area or areas.

The land uses that are permitted in the Village District include:

For Administrative Approval. The following can be administratively approved by the Borough's Land Administrator[244] without public notice: 1) placement of fill in a wetland in accordance with the Army Corps of Engineers general permit.

For a *Development Permit*. The following may be permitted upon approval by the Land Administrator after public review:

1) Public facilities;
2) Commercial development; and
3) Any use or structure within the watershed that provides the community's drinking water.

For a Conditional Use Permit. The following are conditional and may be established upon approval of the NSB Planning Commission:

1) Resource extraction; and

[244] The Land Administrator for the Borough is the Director of the NSB Planning and Community Services Department.

2) Any use "elevated" by the Land Administrator for Commission review by the NSB Land Administrator, pursuant to § 19.50.020.[245]

Also within Title 19 (§19.70.020) are Village Policies that are intended to guide the approval of development and uses in the Village District:

- Development and uses will not be allowed which grossly violate guidelines on the rate or amount of growth adopted by a village as a part of its Comprehensive Development Plan;
- Development and uses in a village are required to be consistent with the relevant adopted village Comprehensive Development Plan;
- Development and uses are encouraged which provide or materially contribute to lower-cost fuel or power; and
- Development and uses are encouraged which provide local employment in the villages.

The Conservation District is described in Title 19 (§ 19.40.070) and generally encompasses the undeveloped areas of the Borough. This District is intended to conserve the natural ecosystem for all the plants and animals upon which Borough residents depend for subsistence. The Conservation District accommodates limited resource exploration and development.[246] Land uses permitted within a Conservation District include:

For Administrative Approval. The following can be administratively approved by the NSB Land Administrator without public notice:

1) Temporary use (including fuel storage) of existing gravel airstrips in support of pre-exploration activities;
2) Archaeological surveys;
3) Tundra travel; and
4) Minor alterations to existing development.

For a Development Permit. The following may be permitted upon approval by the Land Administrator after public review:

1) Commercial recreation;
2) Ice roads and ice pads;
3) Exploration, prospecting or limited development in anticipation of resource extraction; and
4) Offshore development in compliance with the policies of § 19.70.040.

[245] Under NSBMC § 19.50.020, the Land Administrator (Planning Director) may elevate an administrative approval or a development permit decision to that of a conditional use process and the permit application for a Point Hope proposal would then be considered for approval by the NSB Planning Commission. Based on written findings that the elevation decision satisfied specific criteria notes in Title 19.

[246] North Slope Borough. 1990. North Slope Borough Municipal Code Of Ordinances. Title 19: Zoning. Chapter 19.40: Zoning Districts. Accessed April 12, 2016. www.municode.com/library/ak/north_slope_borough/codes/code_of_ordinances.

For a Conditional Permit. The following may be established upon approval of the Planning Commission: All conditional and other development permit applications elevated by the Land Administrator under § 19.50.020.

Title 19 also requires projects to be evaluated by specific policies such as Village Policies (§ 19.70.020), Economic Development Policies (§ 19.70.030), Offshore Development Policies (§ 19.70.040), Coastal Management Policies (§ 19.70.050), and/or Transportation Corridor Policies (§ 19.70.050).

Some Point Hope residents have expressed interest in creating a Point Hope Zoning Commission, similar to the Barrow Zoning Commission, whose purpose is to "implement the Comprehensive Development Plan for Barrow and aid in fire prevention and the delivery of emergency medical services."[247] Implementation of such a commission would require coordination between the community leadership and the North Slope Borough.

9.3 Kobuk Seward Peninsula Resource Management Plan

The Bureau of Land Management (BLM) resource management plans (RMPs) guide the BLMs Management Actions on the public lands. In Alaska, this includes non-selected BLM-managed lands, as well as those lands selected by the State of Alaska and Native Corporations, but not yet conveyed. The RMP decisions establish goals and objectives for resource management, the measures needed to achieve them, and parameters for using BLM-managed lands. The plan identifies lands that are open or available for certain uses, including any applicable restrictions, and lands that are closed to specific uses. Essentially a RMP can be thought of as a 'blueprint' for how the BLM will manage a specific area over a specific timeframe, typically 10-15 years. Proposed development of public lands during this timeframe will be required to comply with this blueprint and align with the objectives, goals, and actions detailed within the plan as it relates to identified subject areas (e.g. Western Arctic Caribou Herd Insect Relief Habitat, Cultural Resources, etc.)

Resource Management Plans (sometimes called land use plans) are developed in accordance with the Federal Land Policy and Management Act of 1976 (FLMPA), thereby ensuring that the RMPs are developed under the principals of multiple use and sustained yield for all. Development of a RMP is a collaborative and cooperative process; the process includes input from state, local and Tribal governments, and members of the public throughout its development cycle.

The current RMP for the BLM-administered public lands that encompasses the Point Hope area and its Area of Influence is the Kobuk-Seward Peninsula (KSP) Approved Resource Management Plan,[248] approved

[247] North Slope Borough. 1990. North Slope Borough Municipal Code Of Ordinances. *Title 19: Zoning. Chapter 19.30: Administrative Provisions, § 19.30.020 – Barrow Zoning Commission; Creation and Membership*. Accessed August 24, 2016. www.municode.com/library/ak/north_slope_borough/codes/code_of_ordinances.

[248] United States Department of the Interior. Bureau of Land Management. 2008. *Kobuk-Seward Peninsula Approved Management Plan*. Accessed Sept. 20, 2016.

in 2008. This plan is currently in the process of being updated and is in the final implementation/approval stages, after undergoing an extensive four year environmental analysis and public engagement process. While no date on final approval of the pending KSP RMP has been announced, when the updated plan is approved and released, it will detail the BLM's management direction on 11.9 million acres of public lands over the next 15 years. This RMP will not impact management of [conveyed] State or Native Corporation lands or NSB lands. A distinct process specifically designed to garner public feedback about the scope and content of RMPs exists, which the BLM is required by regulation to follow. Concerns towards subsistence or the impact of development of public lands, should be addressed to the BLM.

While all of the KSP Resource Management Plan is pertinent to Point Hope residents when considering the Point Hope Area of Influence, there are several issues of particular importance for residents that are outlined in the Plan. These include goals relate to Areas of Critical Environmental Concern (ACEC), fish and special status fish, lands and realty, livestock grazing, mineral management, travel management, vegetation, wild and scenic rivers, and wildlife. Other areas of concern included in the KSP Resource Management Plan that affect the Point Hope region but do not specifically call-out areas within the Point Hope Area of Influence include: abandoned mine lands and hazardous materials management; air quality, social and water resources; cultural resources; fire management and ecology; forest and woodland vegetation and forest products; noxious and invasive weeds; paleontological resources; renewable energy; subsistence; and visual resources.

Areas of Critical Environmental Concern: The Plan calls for designating six areas within its boundaries as ACEC. Notable for Point Hope is the Western Arctic Caribou Herd Insect Relief Habitat, totaling approximately 1,529,000 acres to protect important insect relief habitat for caribou. The Management Actions include: limiting off-highway vehicles to 2,000 pounds, seasonal restrictions and additional stipulations for leasable mineral land; developing an ACEC management plan to develop more specific protection measures and leasing stipulations, closing the area to grazing, and aircraft use limited by both season and altitude.

Fish and Special Status Fish: The Plan calls for maintaining and reporting important migratory and resident fisheries habitats, including the maintenance of existing habitat improvements. Further, the Plan calls for working cooperatively with ADF&G, USFWS, National Park Service (NPS), local Native corporations, and private nonprofit corporations to inventory habitats and populations to help identify streams that contain anadromous and resident fish species on Federal public lands. Fish inventorying and monitoring within the Point Hope Area of Influence include the Kukpowruk, Ipewik, and Nilik rivers.

Lands and Realty: The plan goals for lands and realty include meeting public needs for use authorizations, such as leases and rights-of-way, retaining public lands with a high resource value, and adjusting land ownership to consolidate public land holdings, acquire lands with high resource value, and meeting public and community needs. While the entire section regarding lands and realty is pertinent to Point Hope residents, especially during subsistence activities within the KSP, areas especially addressed in the Point

Hope Area of Influence include areas reserved for military use in Cape Lisburne, Point Lay, and Cape Sabine.

Livestock Grazing: Reindeer grazing is allowed only in certain allotments, non e of which are in the Point Hope area. Consideration of reindeer grazing as an economic development opportunity would need to consider the availability of federal land available for reindeer grazing. However, the Management Decisions stipulate that applications for grazing permits be considered on a case-by-case basis, possibly allowing grazing in the area.

Mineral Management: The calving and inspect relief habitat for the Western Arctic Caribou Herd is within Point Hope's Area of Influence and is open with special stipulations for exploration and prospecting and is available for leasing with special stipulations.

Travel Management: All of the calving and inspect relief habitat for the Western Arctic Caribou Herd is subject to a 1,500 pound curb weight limitation for off-highway vehicle travel as are some other areas within the Point Hope Area of Influence.

Vegetation: The plan seeks to identify, conserve, and monitor rate and vulnerable habitats and plan communities within its boundaries and ensure that proposed land uses avoid inadvertent damage to habitats with special status species plans and plant communities. Completion of land cover classifications in Point Hope, De Long Mountains, and Point Lay U.S. Geologic Survey topographic map quadrangles are needed.

Wild and Scenic Rivers: Eleven rivers within the planning area have been determined to be eligible for inclusion in the Wild and Scenic Rivers system, including the Nikik/Ipewik/Kuukpukk river system.

Wildlife: The goals for wildlife in the KSP Resource Management Plan include maintain and protecting subsistence opportunities, which also determining management actions and allowable uses that will affect subsistence opportunities and resources maintaining a sufficient quality and quantity of habitat to support the wildlife and mitigate impacts to wildlife species and habitats from land uses in BLM-managed lands. Management Decisions include working cooperatively with State and other Federal agencies to implement the Western Arctic Caribou Herd Cooperative Management Plan and other cooperative management efforts.

9.4 Current Land Use

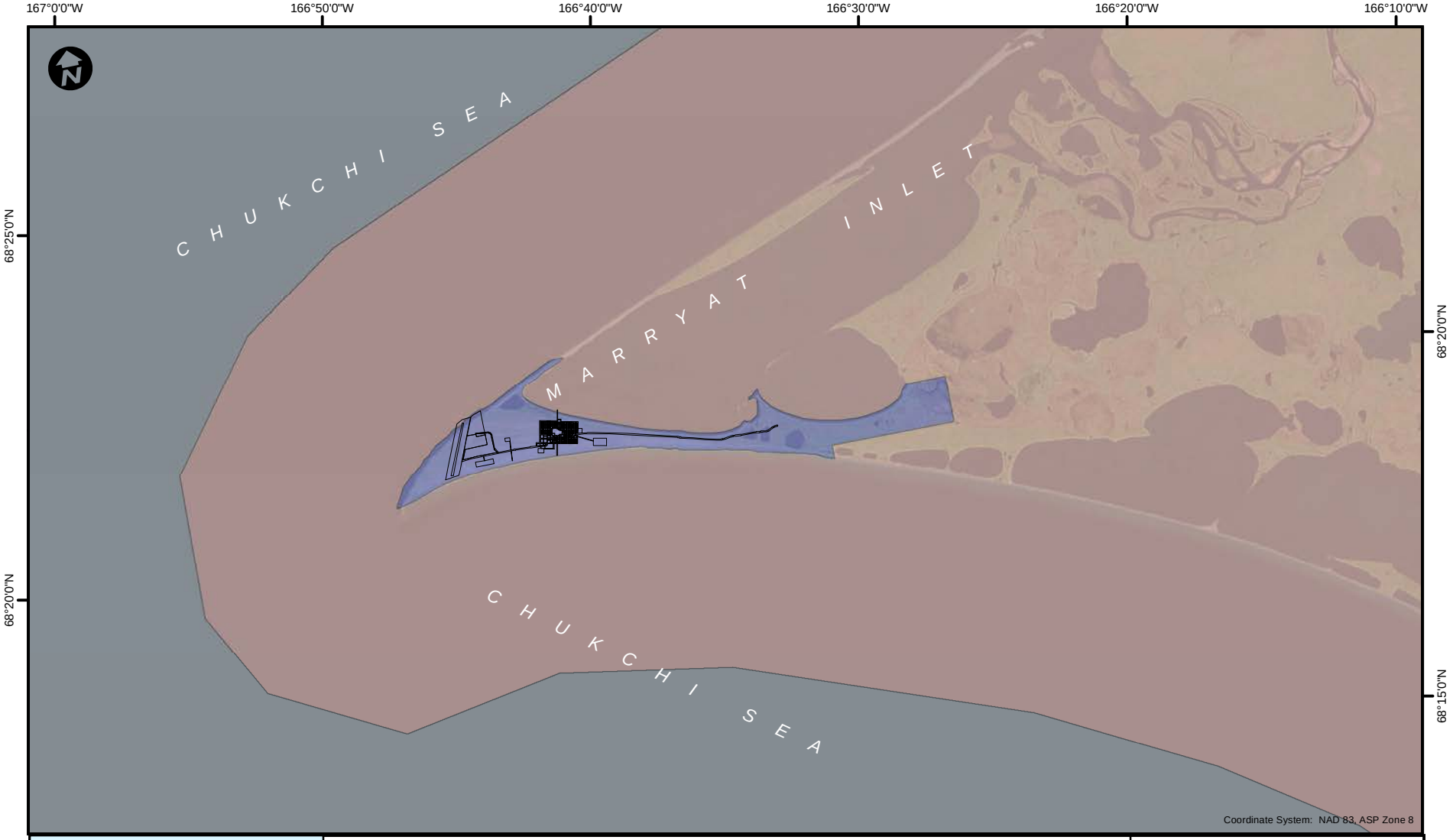
The majority of the people in Point Hope live in an area of less than one-half square mile. The center of town contains commercial businesses, the church, government facilities, the school, the airport and industrial uses. Residential uses surround the center on all sides. Maps 24 and 25 show the current land use and land ownership in Point Hope, respectively. The Current Land Use map, Map 24, includes mixed use, residential use, industrial use and subsistence use. The intent of each of these uses is identified below.

- Mixed Use - Mixed use areas are areas that contain a wide range of commercial and residential uses and exclude industrial and resource development uses.

- Residential Use - Residential land use is primarily residential.

- Industrial Use - The industrial land use area contains necessary community development such as such as the fuel tank farm, airport, cemetery gravel pits, and landfills.

- Subsistence Use - The subsistence Area of Influence for Point Hope hunters is illustrated in Map 11, which shows a generalized location of where the majority of village subsistence activities occur.



Point Hope Village District

North Slope Borough Conservation District

Parcels & Right-Of-Way

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POINT HOPE, ALASKA
NSB ZONING DISTRICTS

Scale:

0 0.95 1.9 2.85 3.8 Miles

Map: **23**

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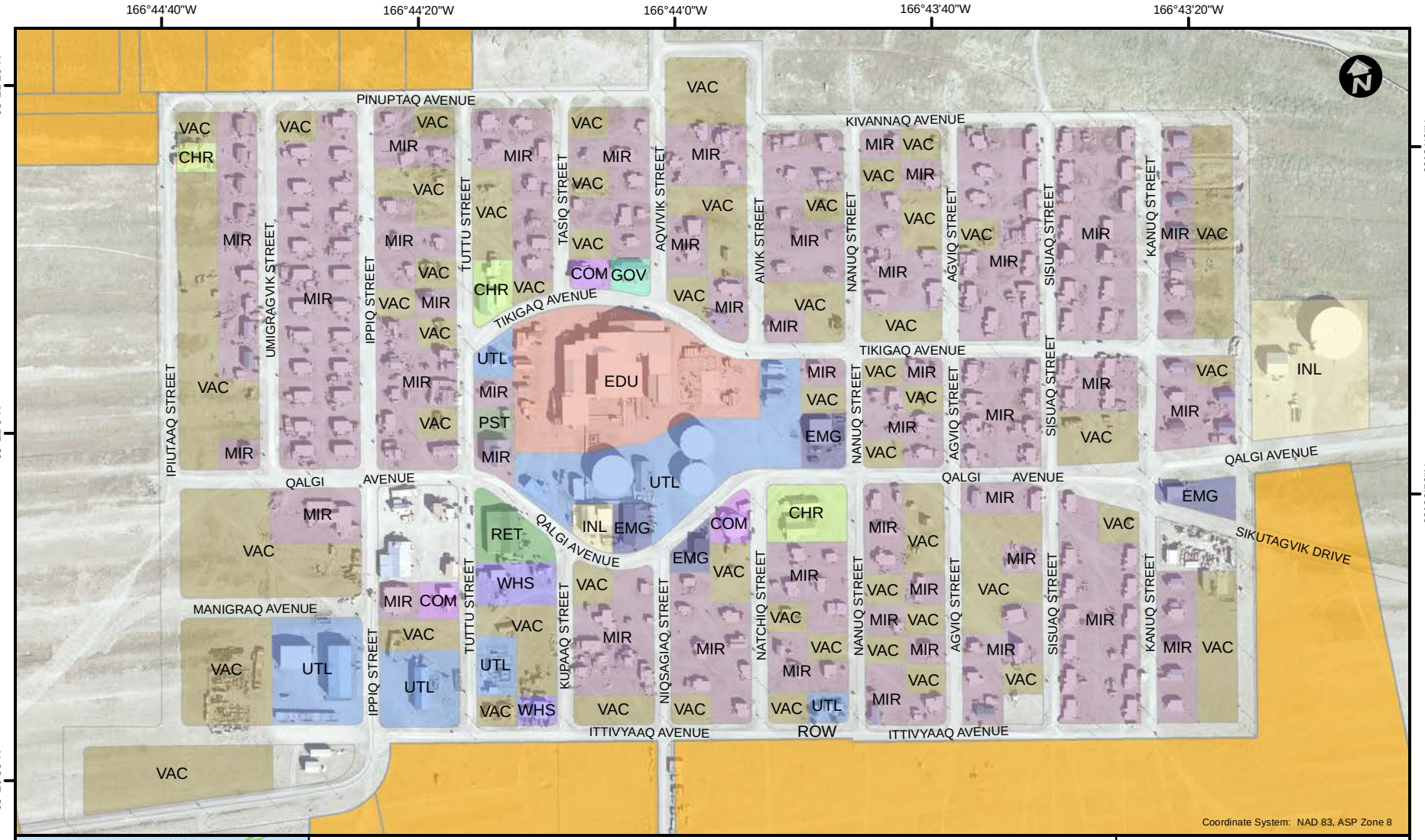

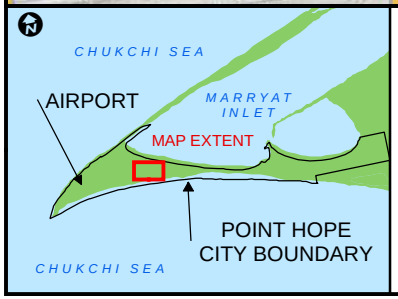

- Native Allotments
- Church (CHR)
- Community Centers (COM)
- Education (EDU)
- Emergency / Medical (EMG)
- Government Building (GOV)
- Light Industrial (INL)
- Mixed Residential (MIR)
- Post Office (PST)
- Mixed Residential (MIR)
- Retail / Store (RET)
- Right-Of-Way (ROW)
- Utility (UTL)
- Vacant (VAC)
- Warehouse (WHS)

For informational purposes only. Land Use Codes were provided by NSB Assessing.
Some land use classifications have been combined to simplify the map figure.
1. Community Center/Clubhouse and Recreation Center = COM, 2. Fire/EMT Station, Medical/Dental, Police/Correctional, = EMG,
3. Duplex, Multi Residential, Single Family Residential, Apartments, and Senior Center = MIR

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POINT HOPE, ALASKA CURRENT LAND USE

Scale: 0 0.02 0.04 0.06 0.08 Miles

Map: 24

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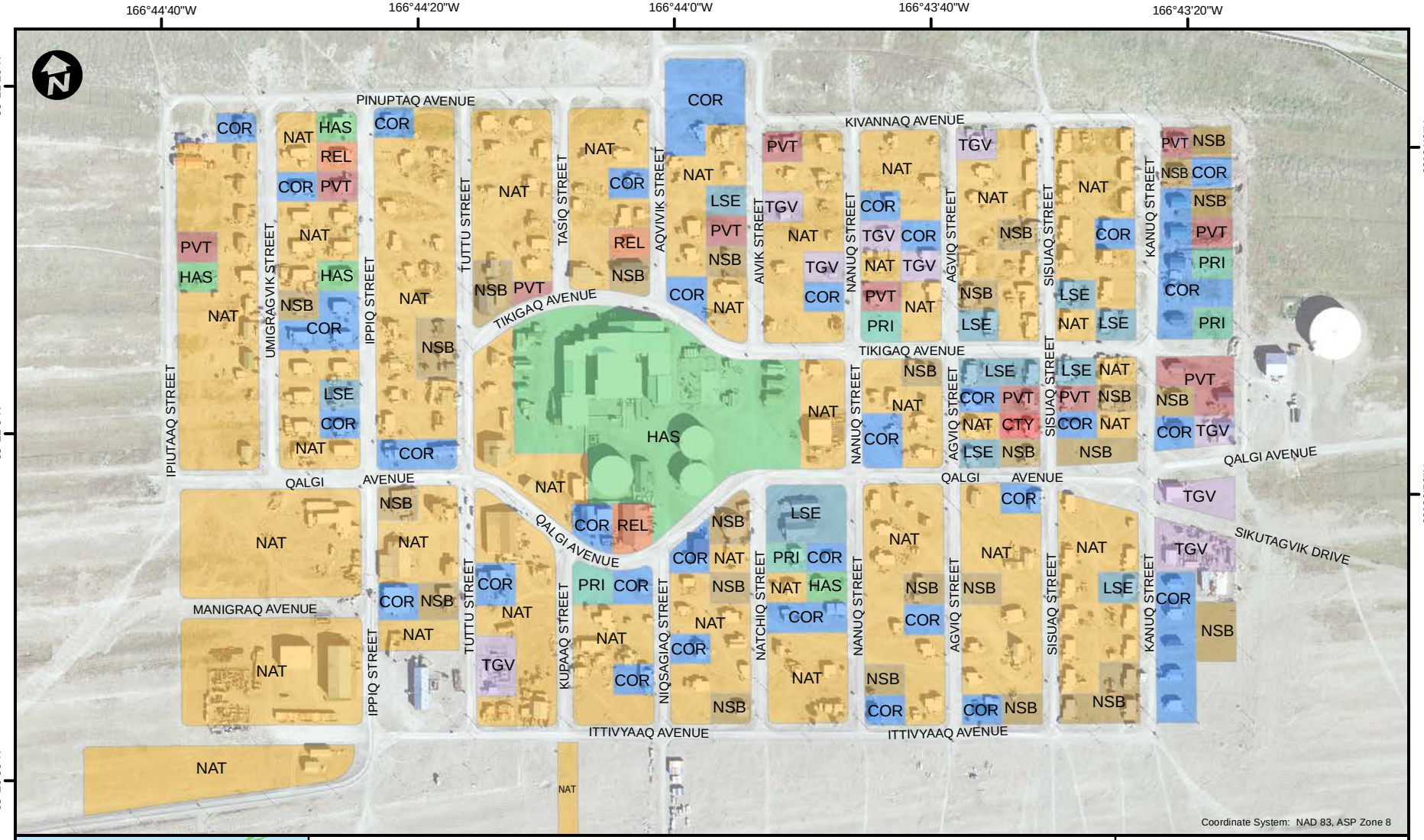

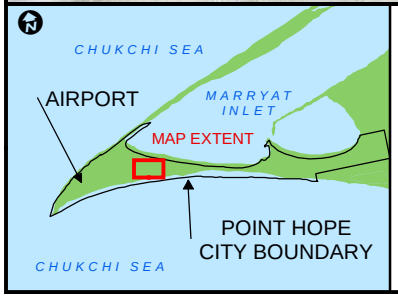

- Corporation (COR)
- City (CTY)
- Housing Authority (HAS)
- Lessee (LSE)
- Native Restricted (NAT)
- North Slope Borough (NSB)
- Primary (PRI)
- Private (PVT)
- Religious (REL)
- Tribal Government (TGV)

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POINT HOPE, ALASKA CURRENT LAND OWNERSHIP

Scale: 0 200 400 600 Feet

Map: 25

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9.5 Future Land Use

Point Hope is zoned as a Village District by the NSB but residents could request the establishment of more specific zoning districts and regulations through Title 19 text and zoning map amendments. The future land use map can act as a guide to identify appropriate zoning boundaries.

Industrial Districts. Land currently in industrial use could be rezoned as Industrial District(s), facilitating future expansion of public facilities or new industrial activities to take place within those districts.

Mixed Use Districts. Certain land areas within the village are suitable for housing, small community-serving businesses and public service facilities and could be rezoned, if desired by the community, to a mixed use district. The community could determine the level of administrative and public review for certain proposed land use activities within a mixed use district.

Residential Districts. Areas of the village wholly suitable for residential use could be rezoned specifically for that purpose. Additionally, some areas within the center of the community may be more suitable for multi-unit residential development (duplex, tri-plex or apartment buildings), a zoning district that distinguishes between single-family residential and multi-family residential could be created to further regulate those uses. Certain home occupations should be allowed in residential districts, including small daycare home occupations and other small-scale businesses that offer needed services to the community and that do not generate noise, trash, or traffic that is out of scale with a residential neighborhood and would not disturb neighbors' quiet and privacy.

The future land use maps (Map 26 and Map 27), presents mixed density residential use in two areas: both west and east of town, along Ipiutaaq Street and the unnamed street that parallels Kanuq Street and potential locations for an airport. These locations were identified by residents during an ADOT&PF scoping meeting. The suitability of any of the sites identified require comprehensive study and analysis.

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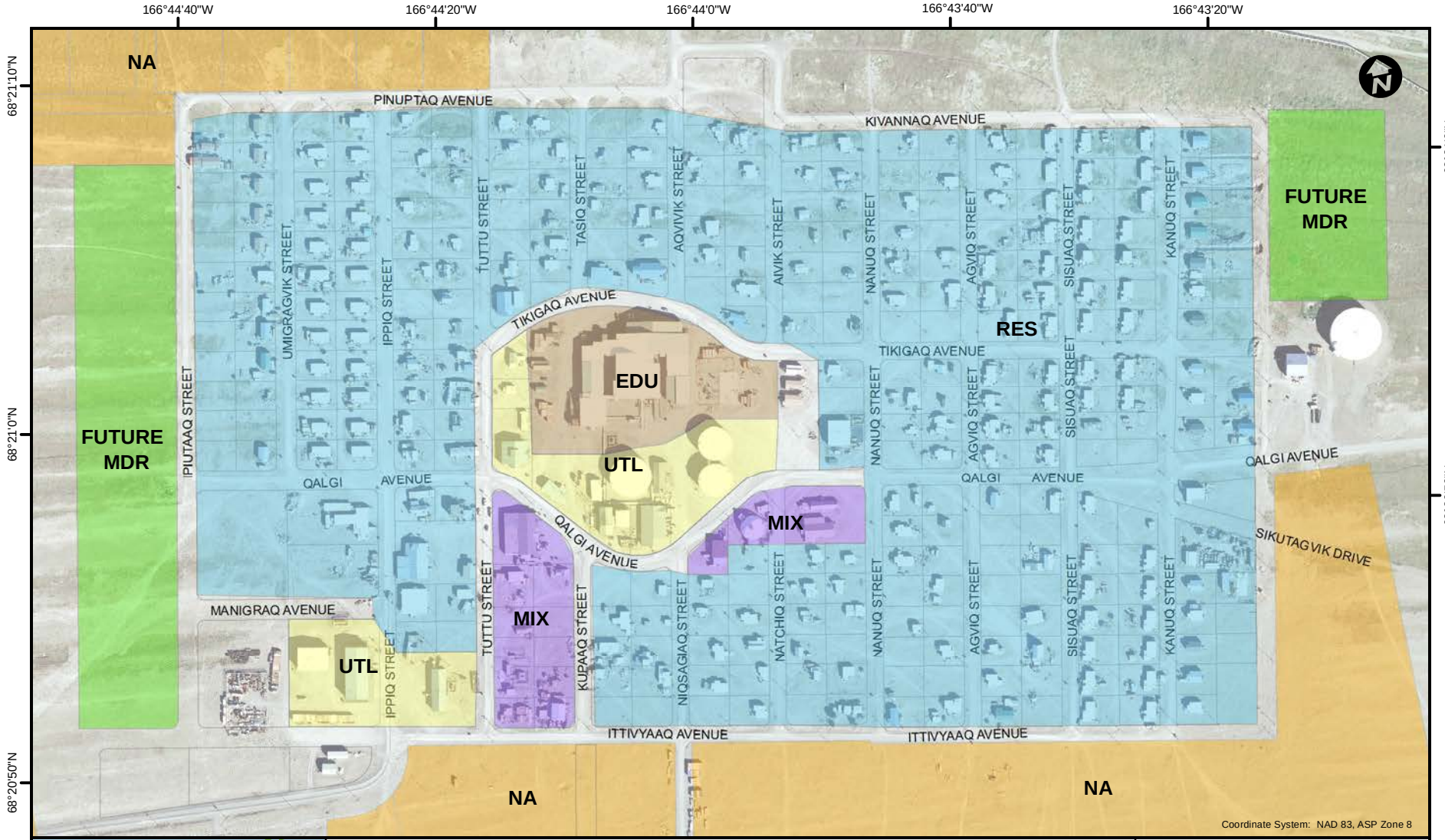

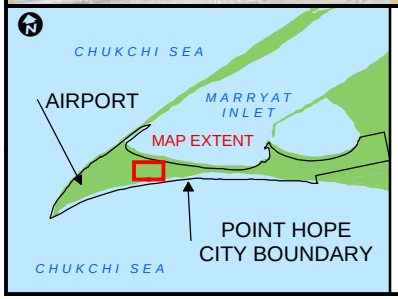

- Future Mixed Density Redidential Use (MDR)
- Native Allotments (NA) (Source: SDMS)
- Educational Use (EDU)
- Mixed Uses (MIX)
- Generally Residential Uses (RES)
- Generally Utility And Related Uses (UTL)

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POINT HOPE, ALASKA FUTURE COMMUNITY LAND USE

Scale: 0 200 400 600 Feet

Map: **26**

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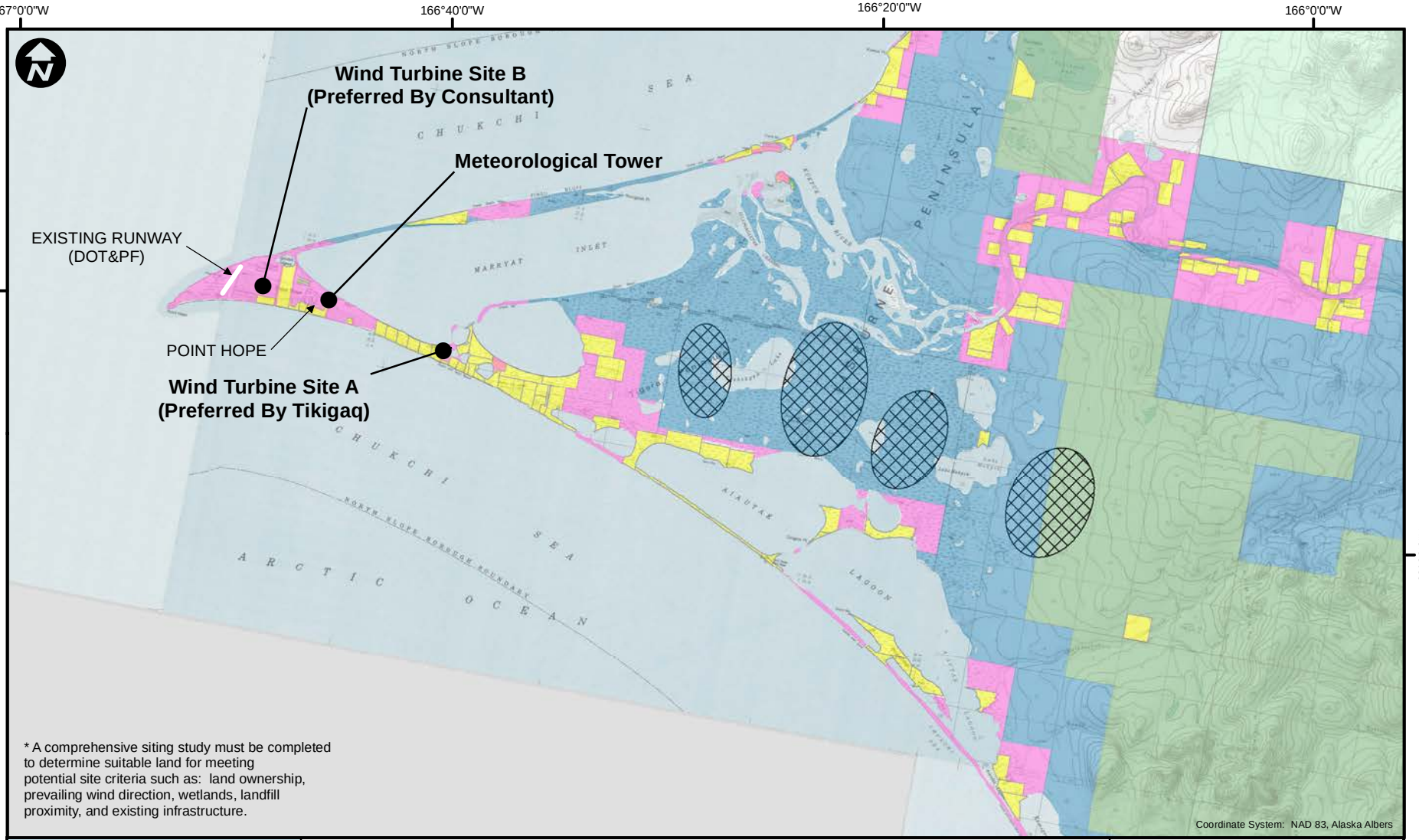

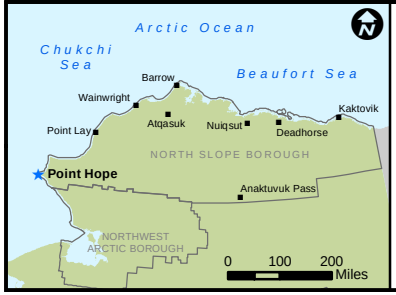

Potential Airport Relocation Sites (Identified By Residents)

Native Village Of Point Hope (Umiaq 2011)

Tikigaq (Umiaq 2011)

Native Allotment (SDMS)

Regional Boundary - Arctic Slope Regional Corp. (SDMS)

Tentative Approved (SDMS)

* SDMS: Alaska Spatial Data Management System

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POINT HOPE, ALASKA
FUTURE REGIONAL LAND USE

Scale:

0 1 2 3 4 5 Miles

Map: **27**

UMIAQ

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Chapter 10. Goals, Objectives, and Implementing Strategies

> ***Goals*** are broad statements that describe long-term desired outcomes.
>
> ***Objectives*** provide more specific information of what can be done to achieve a goal.
>
> ***Implementing Strategies*** describe specific steps to reach an objective.

The following goals and objectives are intended to reflect the values of the community and respond specifically to the Strengths, Weaknesses, Opportunities and Threats (SWOT) expressed by the community in meetings hosted by the North Slope Borough Planning and Community Services Department during development of this plan as well as issues raised during research and discussions with residents.

The Point Hope Tri-lateral Committee contracted with the OSIYO Group in 2015 for visioning and strategic planning assistance that resulted in the development of a Trilateral Committee Mission, Purpose, Guiding Principles, and Strategic Directives which are summarized in Chapter 1. The goals in this Plan are in part based on the Tri-Lateral Committee's prioritized Strategic Directives. However, some residents expressed concern that protection of subsistence resources and activities should be the highest community priority. Because this comprehensive planning effort sought important issues facing the community overall, the eight goals presented in this chapter are not listed in priority order.

Each goal is accompanied by one or more objective that suggests how the community might achieve the intent and substance of the goal. Each objective is followed by an Implementing Strategy that describe how the action would be implemented. Implementing Strategies may establish how a specific course of action could be accomplished by village residents, village leadership, NSB Administration and staff, NSB legislators, various development permitting and funding agencies, and/or other entities.

Village leadership participating in and contributing to the formation of the plan's development include members of the City Council, the Point Hope Tribal Council, Village Elders, hunters, NSBSD on-site personnel, NSB staff members providing services in the village, and the Native Village Corporation Board Members. However, in reference to the following Implementation Strategies, village leadership generally refers to the Point Hope City Council, Native Village of Point Hope Tribal Council, and Tikigaq Corporation. In some cases, not all of the village leadership entities will be involved in the implementation strategy due to expertise or capacity.

Comprehensive Plan Goals

Goal 1: Facilitate economic development
Goal 2: Maintain, protect, and expand community facilities and infrastructure
Goal 3: Support housing quality, variety, and affordability
Goal 4: Maintain and expand community services to provide improved care for residents
Goal 5: Guide cohesive, cost-effective and orderly community development
Goal 6: Protect subsistence resources and activities
Goal 7: Protect historic and cultural resources and the natural environment
Goal 8: Provide educational resources that prepare students for the workforce while also inspiring community participation and leadership.

10.1 Goal 1 – Facilitate economic development

Residents seek greater opportunities for year-round, fulltime employment. During community meetings, residents often expressed the need for jobs and job training along with the need for daycare to enable families with children to work. Residents generally prefer employment opportunities that are compatible with subsistence resources and activities. The purpose of Goal 1 and its associated objectives is to facilitate opportunities within the village.

Table 19: Goal 1 - Facilitate economic development	
Objectives	**Implementing Strategies**
1.1. Designate land and provide adequate infrastructure in appropriate locations for community business activities.	a) The village leadership will work with the NSB Planning Department to determine if amendments to Title 19 zoning and land use code is needed to encourage economic opportunities related to new local businesses, alternative energy systems, eco-tourism, cultural-tourism, and commercial recreation.
	b) Village leadership will seek funds from government entities, corporations, and private foundations to study the feasibility of establishing new businesses related to energy conservation, renewable energy sources, and greenhouse agriculture.
1.2. Facilitate the establishment of businesses and services and employment opportunities.	a) Village leadership will work with the NSB to determine if amendments to Title 19 zoning land use code is needed to provide flexible zoning and development standards to facilitate the following community-serving uses: Greenhouses, sale of locally grown or hunted foods, an appliance and small vehicle repair shop, and various tourism-related facilities, and services such as lodging and food service.
	b) Village leadership will work with the North Slope Borough School District and Iḷisaġvik College to provide education, training, and certification program to residents who seek to learn construction trades, vehicle repair, and maintenance skills, and other service and repair skills that are useful to have available locally.
	c) Establish childcare services to facilitate greater participation in the local workforce.
	d) Investigate the feasibility to develop commercial reindeer herding business.
	e) Develop tourist opportunities for cruise ship passengers that could include traditional dances, sight-seeing opportunities and Native arts and crafts.
	f) Facilitate greater coordination at the local level on cruise ship travel and investigate creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.

Table 19: Goal 1 - Facilitate economic development	
Objectives	**Implementing Strategies**
1.3. To the extent practical, avoid economic development activities or non-subsistence activities that could alter or disturb wildlife habitat or migratory patterns.	a) Village leadership, with assistance from NSB grant-writing staff, will seek funds to develop an economic development plan and program to identify new business, job and career opportunities for residents based on local resources that can be sustained without subsidies.
	b) Village leadership will seek Arctic Slope Regional Corporation (ASRC), State, and grant funds for training, apprentice programs and funds to support viable start-up businesses.
	c) Village leadership and NSB collaborate to develop an Alaska Regional Development Organization (ARDOR) to facilitate greater regional economic development potential.

10.2 Goal 2 – Maintain, protect, and expand community facilities and infrastructure

Point Hope has a significant amount of existing infrastructure, community facilities, and transportation systems, including a gravel and paved road network, piped water and sewer systems, electric power, drainage systems, and an airport runway. It is important to maintain this infrastructure and expand when needed to improve the quality of life in the community.

Table 20: Goal 2 - Maintain, protect and expand community facilities, infrastructure and services

Objectives	Implementing Strategies
2.1. Continue to maintain water, sewer, electric power, facilities, and communication infrastructure in good operating condition while seeking to increase their energy efficiency over time.	a) The NSB will identify utilities and community facilities that may be vulnerable to damage caused by climate-related impacts including melting permafrost, fire, erosion, and/or flooding and consider appropriate action(s).
	b) Village leadership will seek ways to improve telecommunication services, including cell phone and internet service.
	c) NSB and village leadership will form and maintain an active Local Emergency Planning Committee (LEPC) to manage hazard mitigation planning and preparedness. The Committee will update and implement the Hazard Mitigation Plan to prepare for, and respond to, flooding, fires, pests, and other hazards.
	d) The NSB will restrict development on erosion-prone or vulnerable areas and bluffs and will designate those areas as hazard zoning districts or overlay zoning districts within which appropriate restrictions will apply.
	e) As practicable, the NSB will locate, design, and construct needed community facilities, such as snow fences or landfill sites, in such a way as to avoid conflicts with wildlife habitats and migration periods and patterns.
	f) Identify infrastructure and facilities that may be vulnerable to damage caused by climate-related impacts including subsidence from melting permafrost, fire, erosion, and/or flooding and consider appropriate mitigating action(s).
	g) Maintain and expand rock abutment to further protect the coastline and old village site.

Table 20: Goal 2 - Maintain, protect and expand community facilities, infrastructure and services	
Objectives	**Implementing Strategies**
2.2. Maintain and improve the transportation network.	a) The NSB will work with village leadership to seek a long lasting, cost-effective road hardener system to mitigate dusty roads during summer months.
	b) Village leadership will seek funding to complete the Kuukpak (Evacuation) Road to the foothills.
	c) Village leadership will continue to not support realignment of the airport and seek its relocation east of the village.
	d) The NSB will examine road areas where safety could be improved through signage and will install signs where needed.
	e) Investigate additional funding opportunities for additional road and utility development from Bureau of Indian Affairs, State of Alaska, Denali Commission, Housing and Urban Development, and federal transportation funds.
	f) Continue to investigate gravel sources to support future development.
	g) Investigate the feasibility of implementing a radar system for planes and ships
2.3. Maintain and upgrade communication services.	a) Support the extension of fiber optics into Point Hope and coordinate land use planning and permitting when needed.
2.4. Facilitate research in the feasibility, design and operation of local renewable energy sources such as wind and solar power and protect the location of those sites.	a) Village leadership and NSB will identify land suitable for alternative energy systems and will pursue funding for design and development.

10.3 Goal 3 – Support housing quality, variety, and affordability

In Point Hope, it is common for two or three generations to share one home, resulting in housing overcrowding. Without a supply of new homes, it is difficult for young adults and new families to find entry level housing. The costs of construction are high as is the cost to extend roads, water, sewer, and power utilities to new lots. As a result, it is most cost effective to facilitate new housing development in areas that are already served by roads, power, water, sewer, and communications utilities, such as infill lots. These lots are scattered throughout the community and yet are not fully being utilized. Additional housing could be located along the perimeter of the community so that utilities would not need to be extended a great distance.

Table 21: Goal 3 – Support housing quality, variety, and affordability

Objectives	Implementing Strategies
3.1. Seek comprehensive understanding of housing issues.	a) Develop a standard methodology for projecting future population growth with housing needs to evaluate current and future need. Review projections regularly and consider when prioritizing community needs and funding. Include short and long term strategy to address housing issues.
	b) Undertake a lot-by-lot infill study coupled with developable lots serviced by utilities and roads; determine ownership status and viability of property to be used for housing development.
	c) Track housing prices and rents with increases / decreases in household income to understand affordability.
	d) Create a program that provides assistance in resolving probate issues for vacant residential restricted lots.
3.2. Coordinate housing-related activities.	a) Establish a mechanism to advocate for ongoing state, federal and private funding support for housing using partnerships at the local and regional level.
	b) Analyze existing housing programs and efforts within different entities to determine gaps and duplicative efforts. Set up a housing coordination committee comprised of, for example, village leadership, homeowners, Cold Climate Housing Research Center, TNHA and others to coordinate housing activities.
	c) Promote financial literacy programs offered by lenders and non-profits that help prepare residents for future homeownership.
	d) The North Slope Borough School District will seek funding to provide adequate housing for teachers to facilitate their long-term retention in the community and to avoid competition for housing with existing residents.

Table 21: Goal 3 – Support housing quality, variety, and affordability	
Objectives	**Implementing Strategies**
3.3. Review and revise zoning and subdivision ordinances and consider the need for additional village zoning districts as needed to facilitate housing development.	a) Explicitly allow for assessory structures, including homes, on a single lot in the NSB municipal code.
	b) Develop strategies for development / redevelopment that incorporate an integrated mix of residential dwelling types to address affordability, such as higher density housing.
	c) Evaluate the NSB subdivision and zoning regulations and recommend changes where necessary to ensure that a sufficient amount of land is appropriately zoned and available for a variety of housing types and densities, including mixed-use development, for current and future housing needs.
	d) Develop zoning regulations for Assembly adoption that facilitate redevelopment of unusable and underutilized structures to housing in areas served by water, sewer and other utilities.
	e) Encourage a range of housing types through regulations and programs that accommodate special population groups such as the elderly, physically challenged, large families, and single room occupants.
3.4. Seek ways to reduce costs of constructing housing to facilitate greater affordability.	a) Work with Cold Climate Housing Research Center (CCHRC) to build affordable and energy efficient homes.
	b) Research the feasibility of ordering, delivering and assembling kit houses.
	c) Explore funding opportunities for tribal housing authorities, elder housing and low-income housing, such as federal and state grants.
	d) Encourage and support efforts to construct multi-family buildings to alleviate the overcrowded conditions while providing affordable options. Residents expressed the desire for a feasibility study for a constructing an apartment complex, possibly in coordination with Tikigaq Corporation that would also provide employment opportunities to residents.
3.5. Seek quality housing through renovations or demolishing unsafe homes.	a) Implement a program that facilitates demolishing homes or structures that are not suitable for occupancy.
	b) Seek grant funds to support retrofit weatherization efforts like the former RELI (Residential and Employment Living Improvement) program, passive ventilation systems, and other alternative building techniques to reduce energy consumption in existing houses and reduce costs for homeowners.
	c) Identify homes that may be vulnerable to damage from thawing permafrost, fire, erosion, and/or flooding and consider appropriate mitigating action(s).

10.4 Goal 4 – Maintain and expand community services to provide improved care for residents

Point Hope residents have expressed concern about the lack of health care in the community and opportunities for indoor recreation for all ages.

Table 22: Goal 4 – Maintain and expand community services	
Objectives	**Implementing Strategies**
4.1. Facilitate the development of facilities that provide opportunities for sustaining culture and improving health.	a) Village leadership, with assistance from NSB, will seek funding for ball fields and other facilities to provide residents with additional opportunities for exercise and recreation. The community has expressed the need for two different recreation centers targeting younger children and middle/high school students.
	b) Village leadership, with assistance from NSB, will seeking funding to provide places for residents to gather that may include an open field, outdoor recreation area, traditional trading center.
4.2. Plan for future health and social service needs	a) NSB, ASNA, village leadership, and Manillaq will collaborate on improved medical services to ensure the health and wellbeing of Point Hope residents.
	b) Develop a program for ensuring certification and training for local staff.
	c) Schedule regular evaluation and assessment of clinic facility and equipment with NSB CIPM.
4.3. Ensure effective community emergency preparedness.	a) Coordinate hazard vulnerability assessments. Create an erosion mitigation plan and corresponding shoreline protection program.
	b) Map the location and track the stability of ice cellars.
	c) Provide facility space as needed to store materials and equipment intended for response to community emergencies.
	d) Disseminate information, such as family disaster supply kit contents, to residents and business about disaster preparedness to protect both people and assets.
4.4. Consider additional facilities and services as opportunities to develop them arise.	a) Residents have expressed the desire for additional facilities and services that include additional health aides to address the shortage, expanded senior services, port authority, a recycling program, drugs and alcohol prevention and rehabilitation programs, and 24 hour police service as well as a bank, laundry mat, and greenhouses.

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10.5 Goal 5 – Guide cohesive, cost-effective and orderly community development

Although much of Point Hope is comprised of Native restricted properties that are not subject to municipal zoning regulations, zoning district(s) provide guidance to Native restricted properties as well as regulate those developments and uses on non-restricted properties. Different zoning districts or land use designations could improve land management in and around the community particularly as it pertains to facilitating additional housing development, the provision of local-serving businesses, and providing local employment opportunities.

Table 23: Goal 5 - Guide cohesive, cost-effective and orderly community development

Objectives	Implementing Strategies
5.1 Designate adequate land within the village to maximize existing capital investments in water, sewer and roads for additional residential and community-serving commercial land uses.	a) The NSB in cooperation with the village leadership and residents will consider zoning regulations for the village that encourage and facilitate infill development on vacant or underused lots where utilities exist by allowing a mixture of uses, higher densities, lower parking requirements and flexible setbacks, where appropriate.
	b) The NSB, in cooperation with village leadership and residents, will identify land areas and waters within its Area of Influence that are deemed as critically important subsistence areas. Once identified, specific regulations and/or conservation programs will be adopted by the NSB Assembly to protect these areas.
	c) Using the Comprehensive Plan Future Land Use Map as a guide, the Tikigaq Corporation, City of Point Hope, Native Village of Point Hope, and residents will work with NSB staff to complete the 14(c)(3) process to clear title of lands for present and future public land uses.
	d) Seek community consensus on the best location for future residential development as depicted in the Future Land Use Map.
5.2. Facilitate the establishment of community-serving businesses and services.	a) The NSB will provide flexible zoning and development standards for community-serving uses such as recreational facilities like ballfields; appliance and vehicle repair shops; greenhouses; daycare; and various tourism-related facilities and services such as lodging and food service.

Table 23: Goal 5 - Guide cohesive, cost-effective and orderly community development	
Objectives	**Implementing Strategies**
5.3. Designate land in appropriate locations for renewable energy electric power generation, storage and distribution systems to facilitate the community's efforts towards greater energy independence.	a) The NSB in cooperation with village leadership and residents will investigate rezoning areas in or near the village to allow community-scale wind energy systems when deemed economically feasible to facilitate greater energy independence.
	b) The NSB will amend the Title 19 land use regulations to allow wind generators and solar panels on homes, businesses and community facilities as a principal allowable use when located in a safe and quiet distance from other uses.

10.6 Goal 6 – Protect subsistence resources and activities

Subsistence is a way of life for a majority of residents in Point Hope and it is important to protect both subsistence resources and uses. It is critical that these resources and access to them are protected for future generations. Residents must teach subsistence knowledge and skills to youth so it can be passed on to future generations. This knowledge includes traditional hunting, fishing, and gathering skills; understanding of the land, air, and waters; and an understanding of actions needed for the protection of wildlife and its habitat.

Table 24: Goal 6 – Protect subsistence resources and activities

Objectives	Implementing Strategies
6.1. Provide stewardship for the land and subsistence resources, and promote Native culture and the traditional lifestyle.	a) Village leadership will work with North Slope Science Initiative (NSSI) member organizations to enhance communication and coordination to identify best available technologies and management practices to sustain healthy subsistence wildlife resources.
	b) Village leadership and NSB staff will seek effective documentation of local and traditional knowledge of wildlife habitat, migratory patterns, weather, currents, ice conditions, etc., and will communicate that knowledge to state and federal resource management agencies and to staff of public and private science projects and programs when appropriate.
	c) When changing conditions warrant, village leadership will work with the NSB staff to formulate adaptive land and resource management practices, measures and permit stipulations to ensure adequate stewardship of land, water, and wildlife resources, such as protecting migration routes.
6.2. Ensure trapping, hunting, and fishing rights are available for Point Hope residents.	a) Village leadership will work with NSB Wildlife Management Department staff to ensure that NSB and local hunters' voices are present at federal and state agency meetings to support the continued hunting of subsistence wildlife within the Point Hope Area of Influence.
	b) Village leadership will work with state and federal agencies to monitor, and when necessary, contribute to proposed state and federal government agency changes to hunting regulations that may be applied to residents (e.g. number and length of permits, changes in bag limits, access limits, and other new restrictions or lessening of restrictions that may occur as a result of changes to wildlife population numbers or behaviors). They will seek to ensure that regulations are consistent with both scientific principles and local and traditional knowledge.
	c) Village leadership will coordinate with NSB Wildlife Management Department staff to provide current information on wildlife populations to federal and state agencies to support the continued hunting of subsistence wildlife within the Point Hope Area of Influence.

Table 24: Goal 6 – Protect subsistence resources and activities	
Objectives	**Implementing Strategies**
6.3. Protect and enhance food drying, storage ice cellars, and other tools and facilities needed for subsistence activities.	a) Village leadership will seek local or regional grant-writing expertise to seek funding for rehabilitating or repairing damaged or failing ice cellars or creating new ice cellars for individual or village cooperative use.
	b) Village leadership will work with NSB staff to develop building setback standards or permit stipulations to protect existing ice cellars from damage related to new construction in close proximity to the cellars.
	c) Seek funding and alternative methods to minimize dust on roadways that can contaminate drying fish and meat.
	d) Identify potential buildings that could be used for boat repair and facilitate use with owners.

10.7 Goal 7 – Protect historic and cultural resources and the natural environment

Cultural resources provide a sense of history and family to Point Hope residents. These resources must be preserved to respect residents' ancestors and cultural heritage. Protecting the natural environment is important for both sustaining a subsistence lifestyle but also for its own intrinsic value.

Table 25: Goal 7 - Protect historic and cultural resources and the natural environment

Objectives	Implementing Strategies
7.1. Facilitate preservation of the Inupiaq language through improving Native language fluency.	a) Establish a daycare center that includes an Iñupiat language immersion program
	b) Encourage native speakers to speak Iñupiaq at home, especially to children.
	c) Expand the Iñupiaq Immersion Program.
	d) Continue and expand the use of the Rosetta Stone program for language preservation and develop Native language education programs for adults.
7.2. Protect structures and areas that are an important part of Point Hope's history	a) Develop measures to protect historic sites from erosion and excessive access to historic and cultural areas that may include installing appropriate signage, fencing and/or shelter structures to protect resources from damage.
7.3. Use updated and comprehensive data about the natural environment to support informed decision-making and establish regulatory and policy measures to protect natural environment when and where possible.	a) Review and potentially modify the North Slope Borough Municipal Code to further protect subsistence lands.
	b) Identify and map sensitive natural environments such as wetlands and vegetation and critical habitats / nesting areas of threatened and endangered species.
	c) Seek research on the effect of invasive species as the Arctic experiences increased maritime traffic.
	d) Develop regulations to protect tundra from development and ATV damage.
7.4. Remediate contaminated sites within the community and its area of influence.	a) Coordinate with the State of Alaska on outstanding contaminated sites in the Point Hope area and seek remediation funding.

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10.8 Goal 8 – Provide educational resources that prepare students for entering the workforce while also inspiring community participation and leadership.

Residents stress the importance of education of their youth. During community meetings, residents expressed the need to focus on education, both to prepare students to become community leaders and to be qualified for employment opportunities. The purpose of Goal 8 and its associated objectives is to facilitate educational opportunities within the village.

Table 26: Goal 8 – Provide educational resources that prepare students for entering the workforce while also inspiring community participation and leadership.

Objectives	Implementing Strategies
8.1 Prepare students to be community leaders.	a) Encourage student programs that foster leadership skills, such as student council and peer-mentoring activities.
	b) Develop a sense of citizenship and ownership in the community through student participation in community projects, such implementing this comprehensive plan.
8.2 Prepare students to enter the workforce	a) Develop a "how to" employment library, focusing on job skills, financial aid, and other topics.
	b) Promote existing scholarship opportunities and continue to develop and expand scholarships to meet the needs of students and employers.
	c) Evaluate the availability and needs of technical services within the community.
	d) Develop an apprenticeship program, which would provide training to create new skills in villages, supported by a regional network for technical assistance.
	e) Create a job-shadowing program that matches students with local professionals to share existing traditional and technical knowledge and to model responsible work practices and ethics.
	f) Evaluate the existing vocational education programs within the community and how it address the needs.
	g) Evaluate the existing vocational education programs within the community and how it address the needs.

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Chapter 11. Implementation and Plan Revision

The Point Hope Comprehensive Plan is intended to be a living document. Because situations change, the Objectives tables in Chapter 10 have been designed to be updated to reflect current priorities and opportunities. The community leadership and the NSB may wish to update the tables each year as part of the joint process to develop an annual work plan and priorities for capital projects.

This plan is a guide that provides direction for the village leadership when collaborating with NSB, state, and federal agencies, and other organizations. For example, individual land use proposals can be evaluated against the future land use maps. Such proposals may include a residential subdivision, transportation projects, recreational facilities, sanitation facilities, or other infrastructure. The designations in the future land use maps can also be reviewed when Title 19 is updated to determine if amendments are warranted to the types of zoning districts and the actual designations on the official zoning map. Generally, community comprehensive plans have a 20-year planning horizon, and ideally, they are reviewed every two years for potential updates and updated as a matter of procedure every five years. Regularly updating the objectives tables in Chapter 10 will make it easier to complete the next update of the entire plan.

11.1 Capital Project Planning

Point Hope has had a number of significant capital projects over the last five years. A major renovation of Tikigaq School is nearly complete that includes a gymnasium addition. Additional projects include upgrades to the power plant and the sewer main line.

The NSB's revenue is largely dependent on taxes from oil and gas infrastructure, and this revenue diminishes as facilities age. This revenue also affects the Borough's bonding rating (i.e., the interest rate on borrowing money). Since bonds are the primary funding source for NSB capital projects, it is increasingly important that Point Hope seek alternative funding for capital projects when possible.

Table 27 provides a list of potential capital projects that may be needed or desired in Point Hope over the next 5-, 10-, or 20-year period. It is assumed that current NSB facilities, such as buildings and large vehicles or equipment, will continue to receive normal maintenance and upgrades by NSB to ensure safe and efficient operations for their remaining useful life. While the projects are not prioritized and may require greater detail, including cost estimates, the requesting or sponsoring entity will develop additional information when necessary. This list does not include vehicles or rolling stock such as graders, water trucks, or buses. Some of the facilities and assets identified in the table would likely be sponsored and funded by NSB general obligation bonds, while others could be sponsored and funded wholly or in part

by other entities. Funding for research and capital projects identified in this plan would likely come from state and federal funding sources, the Regional Native Corporation, the NSB Capital Improvement Program (CIP), and other grant sources.

Annually, the NSB meets with each village's city council to provide updates on capitally-funded projects. Staff also request a priority listing of projects from each community for potential inclusion and consideration in the annual capital funding cycle. In 2016, the City of Point Hope prioritized the following capital projects by resolution for funding by the North Slope Borough Capital Improvement Program:

1) Clinic expansion equal to other NSB clinics
2) Point Hope Facilities Major Repairs and Upgrade
3) Washateria, repair Search Rescue building, repair structural integrity of NSB/residential
4) Subdivision development of roads, electric distribution, water/sewer expansion blocks 23, 27 and 29 Point Hope Town Site
5) Erosion Protection seawall
6) Water and sewer repair and reevaluation the integrity of the system
7) Daycare center
8) Point Hope road repair and extension emergency evacuation
9) Property acquisition emergency shelter on higher grounds
10) Airport restroom facility
11) Public safety housing
12) Boat ramp on the north and southside of townsite
13) New dumpsite (relocation)

Although population growth is expected to be low over the next 20 years, there are a number of capital projects that the community currently desires or will need over this period. Those projects are identified in general categories in Table 27 with actions listed under a 5-, 10-, and 20-year timeline. These projects are not prioritized, and costs of completion have, in some cases, not been estimated. Prioritizing and estimating costs can be done through collaboration between local leadership and the North Slope Borough.

Table 27: Potential Capital Projects over a 5, 10 and 20-Year Period

Type of Facility	1 to 5 Year Period	6 to 10 Year Period	11 to 20 Year Period
Water	Build and Connect new homes onto the existing utility system	Evaluate system capacity upgrades to accommodate system expansion	
	Consider alternative water source locations to locate sustainable new water source	Develop new Water Source	Evaluate long-term drinking water supply capacity, water quality, treatment and distribution needs
Sewer	Build and connect new homes to the existing utility system	Evaluate system capacity upgrades to accommodate system expansion	Modify system to accommodate growth
Power Generation	Research feasible alternative energy systems	Evaluate diesel generators for potential replacement and upgrade needs	Upgrade the fuel pump house to be more energy efficient
	Wind turbine design and permitting	Upgrade electrical system	
Roads / Trails	Trail marking and hardening	Construct road to vacant and new subdivision lots	
	Continue evaluations and studies to design and construct an evacuation road	Investigate funding options for construction of an evacuation road	Construct an evacuation road
	Research and implement dust control measures		
Housing	Assess extent of overcrowding		
	Rehabilitate existing vacant housing for occupancy providing energy-efficient systems		
	Construct new energy-efficient homes		
	Retrofit existing housing with energy-efficient systems		
Airport	Replace the NBD Antenna	Future airport relocation feasibility	Assess the airport's navigational aids have exceeded their anticipated useful life and evaluate for replacement

Type of Facility	1 to 5 Year Period	6 to 10 Year Period	11 to 20 Year Period
	Continued assessment of erosion control around existing airport		Implement an aviation radar system
Gravel	Continue evaluation of a local material source	Development of a material source	
Health Clinic	Continued cooperation between Maniilaq, NSB and ASNA and evaluate healthcare facility needs	Provide a new healthcare facility or upgrades and additional space to include exam rooms, storage, emergency room, pharmacy and additional offices	
Recreational Facilities	Develop an outdoor ball field to accommodate sports such as football, softball, and soccer		
	Upgrades to the public meeting place used for Qagrugivik and other community gatherings		
	Develop a teen center		
	Continued care and upkeep of the new community playground	Indoor playground for younger kids	
	Construct removable docks – south side and lagoon side		
Community Buildings	Repairs needed for Daycare/Teen Center and Senior Center	USDW building may need upgrades	
	Upgrades for City Hall	Tribal office upgrades	
Clean-up Contaminated Sites	Monitor contamination cleanup of NSB Old BIA Former Tank Farm		Continue to assess and observe the site of Project Chariot
	Monitor Contamination of NSB Drum Storage Area		

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Appendices

Appendix A: Resolutions of Plan Support
Appendix B: State of Alaska Community Profile Maps
Appendix C: Adaptation Strategies for Climate Change Impacts
Appendix D: Response to Public Review Comments
Appendix C: ADOT&PF Notes from Point Hope Runway Realignment Scoping Meetings

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Appendix A: Assembly Ordinance and Resolutions of Plan Support

North Slope Borough Assembly Ordinance # 75-06-68
North Slope Borough Planning Commission Resolution # 2017-01
Trilateral Resolution # 2016-05
- City of Point Hope
- Native Village of Point Hope
- Tikigaq Corporation

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Appendix A: North Slope Borough Assembly Ordinance Serial No. 75-06-68

NORTH SLOPE BOROUGH
ORDINANCE SERIAL NO. 75-06-68

AN ORDINANCE ADOPTING THE POINT HOPE COMPREHENSIVE PLAN

WHEREAS, the Planning Commission is charged under North Slope Borough Code of Ordinances (NSBMC) § 2.12.160(A)(1) with the responsibility to prepare and recommend to the Assembly a comprehensive plan (Plan) for the systematic development of the Borough; and

WHEREAS, the Planning Commission is further charged under NSBMC § 18.20.020 to establish one or more districts using approved Village Comprehensive Plans as a guideline; and

WHEREAS, the Planning Commission is further charged under NSBMC § 19.040.060(A)(2) to ensure that the incorporated villages accommodate uses in accordance with both the Borough Comprehensive Plan and Comprehensive Plan for the community; and

WHEREAS, the Planning Commission is further charged under NSBMC § 19.70.020 to follow policies intended to guide the approval of development and uses in the village districts consistently with the relevant adopted Village Comprehensive Plan; and

WHEREAS, under NSBMC § 2.12.160(A)(2), the Planning Commission is charged with preparing and recommending to the Assembly a zoning ordinance to implement the Comprehensive Plans; and

WHEREAS, the common goals of local control and self-determination, the protection of the land, water and subsistence resources, mitigation of the impacts which may occur as a result of oil and gas development and other developments, the maximization of economic benefits and employment opportunities for Point Hope today and into the future are fully shared by all of the organizations working together on this project; and

WHEREAS, the Point Hope Comprehensive Plan was developed with significant public involvement, including public meetings in Point Hope, meetings with stakeholders, and solicitation for comments; and

WHEREAS, the Point Hope Tri-Lateral Committee, composed of the Native Village of Point Hope Tribal Council, Point Hope City Council, and Tikigaq Corporation, adopted Resolution 2016-05 on December 21, 2016, recommending adoption of the Plan as developed by the North Slope Borough; and

WHEREAS, the Planning Commission adopted Resolution 2017-01 on March 9, 2017, recommending the Assembly approve of the Plan; and

WHEREAS, the Point Hope Comprehensive Plan is found to be a sufficient guide to future development in Point Hope for the next 20 years

NOW, THEREFORE, BE IT ENACTED:

SECTION 1. Classification. This ordinance is a non-code ordinance.

SECTION 2. Severability. If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and the application to other persons and circumstances shall not be affected thereby.

SECTION 3. Effectiveness. This code ordinance shall become effective upon adoption.

SECTION 4. Adoption of Comprehensive Plan. The North Slope Borough Assembly hereby adopts the Point Hope Comprehensive Plan, attached as Exhibit B, as recommended by the Native Village of Point Hope Tribal Council, Point Hope City Council, Tikigaq Corporation and the North Slope Borough Planning Commission.

SECTION 5. Attachments Incorporated by Reference. Planning Commission Resolution 2017-01, attached as Exhibit A, and the Point Hope Comprehensive Plan, attached as Exhibit B, are hereby incorporated by reference.

INTRODUCED: April 4, 2017
ADOPTED: May 2, 2017

John Hopson, Jr., President
Date: 5/2/17

ATTEST:
Sheila Burke, Borough Clerk
Date: 5-2-2017

Harry K. Brower, Jr., Mayor
Date: 5/2/2017

Appendix A: North Slope Borough Planning Commission Resolution of Support

NORTH SLOPE BOROUGH PLANNING COMMISSION RESOLUTION 2017-01

A RESOLUTION TO THE ASSEMBLY RECOMMENDING THE APPROVAL OF THE POINT HOPE COMPREHENSIVE PLAN

WHEREAS, the Planning Commission is charged under North Slope Borough Code of Ordinances (NSBMC) § 2.12.160(A)(1) with the responsibility to prepare and recommend to the Assembly a comprehensive plan (Plan) for the systematic development of the Borough; and

WHEREAS, the Planning Commission is further charged under NSBMC § 18.20.020 to establish one or more districts using approved Village Comprehensive Plans as a guideline; and

WHEREAS, the Planning Commission is further charged under NSBMC § 19.040.060 (A)(2) to ensure that the incorporated villages accommodate uses in accordance with both the Borough Comprehensive Plan and Comprehensive Plan for the community; and

WHEREAS, the Planning Commission is further charged under NSBMC § 19.70.020 to follow policies intended to guide the approval of development and uses in the village districts consistently with the relevant adopted Village Comprehensive Plan, and

WHEREAS, the common goals of local control and self-determination, the protection of the land, water and subsistence resources, mitigation of the impacts which may occur as a result of development, the maximization of economic benefits and employment opportunities for Point Hope today and into the future are fully shared by all of the organizations working together on this project; and

WHEREAS, the Point Hope Comprehensive Plan was developed with significant public involvement, including public meetings in Point Hope, meetings with stakeholders, and solicitation for comments; and

WHEREAS, the Point Hope Tri-Lateral Committee, composed of the Native Village of Point Hope Tribal Council, Point Hope City Council, and Tikigaq Corporation, adopted Resolution 2016-05 on December 21, 2016, recommending adoption of the Plan as developed by the North Slope Borough; and

WHEREAS, the Point Hope Comprehensive Plan is found to be a sufficient guide to future development in Point Hope for the next 20 years; and

NOW, THEREFORE, BE IT RESOLVED THAT:

The North Slope Borough Planning Commission recommends to the North Slope Borough Mayor and the North Slope Borough Assembly the approval of the Point Hope Comprehensive Plan.

THAT a copy of this Resolution be forwarded to the North Slope Borough Clerk.

INTRODUCED: 3/9/17
ADOPTED: 3/9/17

Caroline P. Cannon
Acting
Paul Bodfish Sr., Chairman
Date: 3/9/17

Acting
Helen R Edwards
Caroline Cannon, Clerk
Date: 3/9/17

Appendix A: Point Hope Trilateral Resolution of Support

THE NATIVE VILLAGE OF POINT HOPE
P.O. BOX 109
POINT HOPE, ALASKA 99766
(907) 368 - 2330
FAX: (907) 368 - 2332

City of Point Hope
P.O. Box 169
Point Hope, Alaska 99766
368-2537

TIKIGAQ
P.O. Box 9 Point Hope, AK 99766
Phone: (907) 368-2235
Fax :368-2668

POINT HOPE TRI-LATERAL COMMITEE

RESOLUTION NO. 2016-05

A JOINT RESOLUTION OF THE CITY OF POINT HOPE, NATIVE VILLAGE OF POINT HOPE, AND TIKIGAQ CORPORATION REGARDING THE POINT HOPE COMPREHENSIVE PLAN AS DEVELOPED BY THE NORTH SLOPE BOROUGH

WHEREAS, Point Hope is a second class city within the North Slope Borough, and

WHEREAS, the Native Village of Point Hope is a federally-recognized tribe representing the community of Point Hope; and

WHEREAS, Tikigaq Corporation is the Native Corporation for the village of Point Hope, and

WHEREAS, the North Slope Borough and its consultants have worked with the community to develop the Point Hope Comprehensive Development Plan; and

WHEREAS, the process to develop the Plan involved a collaborative effort of the City of Point Hope, the Native Village of Point Hope Tribal Council, and the Tikigaq Corporation; and

WHEREAS, the Plan furthers the common goals of local control and self-determination, the protection of the land, water and subsistence resources, and seeks to mitigate the negative impacts of development; and

WHEREAS, the Plan provides a vision for the future, identifies current and projected future land uses, and addresses issues important to the community; and

WHEREAS, the Plan establishes goals, objectives and strategies to achieve the community's vision for the future and to improve its quality of life; and

WHEREAS, the City of Point Hope Council, Native Village of Point Hope Tribal Council, and Tikigaq Corporation Board of Directors have reviewed the Point Hope Comprehensive Plan and the North Slope Borough and its consultants ASRC Energy Services and UMIAQ have incorporated the community's comments into the Final Draft dated October 2016.

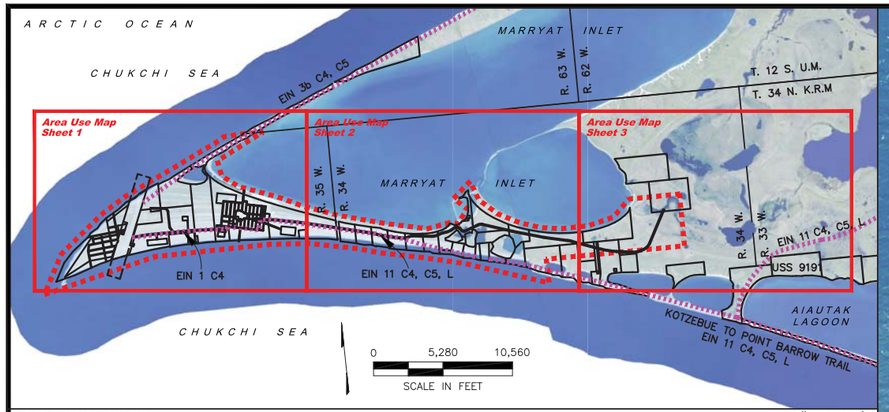
NOW, THEREFORE BE IT RESOLVED, that the community of Point Hope as represented by the Tri-Lateral Committee, recommends approval of the 2016 Point Hope Comprehensive Plan by the North Slope Borough.

Point Hope Trilateral Committee

Certification of Resolution 2016-05

It is hereby certified that on the 21st of December 2016, Resolution 2016-05 was duly adopted by Point Hope's Trilateral Committee:

Daisy Sage City of Point Hope Mayor	James Nash Native Village of Point President	Herbert Kinneeveauk, Jr. Tikigaq Corp. President
Date: 12.21.16	Date: 12.21.16	Date: 12.21.16



AREA MAP INSET 1"=5,280'

ARCTIC OCEAN

CHUKCHI SEA

MARRYAT INLET

Magnetic North 11 1/2° E

True North

POINT HOPE CITY BOUNDARY

APPROXIMATE LOCATION
25' Wide Existing
Access Trail Easement
EIN 3b C4, C5

SEC. 29
Pat No. 50-2008-0067
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

T. 12 S., R. 63 W. U.M.
T. 34 N., R. 35 W. K.R.M

SEC. 11
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

APPROXIMATE LOCATION
25' Wide Existing
Access Trail Easement
EIN 3b C4, C5

IPIUTAK LAGOON

Avigation, Hazard Easement, & ROW to State of Alaska DOT Bk. 32, Pgs. 402-408 4/2/1982 Tract III & Tract IV

TRACT iV

U.S. Survey No. 3515 Lot 12A
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

SEC. 10
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

SEC. 11
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

U.S. Survey No. 11977 Lot 4
NA Cert. 50-2007-0317

SEC. 14

U.S. Survey No. 3515 Lot 7
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

U.S. Survey No. 3515 Lot 5

TRACT i
Pat. No. 50-81-0050
State of Alaska

CEMETERY Lot 14
Plat No. 91-4

U.S. Survey No. 11977 Lot 6
NA Cert. 50-2005-0186

SEC. 14
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

POINT HOPE CITY BOUNDARY

U.S. Survey No. 3515 Lot 8
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

SEC. 9

POINT HOPE AIRPORT
Plat No. 93-5RS

FUEL TANK TRACT
Plat No. 82-10
Quit Claim Deed to North Slope Borough
Bk. 45, Pgs. 418-419
12/9/1985

U.S. Survey No. 3515 Lot 13A
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

NEW POINT HOPE TOWNSITE PARCEL 1
Plat No. 76-2

ADDTION No. 5
Plat No. 96-17

SEC. 13
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

Grant of Easement to North Slope Borough
Bk. 52, Pg. 19
8/12/1988

ADDITION No. 1 Plat No. 83-67

ADDITION No. 2 Plat No. 83-67

ADDITION No. 3 Plat No. 83-67

ADDITION No. 4 Plat No. 83-67

SEC. 16

TRACT i
PAR. A

CEMETERY ROAD
Plat No. 91-4

PIPELINE ACCESS TRACT
Plat No. 82-10

Pat. No. 50-84-0680
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

APPROXIMATE LOCATION
One Acre Site
Easement
EIN 3a C4, C5

SEC. 15
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

100' Wide Existing
Road Easement
EIN 1 C4

ADDITION No. 6
Plat No. 96-18

U.S. Survey No. 3515 Lot 2

TRACT ii
PAR. B
PAR. C
PAR. D

NEW POINT HOPE TOWNSITE PARCEL 2 Plat No. 76-2

NEW PT. HOPE TOWNSITE PARCEL 3 Plat No. 76-2

WATER COLLECTION TRACT
Plat No. 81-14

USS 11977 Lot 1

SEWAGE LAGOON TRACT
Plat No. 81-11

Access Road ROW
Plat No. 81-12

OLD POINT HOPE TOWNSITE

PAR. F
PAR. E

POINT HOPE LANDFILL TRACT
Plat No. 81-12

U.S. Survey No. 11977 Lot 8
NA Cert. 50-2005-0289

U.S. Survey No. 11977 Lot 5

U.S. Survey No. 11977 Lot 3
NA Cert. 50-2005-0185

U.S. Survey No. 11977 Lot 2
NA Cert. 50-2005-0185

NA Cert. 50-2006-0105

NGS B.C. PT. HOPE 1950

U.S. Survey No. 3515A
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

TRACT i
Pat. No. 50-81-0050
State of Alaska

TRACT i
PAR. C
PAR. B
PAR. A

Warranty Deed to North Slope Borough
Bk. 43, Pgs. 542-543
1/18/1985

U.S. Survey No. 11977 Lot 9
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

U.S. Survey No.11977 Lot 7
IC No. 50
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

NA Cert. 50-2006-0071

APPROXIMATE LOCATION
KOTZEBUE TO POINT BARROW TRAIL
Existing Access Trail Easement
EIN 11 C4, C5, L

Quit Claim Deed to North Slope Borough
Bk. 45, Pgs. 418-419
12/9/1985

Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

U.S. Survey No. 3515 Lot 9

U.S. Survey No. 3515 Lot 10

U.S. Survey No. 3515A Block 19
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

Special Warranty Deed to State of Alaska DOT & PF
Bk. 63, Pgs. 288-298
4/17/1992
Tract II, Parcels A-F &
Tract V, Parcels A-C

U.S. Survey No. 3515 Lot 11
Pat. No. 50-92-0323
Tikigaq Corporation
(Successor in Interest
to Tigara Corporation)

TRACT iii

Avigation, Hazard Easement, & ROW to State of Alaska DOT
Bk. 32, Pgs. 402-408
4/2/1982
Tract III & Tract IV

CHUKCHI SEA

Map 28

Area Use Map
POINT HOPE

68° 20' 44" N 166° 48' 25" W (NAD 83)
Approx. Elevation: 14.50' at NGS Brass Cap "POINT HOPE 1950"
Township 12 South, Range 61 West, Umiat Meridian, AK
and Townships 33 & 34 North,
Ranges 32, 33, 34, & 35 West, Kateel River Meridian, AK
U.S.G.S. Quadrangles "POINT HOPE A-2, B-2, & B-3," Alaska
BARROW RECORDING DISTRICT

SEE SHEETS 1 & 2 FOR DETAILED COMMUNITY MAP

0 600 1200 1800
SCALE IN FEET

SCALE: 1"=600'
Date of Photography: August 20, 2013
Magnetic Declination computed by U.S.G.S. Geomag Program using IGRF11.COF model as of August 1, 2013

SHEET 3 of 5

Legend & Notes

- Water Line
- Sewer Force Main
- Electric Line
- Fuel Line
- Basis of Coordinates NGS Brass Cap Monument "POINT HOPE 1950"
- City Boundary
- 17b Trail Easement

MAP NOTES

This map was prepared by North Slope Borough in cooperation with Alaska Department of Commerce, Community, and Economic Development using funds provided by the Coastal Impact Assistance Program, State of Alaska and North Slope Borough. North Slope Borough contracted with Global Positioning Services Incorporated in May of 2013 to prepare the map.

POINT HOPE AREA USE MAP SHEET 1 (3 OF 5) 1"=600' (2013 PHOTOGRAPHY)

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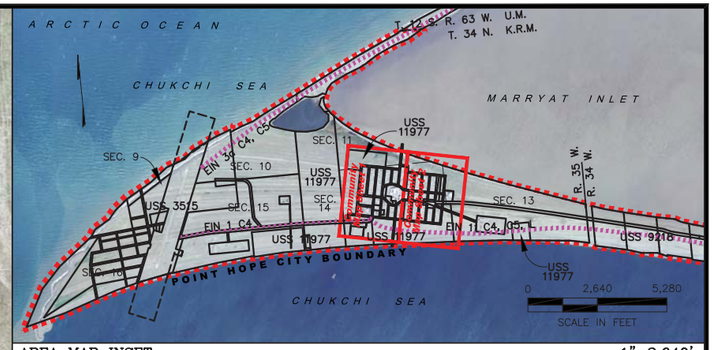
BUILDING KEY

1. Sewage Treatment Facility
2. National Guard
3. Hotel & Restaurant
4. Teacher Housing
5. Baptist Church
6. Public Works Storage
7. Tribal Office
8. Tikigaq Corporate Headquarters
9. Corporate Office
10. Whaling Captains Association
11. Gas & Heating Oil Station
12. Fuel Storage Tanks
13. Corporate Store
14. Assisted Living Triplex
15. Old U.S. Post Office
16. Assembly of God Church
17. Senior Center (Temporarily Shut Down)
18. N.S.B. Power Plant
19. Water Treatment Plant/Washeteria
20. Teacher Housing
21. Health Clinic
22. Tikigaq School
23. Public Daycare & Youth Center
24. U.S. Post Office
25. Community Water Tank
26. NSB Police Station
27. City Office & Community Center
28. City Living Quarters – Visiting Staff

POINT HOPE TOWNSITE
Quit Claim Deeds to the Native Village of Point Hope, Recorded on 5/18/2007

Lot No.	Blk. No.	Record No.
5	22	2007-000346-0
7	22	2007-000363-0
14	22	2007-000345-0
16	22	2007-000347-0
8	23	2007-000348-0
9	23	2007-000349-0



AREA MAP INSET 1"=2,640'

NOTE:
Street names shown hereon were referenced from Plat No. 95-15, a Record of Survey for the Point Hope Water and Sewer Project, recorded in the Barrow Recording District on 12/14/1995.

The Record of Survey notes that street names were provided by the North Slope Borough, G.I.S. Planning Department.

Map 29

Community Map
POINT HOPE

68° 20' 44" N 166° 48' 25" W (NAD 83)
Approx. Elevation: 14.50' at NGS Brass Cap "POINT HOPE 1950"
Township 34 North, Range 35 West, Kateel River Meridian, AK
U.S.G.S. Quadrangles "POINT HOPE A-2, B-2, & B-3," Alaska
BARROW RECORDING DISTRICT

LEGEND

- Residential Building
- Commercial Building
- Public Building
- Edge of Water
- Water Line
- Sewer Force Main
- Drain Line
- Electric Line
- Fuel Line

0 100 200
SCALE IN FEET

SCALE: 1"=100'
Date of Photography: August 20, 2013
Magnetic Declination computed by U.S.G.S. Geomag
Program using IGRF11.COF model as of August 1, 2013

SHEET 1 of 5

POINT HOPE COMMUNITY MAP SHEET 1 (1 OF 5) 1"=100' (2013 PHOTOGRAPHY)

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BUILDING KEY

29. Telecommunications Facility
30. Episcopal Church
31. Point Hope Fire Station
32. TNHA Maintenance
33. Search & Rescue
34. NSB Water Treatment Facility

POINT HOPE TOWNSITE
Quit Claim Deeds to the Native Village of Point Hope, Recorded on 5/18/2007

Lot No.	Blk. No.	Record No.
4	19	2007-000360-0
7	20	2007-000361-0
15A	21	2007-000362-0
2A	27	2007-000359-0
3A	27	2007-000358-0
4A	27	2007-000355-0
6A	27	2007-000356-0
3A	28	2007-000357-0
2	29	2007-000350-0
3	29	2007-000351-0
4	29	2007-000352-0
5	29	2007-000353-0
6	29	2007-000354-0

EASEMENTS TO NORTH SLOPE BOROUGH

Point Hope Village Water & Sewer Easements shown on Community Map Sheets 1 & 2 are referenced from multiple books within the Barrow Recording District. This specifically includes the following book numbers, accompanying page ranges, and recorded dates:

Bk. 90	Pgs. 663-999A	5/22/1997
Bk. 91	Pgs. 1-16, & 889-999B	7/28/1997
Bk. 92	Pgs. 1-82	7/28/1997
Bk. 92	Pgs. 313-314	8/13/1997
Bk. 92	Pgs. 579-638	9/3/1997
Bk. 92	Pgs. 820-824	9/25/1997
Bk. 95	Pgs. 975-999A	2/24/1998
Bk. 96	Pgs. 1-16, & 461-488	3/6/1998
Bk. 104	Pgs. 574-581	1/8/1999
Bk. 105	Pgs. 400-406	3/9/1999
Bk. 105	Pgs. 874-879	3/31/1999

NOTE:
Street names shown hereon were referenced from Plat No. 95-15, a Record of Survey for the Point Hope Water and Sewer Project, recorded in the Barrow Recording District on 12/14/1995.

The Record of Survey notes that street names were provided by the North Slope Borough, G.I.S. Planning Department.

MAP NOTES:
This map was prepared by the North Slope Borough in cooperation with the Alaska Department of Commerce, Community, and Economic Development using funds provided by the Coastal Impact Assistance Program, State of Alaska, and North Slope Borough. North Slope Borough contracted with Global Positioning Services Incorporated in May of 2013 to prepare the map.

This map should not be construed as a survey. On-site surveys should be conducted prior to engineering or construction. This map was compiled to meet horizontal and vertical accuracy in accordance with national map accuracy standards.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a title search of the Recorder's Office record. Utility location is approximate and shows only the main lines. Generally, the information is current as of September 2013. North Slope Borough provided sanitation and facility records.

This map is based on photography acquired on August 20, 2013, at a nominal scale, of 1 in = 800 ft. Quantum Spatial prepared the orthophoto and topographic mapping. The topographic contours were prepared at two (2) foot intervals with index contours every ten (10) feet.

HORIZONTAL AND VERTICAL CONTROL
The horizontal and vertical control station for this digital map and orthophoto was an NGS OPUS solution for GPS Inc. TBM "BASE 1". The horizontal datum NAD 1983 coordinates for this TBM are North 68° 20' 43.1671" and West 166° 47' 15.3900" and the elevation is 31.47 feet.

The mapping of the community of Noatak has been adjusted to this control using high-precision GPS methods and the adjusted coordinates and elevation for N.G.S. Brass Cap "POINT HOPE 1950," were calculated to establish a local control reference. The NAD 1983 coordinates for this monument are North 68° 20' 44.1034" and West 166° 48' 25.3126" and the elevation is 14.50 feet.

This map projection is based upon NAD 83, ASP Zone 8 as expressed in US Survey Feet.

Community Map
POINT HOPE

68° 20' 44" N 166° 48' 25" W (NAD 83)
Approx. Elevation: 14.50' at NGS Brass Cap "POINT HOPE 1950"
Township 34 North, Range 35 West, Kateel River Meridian, AK
U.S.G.S. Quadrangles "POINT HOPE A-2, B-2, & B-3," Alaska
BARROW RECORDING DISTRICT

LEGEND

- Residential Building
- Commercial Building
- Public Building
- Edge of Water
- Water Line
- Sewer Line
- Sewer Force Main
- Electric Line
- Fuel Line

SCALE: 1"=100'
Date of Photography: August 20, 2013
Magnetic Declination computed by U.S.G.S. Geomag
Program using IGRF11.COF model as of August 1, 2013

0 100 200
SCALE IN FEET

SHEET 2 of 5

POINT HOPE COMMUNITY MAP SHEET 2 (2 OF 5) 1"=100' (2013 PHOTOGRAPHY)

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Appendix C: Adaptation Strategies for Climate Change Impacts

Table 28: Adaptation Strategies for Climate Change Impacts

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
Warmer weather causes thinner lake, river and sea ice. Thawing permafrost. Permafrost soils throughout the Arctic contain almost twice as much carbon as the atmosphere. Warming and thawing of these soils increases the release of carbon dioxide and methane through increased decomposition. Thawing permafrost delivers organic-rich soils to lake bottoms where decomposition in the absence of oxygen releases additional methane in these water bodies.[249]	Flooding or damage to ice cellars result in food contamination and food insecurity. This forces families to eat non-traditional and less healthy/nutritious packaged "store bought" food flown in at great expense.	Each village establishes a communication system with residents traveling to hunt, fish and gather foods and travelers on the ice are required to carry emergency GPS tracking devices. Village Search & Rescue teams are properly equipped to rescue travelers in trouble.
	Hunters would have to spend greater financial resources and more time, encompassing greater hazards, to find riverine and terrestrial species—beyond the 10 to 15 miles ideal distance—and into unsafe sea ice conditions.	Permit stipulations for Oil &Gas or commercial tourism travel could require a subsistence mitigation fund which would provide funds to hunters to cover the costs to purchase adequate boats, fuel and equipment to find and harvest subsistence resources at the greater distance from their traditional migratory routes.
	Unknown ice thickness creates hazards for hunters and other winter travelers on snow machines. Traditional knowledge cannot be relied upon as the thinner ice conditions change seasonally and can be exacerbated yearly. Warmer water in lakes and streams cause fish to die in nets, fish texture "softer" and drying of fish is more difficult.	Aerial "flyovers" of traditional routes with specialized equipment to measure the depth of ice and then posting and advertising to the village the safest route to take on the ice for hunting expeditions and for traveling to common destinations such as the nearby village.

[249] Hassol, Susan Joy. *Alaska Climate Impact Assessment. Impacts of a Warming Arctic*. University of Alaska, Fairbanks, 2004. www.amap.no/documents/download/1058.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
(continued) Warmer weather causes thinner lake, river and sea ice. Thawing permafrost. Permafrost soils throughout the Arctic contain almost twice as much carbon as the atmosphere. Warming and thawing of these soils increases the release of carbon dioxide and methane through increased decomposition. Thawing permafrost delivers organic-rich soils to lake bottoms where decomposition in the absence of oxygen releases additional methane in these water bodies.[250]	Fresh water drains downward—loss of drinking water supply. Village water lines break, causing loss of service. Methane gas escapes from the permafrost and rises into the atmoArea, the drinking water in lakes, and in rivers which affects the riverine/marine life.	A village-specific adaptation plan would identify specific hazards associated with the thawing of permafrost in and near the village and would identify options for remedying impacts or avoiding these hazards. It would identify options and the costs and benefits of each option. It is noted that all fresh water lakes in the region are underlain by permafrost and, therefore all freshwater drinking supplies are vulnerable/susceptible to the draining of water and the release of methane. A potential option may be to build a water reservoir with an impenetrable cover and then pump fresh water from nearby sources into this man-made lake. This would protect the drinking water source from the thawing permafrost and from the escaping methane.
	Thawing permafrost of the river banks can cause increased sedimentation of the river and stream beds. Boats cannot be launched in shallow streams and tributaries and hunters must travel greater distances to launch.	Villagers can build new boat launch pads and docks where water depth allows use of propellers, along with parking areas for the trucks and roads to the new launch areas.

[250] Hassol, Susan Joy. *Alaska Climate Impact Assessment. Impacts of a Warming Arctic*. University of Alaska, Fairbanks, 2004. www.amap.no/documents/download/1058.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
(continued) Warmer weather causes thinner lake, river and sea ice. Thawing permafrost. Permafrost soils throughout the Arctic contain almost twice as much carbon as the atmosphere. Warming and thawing of these soils increases the release of carbon dioxide and methane through increased decomposition. Thawing permafrost delivers organic-rich soils to lake bottoms where decomposition in the absence of oxygen releases additional methane in these water bodies.[251]	Methane rising to tundra—changes "taste" of lichen, moss, etc. for caribou and other land animals	NSB Wildlife biologists and subsistence hunters should observe the behaviors of tundra-dependent animals to determine if this is a significant problem. If it is, it may be necessary for the NSB to experiment and "grow" lichen and moss seeds and spread them around a traditional caribou migratory route or create a new migratory route with the plant life that they find suitable.
	Less stable ground, subsidence and differential settlement of structures. Sanitation and health problems result from broken sewer and water lines within the villages.	Among other measures, the NSB could assist the villages in procuring gravel to shore up buildings, roads and other infrastructure. It may be fruitful to partner with research universities to create a new material that can be produced locally in each village that functions like or better than gravel.
	Flooding and structural failure of ice cellars. This can result in food contamination and, if ice cellars need to be abandoned, can lead to food insecurity as there is no room in village homes for storage of a freezer. This would lead families to be dependent on "store bought" food which lacks the nutrients of traditional, local foods.	Although culturally difficult to adjust to, it may be necessary for the village leaders to build a community or co-op ice cellar in a convenient location. The location should be convenient to hunters as well as to family members retrieving the foodstuff.

[251] Hassol, Susan Joy. *Alaska Climate Impact Assessment. Impacts of a Warming Arctic*. University of Alaska, Fairbanks, 2004. www.amap.no/documents/download/1058.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
Early snow melt.	Early snow melt on land exposes the mushy/marshy tundra and reduces the hunting season and tundra travel is too difficult. Early snow melt may alter subsistence species' migratory schedule and routes, causing hunters to travel greater distances to find the resource.	
	Early snowmelt results in reduced days for oil & gas industry to traverse frozen ground for exploration, development or transporting the resource to market. Limited season for ice roads.	
Increased inland rain.	Increased rain on snow events during winter cause a layer of ice to form over tundra vegetation preventing grazing by animals like caribou and muskoxen; this causes die-offs of these animals	
Warmer temperatures on the tundra. Caribou herds will face a variety of climate-related impacts resulting in changes in their migration routes, calving grounds, forage availability and drinking water sources as snow and river ice conditions change, permafrost thawing results in tundra subsidence and methane gas release into fresh water lakes, and warmer weather dries the tundra making it susceptible to wildfires.	Warmer weather inland causes drying of tundra which makes the land susceptible to lightning-caused fires which can spread for many miles. Warmer weather also causes lakes to dry up from evaporation, along with the thawing permafrost and resulting draining.	Increase fire-fighting capabilities for both wild fires and structures. Protect drinking water lakes or develop new reservoirs with lining that protects against leaks and methane releases from underlying permafrost.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
(continued) Warmer temperatures on the tundra. Caribou herds will face a variety of climate-related impacts resulting in changes in their migration routes, calving grounds, forage availability and drinking water sources as snow and river ice conditions change, permafrost thawing results in tundra subsidence and methane gas release into fresh water lakes, and warmer weather dries the tundra making it susceptible to wildfires.	Drier tundra soil cause berries to ripen early and spoil faster. Warmer weather increase insect harassment for berry harvesters. Intrusion of non-native species that may cause environmental harm; some species such as salmon species and cold-tolerant crab may increase in abundance in arctic waters. This may attract commercial fishing industries to the arctic seas which could diminish subsistence resources.	
	Tundra ecosystems could change to spruce/aspen forests and grasses could be incorporated into the tundra. Shrubs entering the tundra could attract moose while decreasing the lichen for caribou.	
	New plant species could attract new species of pests which could annoy caribou.	
	Declining or shifting wetlands could affect migratory or resident bird species.	
	Industrial development relying on ice roads for access to development sites could be stymied by a reduced supply of water to create the roads.	

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
(continued) Warmer temperatures on the tundra. Caribou herds will face a variety of climate-related impacts resulting in changes in their migration routes, calving grounds, forage availability and drinking water sources as snow and river ice conditions change, permafrost thawing results in tundra subsidence and methane gas release into fresh water lakes, and warmer weather dries the tundra making it susceptible to wildfires.	A drier tundra: Although rain will increase, evapotranspiration and water drainage from cracks in the permafrost will cause a drier tundra that will be susceptible to more numerous and intense tundra fires releasing carbon and contaminants like mercury into the atmosphere.	
	Villages do not have the trained staff or equipment to extinguish wildfires which threaten homes, traditional foods, food sources for wildlife and creates smoke which causes or exacerbates respiratory illness in humans and animals. Wildlife change their migratory routes in subsequent years due to the damage to their foodstuff and nesting/calving lands.	
	Slow recovery of vegetation or vegetative shifts after fires can profoundly affect wildlife. Lichens, a critical winter food for caribou, recover extremely slowly. Loss of food for caribou cause the herd to change routes which may be a greater distance from the village causing economic hardships (gas, equipment repair, time) and hazards (thinning ice) for subsistence hunters.	

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
Acid Rain. Toxins such as DDT, PCBs, dioxin, pesticides and heavy metals are carried by both air and ocean currents thousands of miles to the colder arctic ecosystem. The cold Arctic environment is a "sink" or settling area for these contaminants which circulate around the globe northward in air and ocean currents. They settle out in Arctic waters, sea ice, and land, where they remain for long periods and break down very slowly because of the colder climate. The effects of these toxins are magnified as they are ingested by animals rising up the food chain. This is causing a health crisis among the Inuit people in the Arctic Circle. As a result, both land and sea dwelling animals ingest the toxins. On land the toxins are deposited into the plant life and eaten by Caribou, once source of food for the Inuit. In the water, the toxins are found in plankton, which fish in turn eat. These fish then become a source of food for seals and polar bears. (continued)	The North Slope is fortunate that major contaminant transport pathways tend to lead elsewhere, such as Canada and Greenland. The Slope receives some contaminants from Asia but levels are still relatively low. Consumers of subsistence-harvested foods from the North Slope are fortunate that the scientific analysis that the NSB Wildlife Management Department conducts have shown very low levels of POPs to be present in many of the subsistence foods that we eat and are below levels of public health concern.[255] Their studies demonstrate that subsistence foods are healthy foods.	The NSB Wildlife Management Department continues to monitor and analyze subsistence animals for human dietary health benefits as well as for potential impacts of consuming toxins. Hunting and harvesting marine and riverine animals and air and terrestrial animals is an important part of the Iñupiaq lifestyle. It is not only an important part of their culture, passed down through the generations, but it also provides food. Traditional subsistence foods provide relatively inexpensive and readily available nutrients, essential fatty acids, antioxidants, calories, protein, and many health benefits. Some of these benefits include protection from diabetes and cardiovascular disease, improved maternal nutrition and neonatal and infant brain development. Severely limiting the consumption of traditional foods may result in harm because reduction of the consumption of foods that have health benefits may increase the consumption of less healthy "store bought" foods.

[255] North Slope Borough. 2006. *Northern Alaska Subsistence Food Research: Contaminant and Nutrient Ecology in Coastal Marine Mammals and Fish.* www.north-slope.org/assets/images/uploads/CIAP%20booklet.pdf.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
These toxins are called Persistent Organic Pollutants (POPs) because they are persistent: they travel long distances; they persist long after they are released at their source and move from air and water into spoil, plants, animals and humans; they magnify in living organisms and accumulate in fat, organs and muscles; they can reduce the animal's ability to conceive and carry offspring; they decrease the animal's ability to fight off disease; they can impair brain function; and a number of POPs are carcinogenic, causing cancers. Migratory birds can have 100 times higher concentrations of POPs compared to birds that do not migrate. In the Arctic, human exposure to toxins occur primarily through eating of subsistence foods. [252] [253] [254]		

[252] Hild, C. 2002. *Contaminants In Alaska: Is America's Arctic At Risk?* In The Status of Alaska's Oceans & Watersheds. Pp. 97-110

[253] Alaska Adaptation Advisory Group to the Alaska Climate Change Sub-Cabinet. 2010. *Alaska's Climate Change Strategy: Addressing Impacts in Alaska.*

[254] Kraemer et al. 2005. *The Potential Impact of Climate on Human Exposure to Contaminants in the Arctic*. International Journal of Circumpolar Health Vol. 64, Section 5.

Weather-related physical change	Potential impacts to the village	Adaptive Response Options
Higher levels of ultraviolet (UV) radiation. Due to greenhouse gas effects of the stratospheric ozone temperatures, UB radiation in the Arctic is projected to remain elevated.[256]	Increased IV exposure can cause skin cancer, cataracts, and immune system disorders in humans. Elevated UV can disrupt photosynthesis in plants and can have detrimental effects on the early life states of fish and amphibians. Risks are greatest in the Spring when sensitive species are most vulnerable, and warming-related declines in snow and ice cover increase exposure for organisms normally protected by such cover.	
Multiple Impact Stresses.	Weather-influenced changes to the ecosystem cause overlapping stresses which amplify or exacerbate any one impact.	Vigilance and adaptation to changing conditions are required. Alaskan Native communities have for centuries adapted to scarcity and environmental variability and, thus, have developed deep cultural reservoirs of flexibility and adaptability; this tradition must continue.

[256] Hassol, Susan Joy. *Alaska Climate Impact Assessment. Impacts of a Warming Arctic.* University of Alaska, Fairbanks, 2004. www.amap.no/documents/download/1058.

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Appendix D: Response to Public Review Comments

No.	Comment	Draft Page	Final Page	Action
Comments made during public meeting August 11, 2016				
1	Correct typo on Table 12: Point Hope Utility Costs.	78	84	The cost for Electricity (Commercial) for 1,001 – 10,000 kWh has been changed from 40.30 per kWh to $0.30 per kWh.
2	Jack Schaefer's name is spelled incorrectly in the References.	160	174	The spelling has been changed to Schaefer.
3	Map 12: Point Hope Drain Field has an unneeded space between letters.	69	75	The space has been removed.
4	Iñupiaq people do not boast; use different language than "boasts."	ES-1	ES-1	The sentence that read *The Point Hope area also boasts an abundance of caribou, moose, waterfowl, and fish* has been changed to *Point Hope residents also enjoy an abundance of caribou, moose, waterfowl, and fish.*
5	Use of "Umiaqs" is not the correct plural form.	53, 54	59, 60	All instances of Umiaqs has been changed to Umiat.
6	There should be a zoning map in the Plan.	NA	133	A zoning map has been included in the Plan, Map 133.
7	There is an error in numbering for Table 22, Goal 4.	141-145	153	The numbering error has been corrected.
8	In the third paragraph under Section 3.1 Geography, *appreciate* should be replaced with *appreciation*.	19	23	The change has been made.
9	Point Hope does not have a teen center and the plan should be updated to reflect this.	55	61	The following sentence has been deleted from the plan: *The daycare facility is now being used as a volunteer based teen center.*
10	The spelling of Jakie Koonuk's name needs to be corrected.	86	95	The spelling of has been corrected.
11	Correct *17-mile road* to *7-mile road.*	86	95	The correction has been made.
12	The title of Map 17 reads *Anaktuvuk Pass, AK Regional Transportation*. This error needs to be corrected.	91	99	The title of Map 20 has been updated.
13	The acronym for the Alaska Native Claims Settlement Act is not correct.	111	121	The acronym has been corrected from ANSCA to ANCSA.

No.	Comment	Draft Page	Final Page	Action
14	The National Park Service has a historical map of the Ipiutak Village site. It is a national historical landmark. The National Park Service has a 1969 agreement with the Native Village of Point Hope.	15	15, 19	The planning team contacted the National Park Service, which provided an additional map. In addition to former Figure 5, now Map 1, Map 2 has been added to the plan that illustrates the entirely of historic sites in Point Hope. Both maps are were published in 1948 in the Anthropological Papers of the American Museum of Natural History, Volume 42 titled *Ipiutak and the Arctic Whale Hunting Culture* and written by Helge Eyvin Larsen and Froelich G. Rainey.
15	Replace map names with traditional Iñupiaq place names.	Through-out	Through-out	Traditional Iñupiaq place names have been added to all maps where applicable.
16	Use more inspirational language for the vision statement regarding education.	ES-2	ES-2 and 9	The education sentence in the vision statement has been revised. The italicized text has been added: *Our* ~~Point Hope's~~ education system will *not only* prepare our youth through training opportunities and programs tailored to meet the employment needs of our community*, but also inspire our children to become thoughtful and well-informed future community leaders*.
17	Additional information on community health.	NA	106	The following text has been added to Chapter 7: Heath, Education, and Economy, Section 7.1 Health: *A community health forum was held in Point Hope in 2013 by the North Slope Borough Health and Social Services Department. The purpose was to present findings of the 2012 Baseline Community Health Analysis Report to the community, start to address issues identified in the report and hold discussion on the best ways to facilitate the changes needed to address community health issues. The five most common themes voiced by participants at the community health forum included:* • *Subsistence hunting and gathering/traditional Inupiat lifestyle;* • *Healthcare system;* • *Social problems: drugs and alcohol, suicide, sexual assault;* • *Health concerns; and* • *Youth education and activities.* *The discussions from the community health forum were entered into an online program that generated a picture of words that were most often used during the discussions, with larger words representing words that were used most often. The results are displayed in Figure 14.*

17	Additional information on community health. (continued)	NA	106-107	(continued) Figure 14: 2013 Community Health Forum Picture of Words  *While people's health is influenced by personal decisions, it is also shaped by how a community is designed and built, such as land use, road network and the location or existence of parks, recreation facilities and other services. People tend to be more active when they can easily walk or have access to recreational facilities. Land use, typically addressed by comprehensive planning and land use regulations, affects the quality of life in many ways, such as the location of recreational facilities, pedestrian safety and existence and location of greenhouses or community gardens. Also important are access to a healthy diet, physical activity, and a healthy environment.* *Adequate access to healthy food is critical in achieving and maintaining a nutritious diet. Healthy eating is associated with a lower risk for chronic diseases such as diabetes, hypertension and obesity. According to the U.S. Department of Health and Human Services' Office of Disease Prevention and Health Promotion, healthy eating and regular physical activity can help achieve and maintain good health while also reducing the risk of chronic disease. The 2015-2020 Dietary Guidelines provides five overarching guidelines that encourage healthy eating:* • *Follow a healthy eating pattern across the lifespan;* • *Focus on variety, nutrient density, and amount;* • *Limit calories from added sugars and saturated fats and reduce sodium intake;* • *Shift to healthier food and beverage choices; and* • *Support healthy eating patterns for all.* *Harvesting local subsistence food has been central to the culture of many remote Alaska communities. However, the evolution to partial cash economy often means greater reliance on store-bought food. In Point Hope, like much of rural Alaska, the quality and availability of store-bought food is subject to fluctuations outside the control of local residents. Access is dependent on a person's ability to pay high prices that can be twice as much or more than the cost of food in Anchorage. Options are limited to what is available on the shelves. Perhaps most importantly, store-bought foods do not fulfill the important roles that traditional foods play in Point Hope.*

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17	Additional information on community health. (continued)	NA	106-107	(continued) *Certainly local foods are more affordable than store bought foods. Many believe that wild foods provide a better protection against the cold weather, and that harvesting and processing local foods requires considerable exertion which sharpens the physical and mental well-being of individuals. The North Slope Borough Wildlife Management Department regularly tests samples of harvested wildlife to monitor the overall health of subsistence animals and their ability to provide nutrients and dietary health to Borough residents. Physical activity is essential to good health. Regular exercise helps maintain healthy weight and reduces the risk of high blood pressure, type 2 diabetes, heart attack, and stroke. Planning efforts that promote physical activity might include pedestrian safety initiatives, access to a park and playground, a swimming pool or other recreational facilities could facilitate increased physical activity. Physical activity is essential to good health. Regular exercise helps maintain healthy weight and reduces the risk of high blood pressure, type 2 diabetes, heart attack, and stroke. Planning efforts that promote physical activity might include pedestrian safety initiatives, access to a park and playground, a swimming pool or other recreational facilities could facilitate increased physical activity. Point Hope has a new outdoor playground at Tikigaq School. The school also has a gymnasium and swimming pool that are open to the public.*
18	Clarification on zoning districts.	117	127	Additional information has been added to Section 9.2: Zoning and Land Use Regulation*: Although Point Hope is within the Village District, Native restricted properties are not subject to the NSB's zoning regulations. Because there is a significant number of Native restricted properties within the Point Hope townsite, adopting new zoning regulations may not have a substantial effect on regulating land use activities or directing future growth in a specific area or areas. The land uses that are permitted in the Village District include:* *For Administrative Approval. The following can be administratively approved by the Borough's Land Administrator without public notice: 1) placement of fill in a wetland in accordance with the Army Corps of Engineers general permit.* *For a Development Permit. The following may be permitted upon approval by the Land Administrator after public review:* *1) Public facilities;* *2) Commercial development; and*

18	Clarification on zoning districts. (continued)	117	127-128	(continued) *3) Any use or structure within the watershed that provides the community's drinking water.* *For a Conditional Use Permit. The following are conditional and may be established upon approval of the NSB Planning Commission:* *1) Resource extraction; and* *2) Any use "elevated" by the Land Administrator for Commission review by the NSB Land Administrator, pursuant to § 19.50.020.* *Also within Title 19 (§19.70.020) are Village Policies that are intended to guide the approval of development and uses in the Village District:* • *Development and uses will not be allowed which grossly violate guidelines on the rate or amount of growth adopted by a village as a part of its Comprehensive Development Plan;* • *Development and uses in a village are required to be consistent with the relevant adopted village Comprehensive Development Plan;* • *Development and uses are encouraged which provide or materially contribute to lower-cost fuel or power; and* • *Development and uses are encouraged which provide local employment in the villages.* *The Conservation District is described in Title 19 (§ 19.40.070) and generally encompasses the undeveloped areas of the Borough. This District is intended to conserve the natural ecosystem for all the plants and animals upon which Borough residents depend for subsistence. The Conservation District accommodates limited resource exploration and development. Land uses permitted within a Conservation District include:* *For Administrative Approval. The following can be administratively approved by the NSB Land Administrator without public notice:* *1) Temporary use (including fuel storage) of existing gravel airstrips in support of pre-exploration activities;* *2) Archaeological surveys;* *3) Tundra travel; and* *4) Minor alterations to existing development.* *For a Development Permit. The following may be permitted upon approval by the Land Administrator after public review:* 5) *Commercial recreation;*

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18	Clarification on zoning districts. (continued)	117	128-129	(continued) *6) Ice roads and ice pads;* *7) Exploration, prospecting or limited development in anticipation of resource extraction; and* *8) Offshore development in compliance with the policies of § 19.70.040.* *For a Conditional Permit. The following may be established upon approval of the Planning Commission: All conditional and other development permit applications elevated by the Land Administrator under § 19.50.020.* *Title 19 also requires projects to be evaluated by specific policies such as Village Policies (§ 19.70.020), Economic Development Policies (§ 19.70.030), Offshore Development Policies (§ 19.70.040), Coastal Management Policies (§ 19.70.050), and/or Transportation Corridor Policies (§ 19.70.050).* *Some Point Hope residents have expressed interest in creating a Point Hope Zoning Commission, similar to the Barrow Zoning Commission, whose purpose is to "implement the Comprehensive Development Plan for Barrow and aid in fire prevention and the delivery of emergency medical services." Implementation of such a commission would require coordination between the community leadership and the North Slope Borough.*
19	Greater emphasis on the community's opposition to the proposed airport realignment.			The following changes have been made to both for clarity and to emphasize that the community is opposed to the runway realignment:
		82	90	1) *ADOTPF has indicated that* the project is needed to provide minimum standard runway safety area lengths and to protect the RSA extensions and other airport improvements from erosion.
		83	91	2) *ADOTPF has indicated* that the proposed runway realignment project is needed to maintain the existing level of safe, reliable year-round air service to the community.
		83	91	3) The project ~~will~~ *is anticipated to be two construction* seasons *in duration,* assuming ~~the ADOTPF receives~~ community support ~~for the project~~ and the development of the environmental document proceeds as anticipated.
		83	91	4) *ADOTPF asserts that* if the runway is not realigned and the RSA continues to erode away, ~~then~~ the runway will fall below the 4,000 feet minimum standard for larger aircraft; ~~resulting in~~ only smaller aircraft capable of operating on a minimum 2,500 feet runway ~~will~~ *would* be able to fly into the community. ~~It is~~

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19	Greater emphasis on the community's opposition to the proposed airport realignment. (continued)			(continued) ~~anticipated that~~ The realignment and reconstruction of the runway ~~will~~ *would* require temporary shutdowns and that a shorter, temporary runway that meets the 2,500 feet length minimum ~~will~~ would operate until the longer 4,000 feet runway ~~can~~ could be reestablished.
		83	91	5) ADOTPF conducted runway realignment scoping meetings in Point Hope on February 3 – 4, 2015. During the meetings, ~~the~~ community *residents expressed a desire to relocate the* ~~mentioned that earlier meetings with the ADOTPF were held and the community stated that they wanted the~~ runway ~~located~~ farther inland ~~so that it would have a longer life~~. Erosion is a continuing concern *at the current location* ~~and with no way of stopping it and the community preferred that the runway be relocated in order to prepare for the future~~. The community expressed ~~was felt~~ that the proposed action to realign the existing runway would only be a "band-aid"; *relocating the airport inland would be a long-term solution* ~~and it was expressed that the community desired a comprehensive airport relocation as a long term solution~~. Residents identified *general* locations ~~that they thought could be the general area of a~~ *that could be suitable for a* new airport, shown in Map 23.
		83	91	6) *ADOTPF has indicated that* with an estimated cost of $47 million and 5 to 7 years needed to plan, design, and permit an airport relocation and added time required to secure funding and to construct the project ~~the combination of the cost with the extended timeframe~~ makes it impractical to move the airport *and that* the community can still work to build a case to gain support for a full airport relocation farther inland over the long-term, but the proposed runway realignment project will maintain the current level of service for the immediate future. *While the majority of community residents are strongly in support of the airport's relocation, Several Point Hope residents voiced concern about relocating the airport, stating that it is already difficult to get a ride to the existing airport; going farther inland would be even more difficult. Additionally, it would be difficult to clear the longer road to an inland airport after blizzards. However, the community remains steadfast in opposition to the airport realignment and continues to seek the airport's relocation.*

No.	Comment	Draft Page	Final Page	Action
19	Greater emphasis on the community's opposition to the proposed airport realignment. (continued)	84 134	92 150	(continued) 7) Since the proposed ~~action~~ realignment by the ADOTPF does not include airport rescue or firefighting equipment or a structure to house that equipment, the maximum aircraft passenger capacity ~~will~~ *would* remain at nine or less passengers. 8) The Implementing Strategy 2.2.c. has been updated with the italicized text: Village leadership will continue to *not support realignment of the airport and* seek *its* relocation *east of the village*.
20	Need information on alternative energy sources.	NA	87-88	All of the following has been added to the plan: *Section 6.7 Alternative Energy* *Wind Generation. There have been a series of reports to investigate the feasibility of utilizing wind power as an alternative energy source in Point Hope. A measurement or met tower was installed to collect data on wind speeds, directions, wind power, and air densities to understand the feasibility of wind power generation. The met tower, installed in the northeast corner of Point Hope between the village water storage tank and the large snow fence, collected wind data from June 2009 to July 2010. The measured wind velocities show that Point Hope as a viable location for using wind as an alternative energy source because of a stable, strong wind resource available. Point Hope has relatively high average wind speed, high wind power density, highly directional winds, and lack of extreme wind events, all of which make it an excellent location. A 2011 feasibility study compiled and analyzed met tower data and recommended that the NSB pursue additional conceptual design for a wind-diesel power system. Several sites were investigated and two were rated higher than others: Site A, located 2 ½ miles due east of the village; and Site B, located near the airport immediately west of an old fuel tank farm, shown in Map 27. The Conceptual Design Report followed the feasibility study, which recommended Site B as the preferred site; Tikigaq Corporation prefers Site A. The report also recommended the most suitable type of wind turbine for the area.* *The wind turbines that have been considered for Point Hope are rated outputs of 100 to 350kW as this load closely matches the Point Hope demand loads. This size would eliminate the smaller battery-charging turbines and small grid-connect home and farm scale turbines, insufficient to meet village load requirements.*

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20	Need information on alternative energy sources. (continued)	NA	87-88	(continued) *Conversely, it also eliminates the larger utility-scale turbines that would over power the village system. During site visits in March 2014 funded by the Alaska Energy Authority and sponsored by the NSB, representatives from the NSB traveled to three turbine manufacturers that could potentially supply wind turbines for NSB wind power projects. Wind development will require a large funding commitment and commitment over the long-term since expected life span of the wind equipment is typically a 20-year span. Tentative costs for purchase, shipping, and installation of a 100kW single turbine is just over $1,000,000 dollars (2011 cost), which equates to an installed cost/kW of $10,475. The number of turbines needed would be determined during design.* *Permitting and environmental reviews would be required for installation of wind tower(s) and turbines. There are threatened and endangered species in the Point Hope area that may affect the location of wind turbines. Additionally, the Migratory Bird Treaty Act prohibits the taking of active bird nests, eggs and young, which could also affect the final location and design of wind turbines. The USFWS has developed "bird windows" statewide that allows clearing activities to occur outside the nesting periods of migratory birds.* *Solar Generation. During the summer months on the North Slope, there is 24 hours of daylight while during the winter, there are several months when the sun does not rise. According to research completed for the NSB in the Regional Energy Plan, solar power has been shown to defer energy costs. The report states that in Ambler, Alaska, five solar panels installed in January 2013 at the power plant (8.4kW) have displaced approximately 700 gallons of diesel fuel, for a savings of $6,000 and a CO2 offset of 13.08 tons. The benefits are considerable for both energy savings and impacts to the environment.* *Solar panels are a possible source of alternative energy for Point Hope. However, research or conceptual design work has not been undertaken. Because of the success in other regions of Alaska, solar appears to be a viable option that is available to help reduce the growing cost of conventional power generation. The Cold Climate Housing Research Center project, in partnership with Tagiugmiullu Nunamiullu Housing Authority (TNHA), constructed a prototype home in Anaktuvuk Pass that included use of solar photovoltaic panels. The North Slope Regional Energy Plan rated energy improvement opportunities and alternatives in*

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20	Need information on alternative energy sources. (continued)	NA	87-88	(continued) *villages across the Slope, and in the case of in Point Hope both wind and solar types are listed as high potential opportunities that should be pursued. Currently, there are no utility scale solar power plants in Alaska; there are only small residential and commercial systems. Solar development is driven by a higher cost for electric power. According to the Renewable Energy Alaska Project, the price for individual solar photovoltaic panels and arrays have gone down since the late 1970s. New technology in the field continues to improve thereliability and affordability, even in remote Alaska sites, but shipping, construction and general installation costs are higher in Alaska than other locations. There are systems that have been installed in the Arctic Northwest Borough, and the cost for a 10kW system was approximately $55,000, with $22,000 of this total price paying for travel expenses, freight, and labor. Many villages have managed to apply and receive grants through the Coastal Impact Assistance Program and, according to Renewable Energy Alaska Project, approximately solar capacity of installed systems is reaching up towards a total of 88.45kW in the Northwest Arctic Borough.*
		NA	143	Potential sites for wind turbines have been included in Map 27.
21	A discussion of the role of the Planning Commissioners is needed.	NA	14	The following description of the Planning Commission has been added to the Plan: *The North Slope Borough has a Planning Commission with eight members and eight alternates; one regular member and one alternate member are from each North Slope community. All commissioners are appointed by the NSB Mayor and confirmed by the NSB Assembly. The Planning Commissioners perform functions related to planning and zoning. They also serve as representatives of their respective communities and use their position to bring issues and concerns of their communities the attention of the North Slope Borough administration.*
22	Double-check the number of Tikigaq shareholders.	111	111	The number of shareholders has been updated from 1,100 to 1,600 and the entire reference has been moved to Section 7.3.

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23	Clarification on 14(c)(3).	NA	121	The following text has been added to the beginning of Chapter 9: *The Alaska Native Claims Settlement Act (ANCSA), enacted into law on December 18, 1971, was intended to settle outstanding land claims and establish clear title to Alaska's land and resources. The Act established regional and village corporations. The village corporations received title to the surface estate in and around the village. Section 14©(3) provides that the village corporation shall convey to a municipal corporation (city), or the state in trust (where an incorporated city does not exist), lands identified for present and future community needs.* A footnote has been added: *Additional information on the 14©(3) process can be found in the Getting Started on 14©(3): A Basic Guide for City and Village Councils prepared by the Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs, www.commerce.alaska.gov/web/Portals/4/pub/14c3Getting%20Started2004.pdf.*
24	Would be good to include NSB wide information for Figure 15, including full/part time employment.	102	112	Figure 15 has been updated to a chart that shows both NSB and Point Hope sources of household income. Data was not provided in the NSB Census on full/part time employment for this comparison.
25	Community residents stated desire for a feasibility study to construct a large apartment complex as economic vehicle.	139	152	The *italicized* text has been added to Goal 3 – Support housing quality, variety, and affordability: 3.4.d. Encourage and support efforts to construct multi-family buildings to alleviate the overcrowded conditions while providing affordable options. *Residents expressed the desire for a feasibility study for a constructing an apartment complex, possibly in coordination with Tikigaq Corporation that would also provide employment opportunities to residents.*

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26	Need for coordination of cruise ship travel, including port authority.	88 NA	96 147	Added the *italicized* text to the plan: Arctic tourism is increasing rapidly; it is estimated that one million adventure tourists visited the Arctic in 2013. Higher-risk activities such as adventure and eco-tourism often involve transportation via passenger vessel. In past years, small inflatable boats have been used to bring passengers ashore to Point Hope from cruise ships. The cruise industry schedules tours through the Northwest Passage and into the U.S. Arctic. Some community members have expressed interest in creating a port authority for Point Hope to regulate all marine traffic in the area *and the need for greater coordination at the local level.* Text also added in Goal 1 – Facilitate Economic Development: 1.2.f. *Facilitate greater coordination at the local level on cruise ship travel and investigate creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.*
27	Toxic burning at landfill.	71	77	The *italicized* text has been added to the plan: In 2015 and 2016, the City of Point Hope requested to find a new landfill site via resolutions identifying capital project priorities. The *community residents are concerned about the effects of having the landfill too close to both the beach and the community.* ~~concern being that the existing landfill is too close to both the beach and the community with~~ A storm event or flooding being capable of compromising the current location *and smoke from the burn cages affects the village's air quality.*
Written comments received during public review period				
28	No contact information provided. Need a teen center. We have a teen center that has been boarded up for several years. Our children lack facilities other than the park playground.	NA	55, 152	The following italicized text has been added: Point Hope also has a*n outdoor* community playground that was replaced by a partnership between ASRC Energy Services, the Arctic Slope Community Foundation's Paannaq Program, Tikigaq Corporation and the City of Point Hope in 2013. *Residents have expressed a desire for a teen center as well as additional recreational facilities for children and youth.* Additionally, the need to develop a teen center has been included in Chapter 11: Potential Capital Projects 1-5 year period.

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29	No contact information provided. 1) Contaminated area needs to be completed - USPS – redone/and by senior citizen.	35	40	1) The following text has been added at the end of the paragraph preceding the Contaminated Sites Table: *Additionally, some residents have stated that although the clean-up has been deemed complete at the former post office, the site and area near the senior housing / senior center may still be contaminated and should be reevaluated*. Additionally, upon review of this comment, we realized that contaminated sites within the vicinity of Point Hope, as shown on the Contaminated Sites Map, were missing from the Contaminated Sites table. The table has been updated to contain all 22 sites in the Point Hope vicinity; minor text changes in this section have also been made to reflect the table update.
	2) Our ice cellars melting need replacements.	40	46	2) The plan includes existing information to address failing ice cellars: "Ice cellars have been used traditionally to store harvested subsistence foods and are passed down in families for generations. Damaged and failing ice cellars threaten both food security and safety by causing meat to spoil and the fat from muktuk to separate from the skin, wasting food. Some families now use freezers, which often changes the taste of the food. Community members have also expressed a desire for both community freezers and for thermosyphons to keep ice cellars from failing."
		141, 146	153, 158	Ice cellars are also addressed in two areas in Chapter 10. Implementing Strategy 4.3.b under Goal 4 – Maintain and expand community services to provide improved care for residents reads "Map the location and track the stability of ice cellars". Implementing Strategies 6.3.a and 6.3.b under Goal 6 – Protect subsistence resources and activities read "Village leadership will seek local or regional grant-writing expertise to seek funding for rehabilitating or repairing damaged or failing ice cellars or creating new ice cellars for individual or village cooperative use" and "Village leadership will work with NSB staff to develop building setback standards or permit stipulations to protect existing ice cellars from damage related to new construction in close proximity to the cellars".

29	(continued) 3) Population census – 2010 NSB 831; 674 US Decennial Census. Very disturbing.	41	47	(continued) 3) The NSB undertakes a census to provide a more accurate population count due to chronic undercounting by the U.S. Decennial Census. However, the NSB is not always able to successfully contest the final count.
	4) Arctic Tourism needs to revisit without going concerns – it's a definitely learning process need to know basis this a common that ships are coming in our village. Who has the authority need to have clear understanding who has the power?	NA	147	4) The following Implementing Strategy has been included: *1.2.f. Facilitate greater coordination at the local level on cruise ship travel and investigate creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.*
	5) Page 91. Trails. RS2477. We need to put our input for the local hunters' trails.	91	99	5) Additions to the trails map, Map 12, have been made. The NSB Planning and Community Services Department has been working on mapping trails across the North Slope and appreciate input on local trails and provides the trail location information to local hunters as requested.
	6) The NSB Health Board doesn't have the powers that is really lacking – we are only an advisory board without "power" – we need to fix that.	NA	108	6) The following paragraph has been added to Section 7.1: *The North Slope Borough has a Health Board that is comprised of nine members: one from each village and two from Barrow. Per NSBMC 9.24.060, the duties of the Health Board include making recommendations to the Assembly regarding resolutions and ordinances dealing with public health; reviewing NSB Health and Social Services Department programs; recommending priorities for Health Department programs; reviewing and considering patient complaints and public recommendations and rendering a decision; and annually evaluating Health Department programs. Some Point Hope residents have commented that the Health Board should have more power to make changes rather than make recommendations. This is especially true in Point Hope, where several different entities must cooperate to provide medical care.*

<table>
<tr><th>No.</th><th>Comment</th><th>Draft Page</th><th>Final Page</th><th>Action</th></tr>
<tr><td>29</td><td>7) Education – Priority the need to have this as a goal. (continued)</td><td>NA</td><td>161</td><td>(continued)
7) The following goal, objectives, and implementing strategies have been added to the plan:
<table>
<tr><th colspan="2">Goal 8 – Provide educational resources that prepare students for entering the workforce while also inspiring community participation and leadership.</th></tr>
<tr><th>Objectives</th><th>Implementing Strategies</th></tr>
<tr><td rowspan="2">8.1 Prepare students to be community leaders.</td><td>a) Encourage student programs that foster leadership skills, such as student council and peer-mentoring activities.</td></tr>
<tr><td>b) Develop a sense of citizenship and ownership in the community through student participation in community projects, such implementing this comprehensive plan.</td></tr>
<tr><td rowspan="7">8.2 Prepare students to enter the workforce</td><td>a) Develop a “how to” employment library, focusing on job skills, financial aid, and other topics.</td></tr>
<tr><td>b) Promote existing scholarship opportunities and continue to develop and expand scholarships to meet the needs of students and employers.</td></tr>
<tr><td>c) Evaluate the availability and needs of technical services within the community.</td></tr>
<tr><td>d) Develop an apprenticeship program, which would provide training to create new skills in villages, supported by a regional network for technical assistance.</td></tr>
<tr><td>e) Create a job-shadowing program that matches students with local professionals to share existing traditional and technical knowledge and to model responsible work practices and ethics.</td></tr>
<tr><td>f) Evaluate the existing vocational education programs within the community and how it address the needs.</td></tr>
<tr><td>g) Evaluate the existing vocational education programs within the community and how it address the needs.</td></tr>
</table></td></tr>
<tr><td>30</td><td>Fannie Frankson.
1) I oppose moving it [the runway] toward the wetland area, reasons are people have a hard enough time getting a ride to the airport where it is located right now. After blizzards it takes at least 3-5 days of plowing to clear the seven mile road.
2) Tourists that recently came to Tikigaq, how about get together with traditional dancers, personal land owners, offer a little sightseeing, put together a brochure for extra fees from each person or percentage from the tourists off cruise ships. I believe this is the second year I remember this ship has semi-docked and had tourists/passengers come on land.</td><td>83

101</td><td>91

111, 147</td><td>1) The following has been added to the comprehensive plan: While the majority of community residents are strongly in support of the airport’s relocation, several Point Hope residents voiced concern about relocating the airport, stating that it is already difficult to get a ride to the existing airport; going farther inland would be even more difficult. Additionally, it would be difficult to clear the longer road to an inland airport after blizzards.
2) The following has been added to the plan: Some residents have <s>expressed interest in</s> identified tourist services, such as sight-seeing and traditional dances to cruise ships passengers and developing commercial reindeer herding as potential economic develop opportunities. Also, an implementing strategy has been added to Goal 1 – Facilitate Economic Development: 1.2.f. Investigate creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.</td></tr>
</table>

No.	Comment	Draft Page	Final Page	Action
31	Arnold Teayoumeak. Need for boats repair equipment for leaks, minor repairs and building to do work for community. We have no facilitate in community for metal boats.	146	158	The following has been added to the plan under Goal 6 – Protect subsistence resources and activities: 6.3. Protect and enhance food drying, storage ice cellars, *and other tools and facilities needed for subsistence activities. d) Identify potential buildings that could be used for boat repair and facilitate use with owners.*
32	Jack Schaefer. 1) The revival of "over the air TV" "RATNET; ARCS (AK Rural Communication Service TV) for rabbit ear TV. 2) Evaluate the impact of the BLM northwest area resource plan on the NSB and community of Point Hope. (zoning of subsistence and industrial areas)	117	129 - 131	1) Comment acknowledged but is outside the scope of a comprehensive plan. 2) The following text has been added to the plan: *9.3 Kobuk Seward Peninsula Resource Management Plan* *The Bureau of Land Management (BLM) resource management plans (RMPs) guide the BLMs Management Actions on the public lands. In Alaska, this includes non-selected BLM-managed lands, as well as those lands selected by the State of Alaska and Native Corporations, but not yet conveyed. The RMP decisions establish goals and objectives for resource management, the measures needed to achieve them, and parameters for using BLM-managed lands. The plan identifies lands that are open or available for certain uses, including any applicable restrictions, and lands that are closed to specific uses. Essentially a RMP can be thought of as a 'blueprint' for how the BLM will manage a specific area over a specific timeframe, typically 10-15 years. Proposed development of public lands during this timeframe will be required to comply with this blueprint and align with the objectives, goals, and actions detailed within the plan as it relates to identified subject areas (e.g. Western Arctic Caribou Herd Insect Relief Habitat, Cultural Resources, etc.)* *Resource Management Plans (sometimes called land use plans) are developed in accordance with the Federal Land Policy and Management Act of 1976 (FLMPA), thereby ensuring that the RMPs are developed under the principals of multiple use and sustained yield for all. Development of a RMP is a collaborative and cooperative process; the process includes input from state, local and Tribal governments, and members of the public throughout its development cycle.* *The current RMP for the BLM-administered public lands that encompasses the Point Hope area and its Area of Influence is the Kobuk-Seward Peninsula (KSP) Approved Resource Management Plan, approved in 2008. This plan is currently in the process of being updated and is in the final implementation/approval stages, after undergoing an extensive four year environmental analysis and*

32	2) Evaluate the impact of the BLM northwest area resource plan on the NSB and community of Point Hope. (zoning of subsistence and industrial areas) (continued)	117	129 - 131	(continued) *public engagement process. While no date on final approval of the pending KSP RMP has been announced, when the updated plan is approved and released, it will detail the BLM's management direction on 11.9 million acres of public lands over the next 15 years. This RMP will not impact management of [conveyed] State or Native Corporation lands or NSB lands. A distinct process specifically designed to garner public feedback about the scope and content of RMPs exists, which the BLM is required by regulation to follow. Concerns towards subsistence or the impact of development of public lands, should be addressed to the BLM.* *While all of the KSP Resource Management Plan is pertinent to Point Hope residents when considering the Point Hope Area of Influence, there are several issues of particular importance for residents that are outlined in the Plan. These include goals relate to Areas of Critical Environmental Concern (ACEC), fish and special status fish, lands and realty, livestock grazing, mineral management, travel management, vegetation, wild and scenic rivers, and wildlife. Other areas of concern included in the KSP Resource Management Plan that affect the Point Hope region but do not specifically call-out areas within the Point Hope Area of Influence include: abandoned mine lands and hazardous materials management; air quality, social and water resources; cultural resources; fire management and ecology; forest and woodland vegetation and forest products; noxious and invasive weeds; paleontological resources; renewable energy; subsistence; and visual resources.* *Areas of Critical Environmental Concern: The Plan calls for designating six areas within its boundaries as ACEC. Notable for Point Hope is the Western Arctic Caribou Herd Insect Relief Habitat, totaling approximately 1,529,000 acres to protect important insect relief habitat for caribou. The Management Actions include: limiting off-highway vehicles to 2,000 pounds, seasonal restrictions and additional stipulations for leasable mineral land; developing an ACEC management plan to develop more specific protection measures and leasing stipulations, closing the area to grazing, and aircraft use limited by both season and altitude.* *Fish and Special Status Fish: The Plan calls for maintaining and reporting important migratory and resident fisheries habitats, including the maintenance of existing habitat improvements. Further, the Plan calls for working cooperatively with ADF&G, USFWS, National Park Service (NPS), local Native*

32	2) Evaluate the impact of the BLM northwest area resource plan on the NSB and community of Point Hope. (zoning of subsistence and industrial areas) (continued)	117	129 - 131	(continued) *corporations, and private nonprofit corporations to inventory habitats and populations to help identify streams that contain anadromous and resident fish species on Federal public lands. Fish inventorying and monitoring within the Point Hope Area of Influence include the Kukpowruk, Ipewik, and Nilik rivers.* *Lands and Realty: The plan goals for lands and realty include meeting public needs for use authorizations, such as leases and rights-of-way, retaining public lands with a high resource value, and adjusting land ownership to consolidate public land holdings, acquire lands with high resource value, and meeting public and community needs. While the entire section regarding lands and realty is pertinent to Point Hope residents, especially during subsistence activities within the KSP, areas especially addressed in the Point Hope Area of Influence include areas reserved for military use in Cape Lisburne, Point Lay, and Cape Sabine.* *Livestock Grazing: Reindeer grazing is allowed only in certain allotments, non e of which are in the Point Hope area. Consideration of reindeer grazing as an economic development opportunity would need to consider the availability of federal land available for reindeer grazing. However, the Management Decisions stipulate that applications for grazing permits be considered on a case-by-case basis, possibly allowing grazing in the area.* *Mineral Management: The calving and inspect relief habitat for the Western Arctic Caribou Herd is within Point Hope's Area of Influence and is open with special stipulations for exploration and prospecting and is available for leasing with special stipulations.* *Travel Management: All of the calving and inspect relief habitat for the Western Arctic Caribou Herd is subject to a 1500 pound curb weight limitation for off-highway vehicle travel as are some other areas within the Point Hope Area of Influence.* *Vegetation: The plan seeks to identify, conserve, and monitor rate and vulnerable habitats and plan communities within its boundaries and ensure that proposed land uses avoid inadvertent damage to habitats with special status species plans and plant communities. Completion of land cover classifications in Point Hope, De Long Mountains, and Point Lay U.S. Geologic Survey topographic map quadrangles are needed.*

32	2) Evaluate the impact of the BLM northwest area resource plan on the NSB and community of Point Hope. (zoning of subsistence and industrial areas) (continued)	117	129 – 131	(continued) *Wild and Scenic Rivers: Eleven rivers within the planning area have been determined to be eligible for inclusion in the Wild and Scenic Rivers system, including the Nikik/Ipewik/Kukpukk river system.* *Wildlife: The goals for wildlife in the KSP Resource Management Plan include maintain and protecting subsistence opportunities, which also determining management actions and allowable uses that will affect subsistence opportunities and resources maintaining a sufficient quality and quantity of habitat to support the wildlife and mitigate impacts to wildlife species and habitats from land uses in BLM-managed lands. Management Decisions include working cooperatively with State and other Federal agencies to implement the Western Arctic Caribou Herd Cooperative Management Plan and other cooperative management efforts.*
	3) Past federal funds for housing and present funding. Provide the right now overcrowding of housing. 221 houses, 41% overcrowding = 90 new houses. Needed to meet overcrowded needs. Page 110 spreads the housing need for a period versus immediate need.	110	120	3) A separate housing study would be a more effective way to compare past and present federal funding for housing. Section 8.2 Current and Future Housing Needs includes 20-year projected housing need, found in Table 18. The U.S Census Bureau found that in 2010, 25.8% of homes were overcrowded (64 homes), found on page 117. Although that data is six years old, it is the most current available for overcrowding. The rate of overcrowding serves as the foundation for determining future housing need based on population projections found in Chapter 4, Table 7. The draft public review plan included a linear trend population projection but was not included in the housing projections. Thus, housing need based on the linear trend population projection has been added to Table 18 to more closely correspond with population projections in Table 7. Additionally, the header for Base Year 2015 has been changed from *Cumulative Homes Needed* to *Current Homes Needed* for clarity.
	4) City has not given up its Port Authority	NA	147	4) A new Implementing Strategy has been added regarding the Port Authority: *1.2.f. Investigate creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.*
	5) Remaining Evacuation Road funds have been attempted to be used for Airport Road community objection? City has not constuted on the change.	NA	NA	5) Comment acknowledged. Details on how grant funding for the evaluation road were managed is not within the scope of a comprehensive plan. Contact North Slope Borough Capital Improvements Program Management Department for project information.

No.	Comment	Draft Page	Final Page	Action
32	6) Resist RS 2477 easements (State of AK).	NA	NA	(continued) 6) Comment acknowledged. The NSB Planning Department can assist with land use issues, including the establishment or vacation of easements.
	7) Health care consultation of services transferred from tribes to State of Alaska.	NA	NA	7) The planning team contacted the NSB Department of Health and Social Services. They indicated that to their knowledge, the State has not taken control of health programs.
	8) Tourship tourism. City handles that should the Village Corporation take the lead?	88	96	8) Added the *italicized* text to the plan: Arctic tourism is increasing rapidly; it is estimated that one million adventure tourists visited the Arctic in 2013. Higher-risk activities such as adventure and eco-tourism often involve transportation via passenger vessel. In past years, small inflatable boats have been used to bring passengers ashore to Point Hope from cruise ships. The cruise industry schedules tours through the Northwest Passage and into the U.S. Arctic. Some community members have expressed interest in creating a port authority for Point Hope to regulate all marine traffic in the area *and the need for greater coordination at the local level.*
		NA	147	Text also added in Goal 1 - Facilitate Economic Development: 1.2.f. *Facilitate greater coordination at the local level on cruise ship travel and* investigate *creating a port authority to regulate and monitor marine activity as well as encourage tourism to facilitate economic development opportunities.*
33	No contact information provided. I am very excited about the Point Hope Comprehensive Plan being completed I feel confident we are heading in the right direction. Hopefully this will be a powerful tool for our community to receive the funding for our long range plans 10-20 years plans - and recognize the issues that we have in our community	NA	NA	Comment acknowledged.

No.	Comment	Draft Page	Final Page	Action
34	Jim Nash. 1) Find a place for our daycare.	NA	NA	1) The location for the future daycare has not been determined. Inquiries have been made to the NSB Health and Social Department but has not received a definitive answer.
	2) Include geological resources.	19	23	2) Section 3.1 includes information on the area's geology.
	3) Exclude anything that makes us look divisive	NA	NA	3) Comment acknowledged.
	4) Update population by hiring locals to go door to door (take pictures).	NA	NA	4) The NSB Census recently conducted a new census of Point Hope. The complete results were not available as of the research and writing of the plan.
	5) Implement radar system plan for ships/planes.	NA	147	5) Under Goal 2 - Maintain, protect, and expand community facilities, infrastructure, and services, the following implementing action has been added: *2.2.g Investigate the feasibility of implementing a radar system for planes and ships*.
	6) Add projections for 6-20 years on housing.	110	120	6) Housing projections can be found in Table 18 in Chapter 8: Housing. Housing need based on the linear trend population projection has been added to the table to more closely correspond with population projections in Table 7. Additionally, the header for Base Year 2015 in Table 18 has been changed from *Cumulative Homes Needed* to *Current Homes Needed* for clarity.
35	Aqquilluk Hank Sr. 1) Comprehensive plan goals on page 129 conflicts with many people because it appears to prioritize goals in an unfavorable order. Many people against offshore development are offended to see economic development before protection of subsistence resources and activities! This must be re-prioritized.	129	145	1)The text in the introduction of Chapter 10 has been revised to indicate that the goals are not presented in priority order. The last sentence of the first sentence that read ~~*The six goals presented in this chapter are listed in priority order*~~ has been deleted. An additional paragraph, now the second paragraph on the page, has been added. It reads: *The Point Hope Tri-lateral Committee contracted with the OSIYO Group in 2015 for visioning and strategic planning assistance that resulted in the development of a Trilateral Committee Mission, Purpose, Guiding Principles, and Strategic Directives which are summarized in Chapter 1. The goals in this Plan are in part based on the Tri-Lateral Committee's prioritized Strategic Directives. However, some residents expressed concern that protection of subsistence resources and activities should be the highest community priority. Because this comprehensive planning effort sought important issues facing the community overall, the eight goals presented in this chapter are not listed in priority order.*

<table>
<tr>
<td>35</td>
<td>(continued)
2) We must educate our people! Point Hope needs a plan in place for education, to embrace the power of education for future generations, we need to include education in our Comprehensive Plan. We have many options available for educating our children and Point Hope always wants the best!</td>
<td>NA</td>
<td>161</td>
<td>(continued)
2)The following goal, objectives, and implementing strategies have been added to the plan:
<table>
<tr><th colspan="2">Goal 8 – Provide educational resources that prepare students for entering the workforce while also inspiring community participation and leadership.</th></tr>
<tr><th>Objectives</th><th>Implementing Strategies</th></tr>
<tr><td rowspan="2">8.1 Prepare students to be community leaders.</td><td>a) Encourage student programs that foster leadership skills, such as student council and peer-mentoring activities.</td></tr>
<tr><td>b) Develop a sense of citizenship and ownership in the community through student participation in community projects, such implementing this comprehensive plan.</td></tr>
<tr><td rowspan="7">8.2 Prepare students to enter the workforce</td><td>a) Develop a “how to” employment library, focusing on job skills, financial aid, and other topics.</td></tr>
<tr><td>b) Promote existing scholarship opportunities and continue to develop and expand scholarships to meet the needs of students and employers.</td></tr>
<tr><td>c) Evaluate the availability and needs of technical services within the community.</td></tr>
<tr><td>d) Develop an apprenticeship program, which would provide training to create new skills in villages, supported by a regional network for technical assistance.</td></tr>
<tr><td>e) Create a job-shadowing program that matches students with local professionals to share existing traditional and technical knowledge and to model responsible work practices and ethics.</td></tr>
<tr><td>f) Evaluate the existing vocational education programs within the community and how it address the needs.</td></tr>
<tr><td>g) Evaluate the existing vocational education programs within the community and how it address the needs.</td></tr>
</table>
</td>
</tr>
<tr>
<td></td>
<td>3) Another important factor left out of the C.P is the State of Alaska Unit Divisions which consist of different hunting regulations. It would be especially nice to see the separate classified units on a map because they may be different rules near our neighbors for uniting. Unit 22, 23.</td>
<td>NA</td>
<td>99, 55-56</td>
<td>3) The State of Alaska boundary units have been added to Map 20 and a new map, Map 10, has been added. The following text has been included in the plan: The Alaska Department of Fish and Game regulates hunting throughout the state. Point Hope is located within the Game Management Unit 23, shown in Map 10. Bag limits are defined by state and published annually. The difficult regulations/bag limits are not included in the plan because they are subject to change annually.</td>
</tr>
<tr>
<td></td>
<td>Page 91. Map lacks the trails around Point Hope. The NVPH has valid trail maps for reference. We need some sort of meeting agenda for the community to keep track of certain areas of interest to inform us when the proper time we should speak out concerning certain issues.</td>
<td>91</td>
<td>99</td>
<td>Additions to the Regional Transportation map, Map 20, have been made. The NSB Planning and Community Services Department has been working on mapping trails across the North Slope and appreciate input on local trails and provides the trail location information to local hunters as requested.</td>
</tr>
</table>

No.	Comment	Draft Page	Final Page	Action
36	No contact information provided. 1) I strongly support this comprehensive plan which includes all three entities of PHO involvement, also other entities like, NSB, NSBSD, and ASRC. 2) Need to have 911 added to strengths. 3) Cost of food – shipping should be included 4) Under weakness – need to be able to contact our health aides after working hours. 5) Provide water and sewer services to those who don't have it should be put under strength (a priority). 6) Also need more house and jobs should be listed under strength 7) Laundry mat not all residents have access to these facilities.	NA 6 7 7 7 7 7, 142	NA 6 7 7 7 7 7, 153	1) Comment acknowledged. 2) The 911 System has also been added to Community Strengths. 3) The cost of food is already listed as a Weakness. The *Cost of shipping* has been added under a separate bullet. 4) A new bullet has been added to Weaknesses: *Inability to contact health aides after working hours* 5) A new bullet has been added to Weaknesses: *Need to provide water and sewer service to those that do not have it – a community priority*. 6) A new bullet has been added to Weaknesses: *Need more jobs*. The need for more houses is already listed under Weaknesses. 7) The need for a laundry mat has already been included under Weaknesses. It is also acknowledged in Chapter 10, Goal 4, Implementing Strategy 4.4.a. "Residents have expressed the desire for additional facilities and services that include additional health aides to address the shortage, expanded senior services, port authority, a recycling program, drugs and alcohol prevention and rehabilitation programs, and 24 hour police service as well as a bank, laundry mat, and greenhouses."
37	Esther Nashookpuk. 1) Teacher need to know that they're here to teach. For the kids future, construction is taking our jobs, homes, diploma, education. 2) Visitor education – equal jobs. 3) Homes, walking on peoples lots land.	NA	NA	1) Comment acknowledged. Concerns regarding teachers should be directed to the North Slope Borough School District. 2 and 3) The planning team called to discuss these concerns in more depth to be able to address them properly but was not able to speak with the commenter prior to the publication of this final draft.
38	Ida Angasan. 1)Point Hope, Alaska needs a "NEW" clinic! Period!! Some time ago the NSB Health Board had one of their meetings in Point Hope. Kaktovik board member was surprised how very small, very old the clinic is. The emergency area and the garage are small too compared to our wonderful spacious clinic here at		108 165	1) The italicized text has been added to the plan: Point Hope residents have expressed frustration regarding the level of medical service provided Maniilaq Association, ASNA, and NSB. Specifically, the community has stated the need for additional staffing and services as well as housing for medical staff *and a new or expanded and modernized healthcare facility*. Under Heath Clinic in Table 27: Potential Capital Projects over a 5, 10 and 20-Year Period, the italicized text has been added: 1 to 5 Year Period - Continued

No.	Comment	Draft Page	Final Page	Action
38	(continued) Kaktovik. We all know Pt. Hope has the largest population of the villages. But, really the Kaktovik board member was startled at how "small" the clinic is. We appreciate our renovated clinic very much and so does the clinicians here. 2) CHAPTER 1: The Tri-Lateral working group have some great In-Puts, ideas and it seems the involvement of all groups is very good. I'm impressed with the Pt. Hope Youth for their out-spoken views. 1.4-page 7 Please explain-- 'Ipiutuaq' Partnership and Repurpose OR Refurbish? Closed bldgs. 3) CHAPTER 2: Very rich history with proofs of archaeological sites all the way back to Norton (600-100 B.c.) 4) CHAPTER 3: Interesting Environment with similarities of weather, erosion and sometimes flooding of runway. Many more bird species than Kaktovik. I hope RAB is still involved at Pt. Hope in cleaning up the toxic waste, buried rusted metals, diesel and gas spills and rusted 55 gallon drums left by the military. Sickening that we NEVER had a say or be WARNED about the invasion of our lands in the 1940s. 5) CHAPTER 4: Our population census will always be lower than the NSB count. The census people should come and count our population during the winter months. We are all home then. Summer times are busy with gathering, hunting and community activities. The graph of PFD count for 2010, was there no one that applied for PFDs that year in Pt. Hope?		165 109	(continued) cooperation between Maniilaq, NSB and ASNA *and evaluate healthcare facility needs.* 6 to 10 Year Period - Provide *a new healthcare facility or* upgrades and ~~construct addition~~ additional space to include exam rooms, storage, emergency room, pharmacy and additional offices ~~space~~. 2) The Ipiutuaq Partnership is a program that provides scholarships to students. It is briefly mentioned on page 109. The repurposing old buildings for hot lunches is a comment made by a Point Hope resident and refers to referring to finding/refurbishing a building to make it a suitable location to serve hot lunches to Elders when the school is closed for the summer. 3) Comment acknowledged. 4) There was some investigation into contamination during the 2016 field season at the military site in Cape Lisburne. 5) Footnote 107 on page 53 provides an explanation for the absent PDF data for 2010. Point Hope information was missing from the 2010 PDF Annual Report.

No.	Comment	Draft Page	Final Page	Action
38	(continued) 6) CHAPTER 5: Can't say enough about subsistence. It varies in all villages of the North Slope. I must say I'm happy that we caught our quotas of three (3) whales. Impressed with the young folks involvement in butchering, cutting meats, maktak and learning how to get the stuffing out of the ingaluaq too. 7) CHAPTER 6: All villages have shortages of some sort of public facilities. We are always in need of one thing or another. Be it usages of buildings for activities and recreations. Our public work, police department, fire department. Our water plant, power plant utilities building are in need of renovations. Pt. Hope is fortunate to have high speed fiber optic telecommunications in place. 8) Chapter 7: Since North Slope Borough owns the health clinic they need to build a Bigger, roomier clinic with bedroom apartment-like for visiting clinicians, physicians and dental staff to stay in the clinic. All villages have shortages of health aides with the exception of Kaktovik, Alaska. EDUCATION: Tikigaq always has good rapport and high numbers of students at Ilisagvik College. Keep up your good work in education. 9) CHAPTER 8: Housing-North Slope Borough is evaluating old houses throughout the slope for ages 55 on up. OVERCROWDING-HOUSING AFFORDABILITY: I look at the housing overcrowding and affordability this way-'Not so much housing affordability, BUT over income. Our Alaska over-income is ridiculously too LOW! When housing (new) becomes available, after WAITING for five (5) to ten (10) years, the person or			(continued) 6) Comment acknowledged. 7) Comment acknowledged. 8) The italicized text has been added to the plan: Point Hope residents have expressed frustration regarding the level of medical service provided Maniilaq Association, ASNA, and NSB. Specifically, the community has stated the need for additional staffing and services as well as housing for medical staff *and a new or expanded and modernized healthcare facility*. Under Heath Clinic in Table 27: Potential Capital Projects over a 5, 10 and 20-Year Period, the italicized text has been added: 1 to 5 Year Period - Continued cooperation between Maniilaq, NSB and ASNA *and evaluate healthcare facility needs.* 6 to 10 Year Period - Provide *a new healthcare facility or* upgrades and ~~construct addition~~ additional space to include exam rooms, storage, emergency room, pharmacy and additional offices ~~space~~. 9) Comment acknowledged.

No.	Comment	Draft Page	Final Page	Action
38	(continued) families income has "become" over-income because building houses take 5 - 10 years to build and by that time the person or families have had pay raises. We have to "fix" this situation somehow. We have to find a "solution." 10) CHAPTER 9: Complicated Land Use Zoning. I won't go into this. Restricted, unrestricted Native Lands and allotments. Again please explain" Ipuitaq?" 11) Chapter 10: Very good information in this comprehensive plan.			(continued) 10) The Ipiutuaq Partnership is a program that provides scholarships to students. It is briefly mentioned on page 109. 11) Comment acknowledged.
Administrative Changes, not changed based on public comments				
39	Missing acronyms	xi, xii	xiii, xiv	Alaska Spatial Data Management System (SDMS), Areas of Critical Environmental Concern (ACEC), for example (e.g.), Kobuk-Seward Peninsula (KSP), National Park Service (NPS), and Resource Management Plan (RMP) have been added to the Acronyms list.
40	Did not provide consultant acknowledgement to all those involved with the plan's development	iv	v	Laura Strand, Emily McDonald, Alice Glenn, Kaare Erickson, and Cynthia Trapp have been added to the list of consultants that contributed to the plan.
41	Goals 7 and 8 are missing an introduction paragraphs before the Objectives and Implementing Strategies.	147	159, 161	The following text has been added to precede Table 26: *Cultural resources provide a sense of history and family to Point Hope residents. These resources must be preserved to respect residents' ancestors and cultural heritage. Protecting the natural environment is important for both sustaining a subsistence lifestyle but also for its own intrinsic value.* The following text has been added to precede Table 27: *Residents stress the importance of education of their youth. During community meetings, residents expressed the need to focus on education, both to prepare students to become community leaders and to be qualified for employment opportunities. The purpose of Goal 8 and its associated objectives is to facilitate educational opportunities within the village.*
42	Missing placeholders for Assembly ordinance and resolutions of support.	NA	188-192	Added placeholders in the Appendix for Assembly Ordinance and Resolutions of Support.

No.	Comment	Draft Page	Final Page	Action
43	The NSB Areawide Comprehensive Plan policies listed with many of the goals in Chapter 10 lack consistency with other village plans.	Ch. 10	Ch. 10	The NSB Areawide Comprehensive Plan policies listed with many of the goals in Chapter 10 have been removed for consistency with other village plans and because an update to the NSB Areawide Comprehensive Plan is expected in 2017.
44	Updated wetlands data is available.	27	31	Updated wetlands data has been used to provide more current information in Map 7.
45	The title of the Daily Flow Usage column in Table 8: Water Generation and Treatment Forecast for High Growth Rate is unclear and the proposed usage per year for 2016 is slightly off.	58	64	The Title of the Daily Flow Usage has been changed from "Daily Flow Usage (Gallons/Per Day/Per Person) to "Daily Flow Usage: (Gallons/Village/Day). The Total Proposed Usage per Year has been updated for the year 2016 from 7,941,159 to 7,941,305.

Appendix E: ADOT&PF Notes from Point Hope Runway Realignment Scoping Meetings

Notes from Point Hope Runway Realignment Scoping Meetings

(February 3-4, 2015; Point Hope Qalgi)

Public Questions/Comments and *DOT&PF Responses*

February 3rd Meeting, Point Hope Community Qalgi.

1) **What is the erosion rate for the northern runway safety area, and how was it calculated?** *We are using a conservative average coastal erosion rate of 10 ft./year to develop the runway realignment design. The average rate was developed by DOT&PF Coastal Engineers who have taken a number of direct measurements over the last several years, and compared them to historic documents and current aerial photos we have of the airport and coastline. For example, a 1972 erosion report by the U.S. Army Corps of Engineers determined there has been an approximate 8.8 feet-per-year rate of erosion longer term. It's important to remember this is an average erosion rate and changes in weather conditions could increase or reduce that average any given year. By rotating the runway to the northeast by 15 degrees, we can achieve a 500 ft. buffer between the current northern coastline and the northwest tip of the proposed new Runway Safety Area. We anticipate this will achieve a 50 year design life before erosion impacts the proposed future runway safety area. On the south shoreline, DOT&PF coastal engineers recommend a 300' buffer from the active beach. They believe erosion on the south side isn't a concern at this time based on historical photography comparisons.*

2) **How far from the beach is the runway now, and how long would a project keep it safe?** *Currently the active beach area has eroded to within about 30 feet from threshold lights at the end of Runway 19. We're designing a project to delay future loss of runway safety area for up to 30-50 years.*

3) **How much is the project going to cost?** *Total estimated cost including all phases ranges from $20-$30 million dollars.*

4) **Are you going to repave the existing runway?** *No, the existing runway will be demolished during the construction of the new runway. We need to construct a new paved realigned runway.*

5) **Would the project also improve the road from the runway to town that has bad bumps?** *Yes, improvements to the airport access road from the airport to <u>the first intersection</u> are eligible to receive Airport Improvement Programs (AIP) funds. The first intersection has been identified as at the road that leads to the Point Hope Landfill.*

6) **But the landfill access isn't a real community road intersection, just a turnoff.** *Unfortunately, <u>any</u> other non-airport use of the access road from the airport qualifies the first intersection as a location where AIP funding for road work ends.*

7) **How will the runway be constructed and what types of materials and paving will be used?** *We will need to reconstruct a new embankment for the realigned runway, and will try to reuse as much of the existing embankment material as we can, and will need additional fill from either a local source or have to get it barged it. In order to keep the runway open, construction will be phased to leave 2,500 ft. open for continued use during construction. The runway will have new asphalt surfacing.*

8) **Who planned the project? Did you come here first and talk to the people?** *We began initial planning at DOT&PF, and our staff has been to Point Hope 5 times for informal meetings with the community and to conduct field studies that refined the proposed design. We're here now to get input and comments about that design, and ask the community if we've missed anything or if changes are necessary before we finalize the project.*

9) **Will someone come every year to measure erosion?** *While there has been no ongoing, dedicated measurement of erosion at Point Hope by DOT&PF, we can encourage the regional airport manager to take periodic measurements during routine servicing of airport infrastructure, and monitor available satellite imagery to record any changes.*

10) **You have to see [*the erosion*] with your own eyes, not just satellites and reports.** *We have actual measurements we've taken over the last few years, and we understand it's a big concern to the community that its effects on the airport are monitored. We'll certainly make actual measurements in subsequent years as well as review the most current satellite imagery that becomes available.*

11) **There were other DOT meetings where we said we wanted a runway farther inland as it would have a longer life. Why does this project propose to leave the runway where it is? The community of Point Hope desires comprehensive airport relocation as a long term goal. We don't foresee erosion stopping and want to prepare for the future. This project will just be a band-aid to get us through until a relocation project can be funded.** *The combination of cost and timeframe makes it impractical to move the entire airport to a completely new location. An airport move of that scope would probably take 5-7 years to plan, design, and permit; then it could take many more years to fund that much larger project. The project we're proposing now is for a shorter term fix to an immediate problem of coastal erosion. The project was initially just going to repave the existing runway, but when it was apparent there was an immediate threat to the runway over the next 5-10 years, we were able to revise the project scope to address erosion, which actually gave it a higher prioritization over other statewide airport projects. The community can still work to make a case and gain support for a full airport relocation farther inland over the long-term, but this proposed project will maintain the current level of service for the immediate future.*

12) **An alternative that was considered in a 1984 study was a site between the airport and the town. There were considerations of a nearby reindeer corral and adjudication of a Native Allotment that caused that project to be discontinued. Another option considered was to build into the lagoon, but that was dismissed due to cost and geotechnical considerations.** *DOT&PF appreciates the depth of community discussion on potential airport alternatives. A detailed discussion of all alternatives considered will be included in the environmental document for this project. We understand that it's been a long term goal of the community to relocate the airport for the long-term. This proposed project isn't designed to satisfy that goal, but is considered an "interim" solution to solve the current safety deficiencies and maintain the existing service level.*

13) **We thought there were landfill concerns with its location close to the airport. How will this project address that?** *There are exemptions for those kinds of issues depending on the management of the landfill. Point Hope and many rural communities fall under that exemption. Also, the NSB representative at the meeting commented that the landfill still has a useful life and they are in the process of actively working to extend its functional life, and would cap it sometime in the future.*

14) **Has the NSB put any money into this project at all**? (***NSB representative's response at scoping meeting)****: The NSB wants to move the airport…but it would take a lot longer and more money, and if this runway goes away we'll have to go back to* [service using Cessna] *207s and 185s because it won't be long enough. So doing this will keep the Safety Zone long enough so the runway won't be shut down for bigger planes. So that's why the state went ahead*

to make it 4000' so we can keep the existing planes coming and fix things in a shorter time frame. If we go with another bigger airport it will take longer, more money and we may have to even shut down this runway. That's why DOT is here proposing this and why we're putting out input. If they don't do this, what timeframe are we looking at?

15) **Where are you going to get material for the project?** *When it comes to material, DOT&PF often specifies it as "contractor furnished". What that means is DOT&PF would locate a site, get permits for it and make sure it meets specifications, but wouldn't make it mandatory that a contractor use it. That way it's available, but they can use other sources if they have a more cost effective option. DOT cannot dictate means and methods to the contractor.*

16) **We're concerned that if material is mined on or near a beach, we may see additional, long term erosion. The community prefers winter hauls if materials will require hauling along the beach. Finding stockpile areas is relatively easy here.** *Beach material sites will be surveyed by DOT&PF coastal engineers to investigate concerns about additional erosion.*

17) **Can you use lagoon mud for fine material?** ? **There are clamshells in that mud…measured at up to 5% by content…and we heard that's a barrier to that material being useful.** *Our material geologists have picked out some sandbars in the river they'd like to sample as we'd potentially need a small portion of fine material for the project. Our geologists want to test some of those areas. We may be able to use that material to mix with other gravels that don't have enough of a fine-grained component in them naturally.*

18) **Those sandbar sources proposed in the river aren't DNR property. The Native Village of Point Hope did not agree with DNR navigability determinations proposed for those areas in the past. The sandbars should be considered Tikigaq Corporation lands. Have you also checked for Native Allotments around areas you want to get materials from?** *From what we've seen on the maps and have also been told by Alaska DNR, they consider the potential sources by the river as being on state lands. But we do understand there may be some question about conveyances and ownership in those areas, and will make sure we check all the records of parcels' land status with DNR, the NSB and the Corporation land office to be sure we have up-to-date information.*

19) **Are there other material sources you're considering?** *NSB has tested a few sites in the mountains south of town that might be available, and we've been told about a private parcel that might have material available. We'd also like to test the NSB stock pile near the airport. We also have to include "contractor furnished" as a source, as material could ultimately be barged in if a contractor decides that is the most cost effective method of supply.*

20) **The "Million Dollar Hill" of material came from a hole dug at the south end of the snow fence. That material has been tested, and is of low quality and doesn't bind well.** *We will take new samples from that source and determine if it can be of any use for the project.*

21) **Please consider the rock outcrop source identified in the HDR report. This is good material, and developing that source would benefit the community.** *While DOT&PF has reviewed past geotechnical information, we haven't yet selected a potential material source for further investigation. We're familiar with the HDR report, and will consider the outcrop site as well as check out sources provided during comments at the scoping meetings. So far we've identified three options for further consideration: 1) utilize a local source of "marble size" beach gravel to mix with fine material from another local source; 2) utilize the material sources identified in the HDR report; or 3) barge all necessary material from a commercially available source, such as Nome.*

22) **There might be local property owners there that may want to sell gravel.** *We've heard about that recently and will follow up on it.*

23) **What about the short term stability of the 400 foot Runway Safety Area? With the erosion going on, will that still be there in 2017 when you begin construction?** *Right now, the north shore RSA is less than 400' long due to ongoing erosion. Our coastal engineers predict that at 10' per year loss, it'll be close to gone by 2018. That's why the project is important regardless of whether long-term the community gets a project to fully relocate the runway. Left unchecked, erosion will go past the north threshold lights soon. If that happens, FAA would likely require we move threshold markings by 300' which would shorten the declared runway length and further limit aircraft or freight loadings that could land here.*

24) **What if your estimates are wrong and the runway erosion happens faster and damages the new runway sooner than the 30-50 years you predict?** *If erosion damage to the new airport happens sooner than anticipated, there are emergency repair funds for temporary repairs if something unexpected happens. One reason we've been to Point Hope several times over the last few years was to get good estimates on erosion and develop a project addressing the problem long-term. Unless other environmental factors change dramatically, we're fairly confident of the conservative 10' per year rate of erosion that was determined by research on historical rates and new field measurements.*

25) **The Borough attempted to drill a water source well several years ago. At 200' they hit salt water with flow that seemed to be heading inland towards the lagoon. What will happen if you dig down for the project and there's underground seepage of salt water?** *We don't anticipate a need to excavate down to the water table. Most dirt work will involve placing fill on existing grade except for two small areas near an old channel where the runway has settled…where the big patch is evident on the pavement. Depending on what we find when we drill test holes during preliminary work, we may have to sub-excavate that area a bit to remove organic material that caused settlement at that spot. Even if we hit the water table there, we'll backfill with better material and it shouldn't be an issue. We don't think there will be any other problems due to subsurface water over the remainder of the project area.*

26) **What will happen to the old channels on land? Waves overtop and they fill with water, so will you put pipes under the runway area to let the water travel out of them?** *We don't use culverts under runways, but drainage will be provided where necessary.*

27) **Are there material sources under airport land that could provide underlayment, or is it too wet? Recent storms washed over borrow sites at the airport and they were compromised.** *We don't know, but don't want to excavate below grade on most of the airport property because of concerns with cultural resources. As for moisture level in materials we use, we don't want the resulting embankment to be saturated during or after construction, and need it dried out enough to compact and stay compacted. However we'll test to be sure some reasonable percentage of moisture is in the material for it to compact properly.*

28) **Are there any 14C claims that were not processed that will be required? There are a couple of areas we know of that may have some interest in the parcels proposed for the project. This has been brought up at several meetings. Do you know their names?** *That kind of information will take some detailed research to figure out. Prior to any acquisition of ROW we would be sure to get up-to-date ownership data which would include information on those types of issues.*

29) **Would the new runway be longer than the old one?** *Yes, it will be 8 feet longer*.

30) **What is the proposed new runway length? We're concerned about the number of passengers a Beechcraft 1900 can carry into Pt. Hope. We need a runway that lets them accommodate a full 19 passenger load. It's a really big concern. In the past, the 1900s would carry 19 passengers and we had reasonable air fares for our community and even direct service to Anchorage. Now they're limited to 10 passengers. Our children's sports teams are competitive and need to travel to events to be able to be recognized for college scholarships. We don't want runway limitations to increase traveling costs or cost our students those opportunities.** *We are using a Beech1900D as the critical design aircraft, meaning the runway will be designed for the proper landing and takeoff of a Beech1900D. As a 4000' runway will accommodate full operation of a 1900, that's the proposed runway length. As for their passenger count, recent FAA regulation changes increased the airport rescue/firefighting equipment requirements for service by aircraft carrying over 9 passengers, so that also affects the passenger capacity that can be flown.*

31) **When will the next meeting take place to go over all this information? If you're looking at construction in 2017, is there something that has to happen here by the City, Native Village or Corporation for DOT to go forward with the project?** *First, when have a final design, it would be helpful to get resolutions that communicate community opinion on it, or otherwise resolutions in support of, or not supporting, the project or a new airport. It's up to the community…the Native Village, or Corporation, or City individually or together.*

32) **Your estimate of how long the project will last is based on the erosion rate remaining constant. Over the last 10 years there's been a dramatic change in ice melt and disappearance of multi-year ice causing more erosion faster. We have concerns about still having the runway where it is after the project as it may disappear quickly. Based on your data, it will be difficult to come up with a resolution when the new runway might disappear quickly and we may be forced to move farther inland.** *Based on information we have, the realignment project is the best alternative for now. If the community, through the legislature or other sources, is able to secure funding for a more comprehensive, long term plan to develop another airport, you could still get work going to evaluate that. But that's likely a 7+ year range project in itself just to get all the necessary information gathered. Evaluating various build alternatives for that scale project would take at least on additional year. But if the community says 'We don't want this realignment project, and prefer to build a new airport inland instead…', we must take that into account, and it could delay this project if that's the community desire. The work we've done now could be used for the larger project's environmental document, but we would have to restart the entire process we've followed up to this point for this project. In terms of the comments we've heard about relocation, we looked at the concept of moving the airport, but it came down to its price tag and extended timeframe. This project is designed to maintain the current status of air safety and transportation for the community in the face of impending erosion of the runway within a few years. Moving the airport inland would require a fare more extensive analysis of runway location, access roads, utilities, airport engineering and environmental issues, funding and approvals.*

33) **The Point Hope community has done lots of preliminary work on airport relocation already, and the cost to move it comes to about $47 million according to a study by HDL. The NSB is looking for material sites, and there's data we've gathered on other issues. Also, there has already been a community discussion on relocation, so when you do consider cost and all those things, we can help by incorporating our information and by obtaining Federal Department of Commerce funding to help to put these pieces together**. *Part of the design process for this project is comparing the cost and benefit of all design alternatives. These have included "No Action", "Laterally Shifting the Runway", "Runway Realignment", "Full Relocation", and "Installing Shore Protection". The runway realignment alternative provides the best cost to benefit ratio, maintains the current level of service, increases the size of RSAs, replaces airport navigation aids and, importantly, is affordable now while solving immediate erosion problems.*

34) **You said you're going to move the pavement farther south, but also that there's more storm surge on the south? Those sound like conflicting ideas.** *We've been working with our coastal engineers, and they've told us we need to stay about 300-ft. away from the south beach to prevent storm surge from affecting the new project. If we wanted to build closer than that, they recommended installing shoreline protection. As a result we've designed this project so the southern tip of the RSA is at least 300 feet from the southern shoreline.*

35) **What years were the pictures taken that you're using for comparison of the beach erosion? Are they current?** *The most current satellite photo we're using is from 2013…just over a year old. We are comparing it to a few others taken in 2009. We're also comparing those to measurements we've taken on the ground very recently, so we do have more current erosion numbers, if not actual photos of the current conditions.*

36) **We're supposed to be gaining land on the south and losing land on the north side, and would be interested in verifying the loss over time.** *That's already evident on the series of older photos, and again we can request the regional airport manager to monitor changes to the shore adjacent to the runway more routinely after project completion.*

37) **Will the northern and southern beaches on airport property still be accessible around the ends of the runway for travelling to whaling and seal hunting areas? Please be sure these areas remain available for access.** *On actual airport property, only aviation and airport uses are allowed. But if you're asking about use of the shorelines as travel lanes to the rest of the Point Hope Spit, yes, there will still be 100-foot wide public access easements through airport property along both the north and south shorelines.*

38) **How will you remove the existing asphalt pavement?** *A big grinder will be used mill up the existing pavement in phases into recycled asphalt to be used in the new construction.*

39) **Are they going to allow planes to use the runway during the work or are we going to have to worry about getting traditional air freight shipments from outside? Will construction phasing impact our flight schedules or cause 2-3 day closures? Please ensure we will not have interrupted deliveries of groceries and passengers.** *DOT&PF will work to ensure construction phasing plans/schedules have minimal impact on scheduled flights. A 2,500 ft. runway will be maintained during the construction project. There may have to be a few complete closures on some days, but they're usually scheduled at night and only for short durations so we can get work done between normally scheduled flights…between the last of the each day and first of the next day.*

40) **How many days do you think the runway will be closed for passengers, supplies, medevacs, etc.? We need to be sure we can get in and out and don't want to reduce the 4-5 planes a day we get.** *We can phase construction so a contractor can build part of the project without affecting the main runway, and then for other parts get work done in one night so the runway is open the next morning. There is also commonly a contractual requirement for contractors to make the runway available on short notice…usually one hour…for emergency or medevac needs.*

41) **Please hire local people for construction projects. We have a need in the village for jobs.** *DOT&PF is required to award the construction contract to the lowest bidder, and cannot specify local hire as a contract requirement. However we will include a contract provision for a "Post Award Conference" that would be a meeting in Point Hope that the contractor will be required to attend. When that takes place, the community can take the opportunity to inform the contractor about local hire availability and other resources you may have to offer.*

42) **What will the new easement be around the runway?** *An easement connecting the realigned access road with the existing shoreline easement would be established around the realigned apron so the community will have an established way to get through airport property without driving vehicles over the apron or runway.*

43) **When would the project start?** *We'd like to work toward starting construction in 2017. There may also be preliminary fieldwork this coming summer and possibly next winter involving geotechnical material investigations and topographic surveys. We've already done enough of a cultural resource study that we can begin to develop concepts for mitigation and develop the required Section 106 Memorandum of Agreement between FAA and the Native Village of Point Hope, and other consulting parties.*

44) **What did you find for cultural resources?** *We actually started with a preliminary survey by the DNR Office of History and Archeology archeologist when our consultants were doing wetland survey work, and we also invited an individual from the community to oversee that work. Then we followed up with the more formal, detailed investigation for cultural resource impacts and again had a local advisor along. During both surveys, the archeologist found no cultural resource items or artifacts, which really only means he doesn't think there's a concentration of cultural material anywhere specific on the project area. There will always be a potential for individual artifacts or small sites on the project area that we missed, and since it's within an established archeological district, we'll need to initiate consultation with the Native Village and develop a mitigation plan. But overall, the project footprint should not adversely affect existing cultural resources based on what the archeologist found. During construction we will likely have the contractor employ a professionally credentialed archeologist to monitor any excavations or ground disturbing activities.*

45) **Please consider prohibiting mining within airport property.** *We understand the concerns about cultural resources and other traditionally important sites that are within the current airport property, and we don't anticipate doing any excavation for materials on any areas that have not been previously used for that purpose. While we will likely do some localized excavation in the old channel area to remove organic material where the runway currently has settled, that location is not likely to have a high probability for cultural resources. However, we would have an archeologist monitor that work to ensure nothing is missed.*

46) **The community has interest in receiving cultural resource mitigation money to match other funding from the Department of Health that would help pay for work on our heritage documents. We also think that re-use of old material in the existing runway embankment should require archaeological monitoring during construction activities.** *The project will require development of a Section 106-process mitigation plan for cultural resource impacts, and those kinds of details can be worked out in a Memorandum of Agreement. For instance, the MOA could dictate that funding be provided for that heritage document program, or that individual tasks for that program might be specifically paid for by a mitigation fund, or whatever we come to agree upon with FAA, SHPO, the National Park Service for the Ipiutak Site, and other consulted parties in community. We've already anticipated that part of the MOA would require that any earth-moving activities will require having both a qualified archeologist overseeing the work as well as some kind of local representation on-site as we did for the wetland and cultural resource field studies.*

47) **The National Historic Landmark status will also require special considerations with land acquisitions as it's mostly Corporation land.** *We will work with the Corporation to make sure there is accurate land status information for the project and that any coordination with the National Park Service on lands that belong to the Corporation land will include representation from the Corporation Land Office.*

48) **Someone said you were interested in getting material from the south beach near the point of Point Hope Spit. That's where we hunt, watch for bowhead whales and launch whaleboats, so activity there might interrupt whale migration or our hunting. You should leave it alone as we use that area a lot during and after whaling. The material there is very small anyway – about the size of rock salt.** *Thank you for that information, and we'll be sure to factor all that into any material source investigations. If that area does turn out to contain material that's made available by the landowner, we would need to have detailed discussions with the community on things like specific locations, timing, and methods of material collection and haul before we considered using it.*

49) **Please explain where the material came from for the existing runway. You may also want to consider where material came from to construct the Cape Thompson/Cape Lisburne runways. For the 1968 runway, gravel came from near Patrick's Camp – by Jabbertown near Lot 6 that you can find on U.S. Survey 92-18. The military used material from those allotments. Could you use that too?** *From what we found, the existing runway appears to have been constructed mostly from local material. We recently learned that the Cape Lisburne Radar Site runway is constructed of good material available near that site, but in checking on its potential availability for this project found that because it's on U.S. Fish and Wildlife Service Refuge land, there's a restriction that only allows it to be used at that one location. One of our geologists will be making a trip to Point Hope to sample potential material sources sometime this summer, so we'll know more about specific locations you mention after he can test them.*

50) **How much material will you need**? *Our conservative estimate is 150,000 cubic yards.*

51) **If material is 'contractor furnished', as you have described, would contractors need to get material themselves?** *Contractor furnished means that the contractor can select whatever material source they wish for the project (in accordance with Federal and State Law, as well as permitting and land ownership requirements). They can independently source materials locally, or barge them in…whatever they decide. However, to ensure a project can be constructed, DOT&PF may test and obtain some agency clearance or permitting for one or more sites near a project to ensure something is available, but that site is not mandatory for a contractor to use. After we do some testing of local material sources, we'll make a decision on whether to permit a local site or not.*

52) **Could DOT sole-source materials from our Village Corporation?** *No, we can't do that as federal purchasing rules attached to FAA project money won't allow it. Material cost has to be part of potential contractors' bid submittals, and the contract is awarded to the lowest bidder.*

53) **You mentioned the Army Corps of Engineers. What will they do for the project?** *The U.S. Army Corps of Engineers has jurisdiction over waters of the United States, and has responded to our scoping letter with a comment asserting that jurisdiction over project area wetlands. As there aren't many wetland acres on the airport project, obtaining the required permit for wetland impacts may take less time than if there were many acres. However if we go on to include a permitted material site in the project that's in wetlands, it would probably increase the complexity, cost and time for obtaining a permit, so that remains a big consideration. Alternatively, if a new material site was primarily in uplands that would be a better option.*

54) **If there's salt water beneath the ground, how can there be so few wetland acres on the airport?** *"Wetlands" as regulated by the Army Corps of Engineers are defined very specifically based on vegetation, depth to water table and other factors. It's an odd fact that you can dig down only a few feet and actually reach a water table, but still not have a site classified as a "wetland" because it does not meet all the requirements as defined by the Corps of Engineers. A location must meet all the defining parameters to classify it as a wetland site.*

55) **For years we've been asking for some kind of building at the runway to house a restroom, as there are many times Elders or others need one, and it's too far to travel to town. Please find a place for a permanent terminal building as we need that restroom and shelter from the cold and wind. For example, Elders from Point Lay and Kivalina often stop here to change planes on their way between Barrow to Kotzebue, and need a place for a break during those flights.** *DOT&PF has guidelines for providing terminal or shelter facilities upon completion of a construction project. We can include a shelter in the project plan with an agreement from the community to take ownership and responsibility for maintenance of the facility. That agreement could be with a City, Corporation or Native Village. Typically DOT&PF provides lease space for a shelter/terminal at no cost.*

56) **Aircraft head-bolt heater plugins would be a great addition to the apron, as many times folks would like to charter for meetings instead of taking scheduled flights, but can't leave planes unheated during standby time in the winter.** *That's certainly something we could incorporate into the project, but we'd have to have discussions with the community about who would take responsibility for purchasing the power and the cost of maintaining the system.*

57) **When will you be coming back with more information?** *We anticipate having our geologist visit Point Hope in the summer or fall of 2015 to conduct material source investigations. Once those investigations, as well as the draft cultural resource report and a preliminary final design are completed, we will likely come out to review those with the community to ensure they are accurate before we develop the draft Environmental Assessment.*

February 4rd Meeting, Point Hope Community Qalgi

1) **How did you measure erosion points on the shoreline, and what's the difference between now vs. 20 years ago that makes a project so important? Erosion has always gone on.** *The difference now is that this project went through a scoring process, and the imminent threat of erosion impacting the runway is more now than it was years ago. Initially, the project was just a repaving, and was score much lower. But because of how fast the erosion is going to threaten the runway, the project was revised to include dealing with the erosion, and that dramatically increased the project score and importance due to the safety considerations.*

2) **What kind of new lighting will you put in? Tritium? LED?** *We will still be installing new, standard lighting for this project. There are problems with the LED systems in cold weather climates, as the lights don't get warm enough to melt frost off of them.*

3) **How far toward the community will the airport access road be worked on? There may have been a dedication by the North Slope Borough of an easement in the past.** *At this point it's likely that the road could only be included up to its intersection with the landfill access road. FAA airport funding requirements mandate that access road improvement can only be paid for up to the first intersection that serves any other use. We may have some latitude if the road was initially dedicated specifically for the airport, and we'll look into that. DOT&PF recognizes the need for its rehabilitation, and will discuss the appropriate termini point for access road reconstruction that is eligible for funding with FAA. We will also research past road dedications.*

4) **What are your material needs and what part of them are taken care of so far?** *We are planning geotechnical investigations this coming summer to look for local gravel sources. We'll also do a topographic survey to give us better detail on what the airport surface looks like so we can create 3-D runway plans for project bid documents. We'll need over 100,000 cubic yards of material, but to be conservative we're looking for a source for 150,000 cubic*

yards. We do want to reuse the existing runway embankment material as much as possible too, but that will require us to carefully schedule construction to maintain portions of the existing runway for use during construction.

5) **What kind of liability issues are there with a runway owned by the state but no terminal? What if somebody gets hurt and there are no signs? Last week a polar bear surprised the electric meter reader out there.** *At rural airports there are standard signs that are placed, like those instructing the public to stay off the runway or out of restricted areas. Commonly there are just one or two signs. With an actual terminal building, there are terms in our lease agreements that discuss liability. We can provide a copy of a similar lease agreement to Point Hope organizations so you can see what's contained in those terms.*

6) **Doesn't NSB already have a lease lot there?** *There were a couple of leases in the past but leases come and go. Currently (June, 2015) there is no NSB lease lot at the airport. There was in the past for a terminal. That lease ended in 2004. Since then, there was only one short term lease in 2006 for fuel staging by the NSB Search and Rescue.*

7) **Comment: The old terminal was run by Northern Air Cargo in the 1980s and it was a good place.**

8) **Would developing material sites south of the community along the river or in the hills impact caribou migration or subsistence hunting?** *We would definitely check on that before anything was developed. Part of the environmental analyses would include taking a hard look at the impacts on fish and wildlife impacts, and any tie in with subsistence uses, for both the project area immediately around the airport as well as any DOT&PF-permitted material sources. If a contractor proposes to use their own or a commercial source, they would be responsible for insuring those sources have already received all the necessary permits for wetland and other impacts.*

9) **What is the current status of the townsite lots?** *We don't have that information compiled as of yet, but will be checking with our Right of Way staff to find that out before we begin Right-of-Way determinations and negotiations.*

10) **So from what you say we're losing land to erosion on the north beach, and gaining land by accretion on the south beach?** *Yes, our coastal engineers have said the Point Hope Spit is gaining beach from beach gravel deposition on the south beach, but losing beach to erosion on the north. This is a consequence of the sediment transport directions and sources. The cliffs to the south are feeding material into a northward flowing transport current that's dropping that sediment on the south beach through wave action. On the north beach, currents and wave action there are causing more loss of beach sediments than is being provided by upstream sources to balance that removal, resulting in a net loss over time.*

11) **We have to emphasize the importance to using the workforce in our community, and contractors should consider that. We have both the need and ability here, but contractors seem to come and go with their own people even though we can provide trained labor that's already here.** *We understand that, and we strive to have a pre-construction meeting in project communities with contractor that win bids prior to the project. That way a community and contractor can work together to exchange information on labor and equipment availability and, hopefully, get local labor involved.*

12) **There have been past feasibility studies for the airport to be (in various other places). What happened to those studies and have they been incorporated into planning this project? They took into account the dumpsite, bird hazards and other factors, and the outcome was we thought the best place for a new runway was up on the hill where the outcrops are, away from those problems. It's getting more inevitable when we look out 30-40 years. In regard to the alternatives for this project, these places should be looked at for relocation now as we'd like to**

not have to do this again. *The community can certainly provide that statement of desire to this environmental documentation process, and it will be recorded in the record. For this project, we have looked at other alternative options that involve full relocation of the airport and, currently, both time and cost are limiting factors. As mentioned at yesterday's meeting, this project was scored on its need, and is being designed, to address the immediate threat of erosion at the airport and maintain the current level of service in the relatively short-term. However there is nothing that prevents the community from using this platform to express its desire to fund and implement a project that meets the long term needs of Point Hope, and the information from this project can help build both the case and sets of engineering and environmental databases for that effort.*

13) **Is there any connection between your project and ANTHC funding?** *No, this is a completely FAA funded project.*

14) **Could the Tribe try to get funding from FEMA or another agency for airport fire equipment to increase the level of service and aircraft types that might come here?** *It would certainly be a factor in the level of service possible for the proposed runway length, as that's one FAA requirement for allowing commercial air service with more than 19 seats per plane.*

15) **You had another formal meeting yesterday and I heard attendance was pretty low. Are you comfortable with that, and with the level of input you have gotten from the community at these meetings?** *Yes, we believe we've heard and incorporated what the community has to say based on yesterday's input, as well as from information provided and gained during all the previous informal meetings. In fact, we didn't hear much new input yesterday we hadn't heard before at other meetings, which we've found is a beneficial product of our general approach to these kinds of rural projects. Holding a number of preliminary, informal meetings that lets folks get concerns on the table long before 'formal' processes begin has proven to be a very productive way to help incorporate local knowledge into early project development. That way, we work things out with the public and community groups long in advance of any particular issue becoming a sticking point during the formal, federally required meetings, document development, and review.*

16) **What about the whale bone and sod house areas near the airport? Will they be impacted?** *Because of the configuration of the new proposed runway, ground disturbance won't reach out into the area of the mission or sod houses. While the community has told us they are comfortable with additional fill being placed over some areas of cultural concern, we'll still have to cooperate with the U.S. Park Service and Corporation over any acquisition of Corporation land within the National Historic Landmark in order to satisfy the National Historic Preservation Act. While we don't think it's going to be a major hurdle, there will still be a required negotiation on mitigation between FAA, NPS, and the Native Village on those issues. That could involve researching, documenting and interpreting what went on historically and prehistorically at those sites to provide a source of that information for future use by the community, archeologists and other researchers.*

17) **It would be nice to know that information and have it to share with others. We really haven't played a strong enough role in that process yet, and having a funding source dedicated to that purpose would help us to compile and relate those stories.** *The community, and specifically the Native Village of Point Hope, would be a consulting party to any of those mitigation efforts, and would have full access to any information coming out of the process.*

18) **No other cultural resources of significance were found?** *Not during the wetland or archeological surveys we've conducted. A significant part of the project area that will be impacted is located on previously disturbed ground, so cultural resources there were already impacted years ago when the original airport was constructed prior to current regulations. While that's unfortunate, there's still information to be gained, and we'll still be looking for any input we*

can find from the NSB TLUI database, sources of Traditional Knowledge, and whatever be found during earthmoving on previously disturbed airport areas. All of these would be great additions to the knowledge base of local and regional history.

19) **Could you explain the coastal zone part of the investigation? Is that the North Slope Borough Coastal program?** *There's a formal Federal Coastal Zone Management Act that is part of the U.S. Energy Policy Act that describes designated areas such as beaches, barrier islands, specific areas on East Coast and Gulf of Mexico, and shorelines of coastal states as coastal zones. That Act requires federal agencies to coordinate their undertakings with State or Tribal coastal programs to ensure there is consistency with state and Tribal coastal management programs. At this point, while there used to be a State of Alaska Coastal Program, that's no longer in effect; but there is a North Slope Borough Division of Coastal Planning in their Planning Department that administers a program that' similar to what the other agency's (ADNR) review was. This project will have to go through that NSB Coastal Management Program review to insure there are no adverse impacts to NSB Coastal Zone resources.*

20) ***Comment from NSB representative present at the meeting: The NSB Coastal Management Program lost its teeth when the State DNR program ceased to exist; it now defaults to the NSB Land Planning Process through Borough Code.*** *Regardless of a formal coastal zone program, the project is still subject to the National Environmental Policy Act (NEPA) process that will require a detailed description of the potential impacts to what, for all intents, are your coastal zone resources. These include fish and wildlife and their habitats; physical and biological resources of the shoreline and lagoon; coastal wetlands; and beaches dunes or other physical resources that provide natural storm protection. Potential impacts of the project on this suite of resources will be considered in the project Environmental Assessment, regardless if there is any formal coastal management program in force or not.*

21) **The Tribe should be able to take that program over by default, as federal programs are supposed to be able to be contracted by Tribes. There are barrier islands and wildlife refuges here and also along Cape Thompson, and I want to bring that out as those are federal concerns that Tribes are interested in. We'd be glad to see that in the document. Are Cape Thompson or Cape Lisburne federally managed coastlines?** *We'd be glad to have any of that kind of information brought to the table. From what we've found so far, Capes Thompson and Lisburne aren't federally defined "coastal zones" as it would seem they are federal refuges or military land that independently qualify them as "federally managed". According to the language of the Act as amended, lands subject solely to the discretion of the Federal Government are exempt from the definition of "coastal zone", however the waters adjacent to the shoreline at those areas are considered federal "coastal waters" under the Act. Again, regardless of their inclusion under a coastal zone program, the potential impacts by the project will be considered, and if necessary avoided, minimized or mitigated.*

22) **How many weather stations are there at the airport? Over the past 5 years or so the weather station has either given erroneous information that causes planes to either refuse to fly or otherwise make them unable to fly to town. We're trying to figure out why that is? Is the weather station okay?** *This project won't affect the FAA weather station. We know that over the years there have been times when weather hasn't been reported or the equipment has gone down, and have heard before that people here report that conditions are not as the weather station is reporting.*

23) **The weather station going down has caused us to lose a significant grant for wind turbine development as we had to have weather data for every day all year, and because it was not operational for 2 days that year, consequently we were taken out of competition for that grant. Since you asked for comments, we'd like to put that out as something worth mentioning. Often we'll call here from Kotzebue and people say the weather here is fine, but in**

Kotzebue they think the weather is no good because the weather station isn't working properly. We think it's because smoke from the weather station furnace chimney drifts right over the meter and it gives a wrong reading. DOT was never able to fix that so you should consider a backup weather station in case of malfunctioning equipment. *DOT&PF also noticed gaps in wind coverage dates while performing a wind study for the airport project. The AWOS/Weather station is owned and maintained by the Federal Aviation Administration (FAA). We will pass on your concerns along to the FAA.*

24) **Can you have the terminal building covered with sod? Also, could it use solar or wind power, as that would reduce the heating and power costs for that kind of thing.** *Those kinds of design details would be something we'd have to check on, plus it would require a bit of engineering research to determine if solar or wind sources could provide adequate power continuously if that's the desire of the community.*

25) **The NSB's position is that it supports the project, and we would like to request two considerations: one is to provide for electric head-bolt heater plug-ins aircraft, specifically for our Search and Rescue helicopter operations. A blank meter box with associated plug-ins would be sufficient. The second is that we request that portion of the road to the community used solely for access to the airport be repaved.** *A wired blank meter box and associated head-bolt heater plug-ins can be provided through this project, though an agreement will be required with a local entity that would agree to provide long term power and maintenance. And as we've mentioned previously, the access road resurfacing can be paid for with FAA funding up to the first intersection that leads to non-airport use.*