Alaska LNG

DOCKET NO. PF14-21-000

DRAFT RESOURCE REPORT NO. 4

CULTURAL RESOURCES

PUBLIC VERSION

Document Number: USAKE-PT-SRREG-00-0004

RESOURCE REPORT NO. 4 SUMMARY OF FILING INFORMATION [1]	
Filing Requirement	**Found in Section**
1. Initial cultural resources consultation and documentation, and documentation of consultation with Native Americans. (18 C.F.R. § 380.12(f)(1)(i) & (2)) See 18 C.F.R. § 380.14 for specific procedures.	4.2.3
2. Overview/Survey Report(s). (18 C.F.R. § 380.12(f)(1)(ii) & (2) • See 18 C.F.R. § 380.14 for specific procedures. For the offshore area this will usually require completion of geophysical and other underwater surveys before filing.	4.4
Additional Information Often Missing and Resulting in Data Requests	
Provide a Project map with mileposts (MP), clearly showing boundaries of all areas surveyed (ROW, extra work areas, access roads, etc.) and to be surveyed with corridor widths clearly specified.	Appendix A
Provide documentation of consultation with SHPOs, THPOs, and applicable land-managing agencies regarding the need for and required extent of cultural resource surveys.	4.2 Appendix C
Provide a narrative summary of overview results, cultural resource surveys completed, identified cultural resources and any cultural resource issues.	4.4
Provide a Project specific Ethnographic Analysis (can be part of Overview/Survey Report).	Will be an appendix to RR 5
Identify by mileposts any areas requiring survey for which the landowner denied access.	General % of study corridor provided
Provide written comments on the Overview and Survey Reports, if available, from the SHPOs or THPOs, as appropriate, and applicable land-managing agencies.	will be provided in subsequent report version
Provide a Summary Table of completion status of cultural resource surveys, and SHPO or THPO and land-managing agency comments on the reports.	Appendix D
Provide a Summary Table of identified cultural resources, and SHPO or THPO and land-managing agency comments on the eligibility recommendations for those resources.	Appendix E
Provide a brief summary of the status of Native American consultation, including copies of all related correspondence and records of verbal communications.	4.2.3
Provide a schedule for completing any outstanding cultural resource studies.	will be provided in subsequent report version
Provide an Unanticipated Discoveries Plan for the Project area, referencing appropriate state statutes.	Appendix G
Identify the project APE in terms of direct or indirect effects to known cultural resources.	4.3.1

[1] Guidance Manual for Environmental Report Preparation (FERC, 2002). Available online at: http://www.ferc.gov/industries/gas/enviro/erpman.pdf.

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ACRONYMS AND ABBREVIATIONS

ABBREVIATION	DEFINITION
Abbreviations for Units of Measurement	
°C	degrees Celsius
°F	degrees Fahrenheit
BSCF/D	billion standard cubic feet per day
cfs	cubic feet per second
cm	centimeters
dB	decibels
dBA	A-weighted decibels
ft	feet
g	grams
gpm	gallons per minute
ha	hectare
hp	horsepower
Hz	hertz
in	inches
kg	kilogram
kHz	kilohertz
kW	kilowatts
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
m^3	cubic meters
Ma	mega-annum (millions of years)
mg	milligrams
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MGD	million gallons per day
mm	millimeters
MMBtu/hr	million British thermal units per hour
MMSCF/D	million standard cubic feet per day
MPH	miles per hour
MMTA	million metric tons per annum
ng	nanograms
ppb	parts per billion
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
Psig	pounds per square inch gauge
rms	root mean square
SPL	sound pressure level
tpy	tons per year

ABBREVIATION	DEFINITION
µg	microgram
µg/kg	micrograms per kilogram
µPa	micropascals
Other Abbreviations	
§	section or paragraph
AAAQS	Alaska Ambient Air Quality Standards
AAC	Alaska Administrative Code
ACC	Alaska Conservation Corps
ACEC	Areas of Critical Environmental Concern
ACP	Arctic Coastal Plain
ACRC	Alaska Climate Research Center
ACS	U.S. Census, American Community Survey
AD	aggregate dock
ADCCED	Alaska Department of Commerce, Community, and Economic Development
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADGGS	Alaska Division of Geological and Geophysical Surveys
ADM	average daily membership
ADNR	Alaska Department of Natural Resources
ADOLWD	Alaska Department of Labor and Workforce Development
ADOT&PF	Alaska Department of Transportation and Public Facilities
AEIC	Alaska Earthquake Information Center
AES	Arctic Slope Regional Corporation Energy Service
AGDC	Alaska Gasline Development Corporation
AGPPT	Alaska Gas Producers Pipeline Team
AHPA	Alaska Historic Preservation Act
AHRS	Alaska Heritage Resources Survey
AIDEA	Alaska Industrial Development and Export Authority
AKNHP	Alaska Natural Heritage Program
AMP	approximate mile post
ANCSA	Alaska Native Claims Settlement Act
ANGPA	Alaska Natural Gas Pipeline Act
ANGTS	Alaska Natural Gas Transportation System
ANILCA	Alaska National Interest Lands Conservation Act
ANIMIDA	Arctic Nearshore Impact Monitoring in the Development Area
ANS Task Force	Aquatic Nuisance Species Task Force
ANVSA	Alaska Native Village Statistical Area
AOGCC	Alaska Oil and Gas Conservation Commission
AOI	Area of Interest
APCI	Air Products and Chemicals Inc.
APDES	Alaska Pollutant Discharge Elimination System
APE	Area of Potential Effect
API	American Petroleum Institute
APP	Alaska Pipeline Project

ABBREVIATION	DEFINITION
Applicants	ExxonMobil Alaska LNG LLC, ConocoPhillips Alaska LNG Company, BP Alaska LNG LLC, TransCanada Alaska Midstream LP, and Alaska Gasline Development Corporation
APSC	Alyeska Pipeline Service Company
AQRV	Air Quality Related Value
Arctic NWR	Arctic National Wildlife Refuge
ARD	acid rock drainage
ARDF	Alaska Resource Data File
ARPA	Archaeological Resources Protection Act of 1979
ARRC	Alaska Railroad Corporation
AS	Alaska Statute
ASAP	Alaska Stand Alone Pipeline
ASME	American Society of Mechanical Engineers
ASOS	Automated Surface Observation System
ASRC	Arctic Slope Regional Corporation
ATC	Allakaket Tribal Council
ATWS	additional temporary workspace
AWOS	Automated Weather Observing System
B.C.	British Columbia
BACT	Best Available Control Technology
BGEPA	Bald and Golden Eagle Protection Act
BIA	U.S. Department of the Interior, Bureau of Indian Affairs
BLM	U.S. Department of the Interior, Bureau of Land Management
BMP	best management practices
BOD_5	biochemical oxygen demand
BOEM	U.S. Department of the Interior, Bureau of Ocean Energy Management
BOG	boil-off gas
BP	Before Present
C.F.R.	Code of Federal Regulations
CAA	Clean Air Act
CAMA	Central Arctic Management Area
CCP	Comprehensive Conservation Plans
CDP	Census Designated Place
CEA	Chugach Electric Association
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CGF	Central Gas Facility
CGP	Construction General Permit
CH_4	methane
CHA	Critical Habitat Area
CIRCAC	Cook Inlet Regional Citizens Advisory Council
CIRI	Cook Inlet Region Inc.
CLG	Certified Local Government
CO	carbon monoxide

ABBREVIATION	DEFINITION
CO_2	carbon dioxide
CO_2e	total greenhouse gas emissions, in CO_2-equivalent global warming potential
COC	Certificate of Compliance
CONUS	Continental U.S.
COOP	National Weather Service, Cooperative Observer Program
CPCN	Certificate of Public Convenience and Necessity
CRA	Certificate of Reasonable Assurance
CSD	Contaminated Sites Database
CSP	Contaminated Sites Program
CSU	conservation system units
CV	coefficient of variation
CWA	Clean Water Act
DB	Denali Borough
DEM	Digital Elevation Model
DGGS	ADNR Division of Geological and Geophysical Surveys
DH	dock head
DHSS	Alaska Department of Health and Social Services
DMLW	Alaska Department of Natural Resources, Division of Mining, Land, and Water
DPS	Distinct Population Segment
DWPP	Drinking Water Protection Program
EDA	U.S. Department of Commerce, Economic Development Administration
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPRP	Emergency Preparedness and Response Plan
ERL	Environmental, Regulatory and Lands
ERMA	Extended Recreation Management Areas
ESA	Endangered Species Act
ESD	Emergency Shut Down
ESU	Evolutionary Significant Unit
FAA	U.S. Department of Transportation, Federal Aviation Administration
FCC	Federal Communications Commission
FE	U.S. Department of Energy, Office of Fossil Energy
FEED	front-end engineering design
FEIS	Final Environmental Impact Statement
FEMA	U.S. Department of Homeland Security, Federal Emergency Management Agency
FERC	U.S. Department of Energy, Federal Energy Regulatory Commission
FERC Plan	FERC Erosion Control, Revegetation, and Maintenance Plan
FERC Procedures	FERC Wetland and Waterbody Construction and Mitigation Procedures
FLPMA	Federal Land Policy and Management Act (of 1976) BLM
FMP	Fisheries Management Plan

ABBREVIATION	DEFINITION
FNSB	Fairbanks North Star Borough
FR	Federal Regulation
GDP	Gross Domestic Product
GHG	greenhouse gases
GIS	geographic information system
GMU	Game Management Units
GP	General Permit
GRI	Gas Research Institute
GTP	gas treatment plant
GWP	Global Warming Potential
H_2S	hydrogen sulfide
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HAP	Hazardous Air Pollutant
HAPC	Habitat Areas of Particular Concern
HCA	High Consequence Area
HDD	horizontal directional drill
HDMS	Hazard Detection and Mitigation System
HGM	hydrogeomorphic
HLV	heavy lift vessel
HMR	Hazardous Materials Regulations
HRS	Hazard Ranking System
IBA	Important Bird Areas
ICS	Incident Command System
IHA	Incidental Harassment Authorization
IHLC	Inupiat History, Language, and Culture
ILI	In-line Inspection
IMP	Integrity Management Plan
IP	Individual Permit
ISO	International Organization for Standardization
JPO	State and Federal Joint Pipeline Office
kbpd	thousand barrels per day
KCC	Kuparuk Construction Camp
KOP	key observation points
KPB	Kenai Peninsula Borough
KTC	Kuparuk Transportation Company
LiDAR	light detection and ranging
Liquefaction Facility	natural gas liquefaction
LLC	Limited Liability Company
LNG	liquefied natural gas
LNGC	liquefied natural gas carrier
LOA	Letter of Authorization
LOD	Limits of Distribution

ABBREVIATION	DEFINITION
LP	Limited Partnership
LPG	liquefied petroleum gas
LUP	Land Use Permit
LUST	Leaking Underground Storage Tanks
MACT	maximum achievable control technology
Mainline	An approximately 800-mile-long, large-diameter gas pipeline
MAOP	maximum allowable operating pressure
MARPOL	Marine Pollution Protocol
MBTA	Migratory Bird Treaty Act
MCD	marine construction dock
MHHW	mean higher high water
MHW	mean high water
ML&P	Anchorage Municipal Light and Power
MLA	Mineral Leasing Act
MLBV	Mainline block valve
MLLW	mean lower low water
MLW	mean low water
MMPA	Marine Mammal Protection Act
MMS	Mainline Meter Station
MOE	margin of error
MOF	material offloading facility
MP	Mainline milepost
MPRSA	Marine Protection Research and Sanctuaries Act of 1972
MSB	Matanuska-Susitna Borough
MSCFD	Thousand standard cubic feet per day
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAS	nonindigenous aquatic species
NCC	national certification corporation
NCDC	National Climatic Data Center
NDE	non-destructive examination
NEP	non-essential experimental population
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NGA	Natural Gas Act
NHPA	National Historic Preservation Act of 1996, as amended
NID	Negligible Impact Determination
NLURA	Northern Land Use Research Alaska, LLC
NMFS	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NOAA	National Oceanographic and Atmospheric Administration

ABBREVIATION	DEFINITION
NOI	Notice of Intent
North Slope	Alaska North Slope
NPDES	National Pollutant Discharge Elimination Systems
NPL	National Priority List
NPP	National Park and Preserve
NPR-A	National Petroleum Reserve – Alaska
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	Noise-Sensitive Areas
NSB	North Slope Borough
NSPS	New Source Performance Standards
NTC	national training center
NTP	Notice to Proceed
NVIC	Navigation and Vessel Inspection Circular
NWA	Northwest Alaska Pipeline
NWI	National Wetland Inventory
NWR	National Wildlife Refuge
O_3	Ozone
OC	open-cut
OCS	Outer Continental Shelf
OD	outside diameter
OEP	FERC, Office of Energy Projects
OHA	ADNR Division of Parks and Outdoor Recreation, Office of History and Archaeology
ONA	Outstanding Natural Area
OPMP	ADNR, Office of Project Management and Permitting
OU	Operating unit
PAC	potentially affected community
Pb	the element lead
PBTL	Prudhoe Bay Gas Transmission Line
PBU	Prudhoe Bay Unit
PCB	polychlorinated biphenyl
PHMSA	Pipeline and Hazardous Materials Safety Administration
$PM_{2.5}$	particulate matter having an aerodynamic diameter of 2.5 microns or less
PM_{10}	particulate matter having an aerodynamic diameter of 10 microns or less
PMP	Point Thomson Gas Transmission Line milepost
POC	Plan of Cooperation
POD	Plan of Development
Project	Alaska LNG Project
PRPA	Paleontological Resources Preservation Act
PSD	Prevention of Significant Deterioration
PTTL	Point Thomson Gas Transmission Line
PTU	Point Thomson Unit

ABBREVIATION	DEFINITION
PWS	public water supply
Q&A	question and answer
RCA	Regulatory Commission of Alaska
RCRA	Resource Conservation and Recovery Act
RNA	Research Natural Area
ROD	Record of Decision
ROE	right-of-entry
ROW	right-of-way
RR	Resource Report
SCC	Deadhorse Airport
SDWA	Safe Drinking Water Act
SEIS	Supplemental Environmental Impact Statement
SGR	State Game Refuge
SHPO	State Historic Preservation Office(r)
SIP	State Implementation Plan
SMA	Special Management Areas
SRMA	Special Recreation Management Areas
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure Plan
SPCO	State Pipeline Coordinator's Office
SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
SPMT	self-propelled module transporters
SRA	State Recreation Area
SRR	State Recreation River
STATSGO	State Soil Geographic
STATSGO2	State Soil Geographic2 – General Soils Map of Alaska & Soils Data (2011)
SWAPA	Southwest Alaska Pilots Association
SWPPP	Stormwater Pollution Prevention Plan
TAHC	total aliphatic hydrocarbons
TAPS	Trans-Alaska Pipeline System
TBD	To be determined
TCC	Tanana Chiefs Conference
The Applicants' Plan	Applicants' Upland Erosion Control, Revegetation, and Maintenance Plan
The Applicants' Procedures	Applicants' Wetland and Waterbody Construction, and Mitigation Procedures
TPAH	total polycyclic aromatic hydrocarbons
TSA	Transportation Security Administration
TSCA	Toxic Substances Control Act
TSD	tug support dock
TSS	total suspended solids
UCIDA	United Cook Inlet Drift Association
UIC	Underground Injection Control
U.S.	United States
U.S.C.	U.S. Code

ABBREVIATION	DEFINITION
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDHHS	U.S. Department of Health and Human Services
USDOE	U.S. Department of Energy
USDOI	U.S. Department of the Interior
USDOT	U.S. Department of Transportation
USDW	underground sources of drinking water
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of the Interior, Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
VPSO	Village Public Safety Officer
VRM	Visual Resource Management Methodology
VSM	Vertical Support Members
WELTS	Well Log Tracking System
WRCC	Western Regional Climate Center
WSA	Waterway Suitability Assessment
WSR	Wild and Scenic Rivers

Information in this draft Resource Report, including maps, is preliminary and may change during Project pre-filing. Updated information will be provided in the subsequent draft and final versions of the Resource Reports.

4.0 RESOURCE REPORT NO. 4 – CULTURAL RESOURCES

4.1 PROJECT DESCRIPTION

The Alaska Gasline Development Corporation, BP Alaska LNG LLC, ConocoPhillips Alaska LNG Company, ExxonMobil Alaska LNG LLC, and TransCanada Alaska Midstream LP (Applicants) plan to construct one integrated LNG Project (Project) with interdependent facilities for the purpose of liquefying supplies of natural gas from Alaska, in particular the Point Thomson Unit (PTU) and Prudhoe Bay Unit (PBU) production fields on the Alaska North Slope (North Slope), for export in foreign commerce and opportunity for in-state deliveries of natural gas.

The Natural Gas Act (NGA), 15 U.S.C. § 717a(11) (2006), and FERC regulations, 18 C.F.R. § 153.2(d) (2014), define "LNG terminal" to include "all natural gas facilities located onshore or in State waters that are used to receive, unload, load, store, transport, gasify, liquefy, or process natural gas that is ... exported to a foreign country from the United States." With respect to this Project, the "LNG terminal" includes the following: a liquefaction facility (Liquefaction Facility) in Southcentral Alaska; an approximately 800-mile, large diameter gas pipeline (Mainline); a gas treatment plant (GTP) on the North Slope; a gas transmission line connecting the GTP to the PTU gas production facility (PTU Gas Transmission Line or PTTL); and a gas transmission line connecting the GTP to the PBU gas production facility (PBU Gas Transmission Line or PBTL). All of these facilities are essential to export natural gas in foreign commerce.

These components are shown in Resource Report No. 1, Figure 1.1-1, and their current basis for design is described below.

The new Liquefaction Facility will be constructed on the eastern shore of Cook Inlet in the Nikiski area of the Kenai Peninsula. The Liquefaction Facility will include the structures, equipment, underlying access rights and all other associated systems for pre-processing (other than that performed by the GTP) and liquefaction of natural gas, as well as storage and loading of LNG, including terminal facilities (dock) and auxiliary marine vessels used to support marine terminal operations (excluding LNG carriers). The Liquefaction Facility will include three liquefaction trains combining to process up to approximately 20 million metric tons per annum (MMTPA) of LNG. Three 160,000 cubic meter (m^3) tanks will be constructed to store the LNG. The Liquefaction Facility will be capable of accommodating two LNG carriers. The size range of LNG carriers that the Liquefaction Facility will accommodate will be determined through further engineering study and consultation with the United States Coast Guard (USCG) as part of the Waterway Suitability Assessment (WSA) process.

In addition to the Liquefaction Facility, the LNG Terminal will include the following interdependent facilities:

- Mainline: A new large-diameter natural gas pipeline approximately 800 miles in length will extend from the Liquefaction Facility to the GTP on the North Slope, including the structures, equipment, and all other associated systems. The diameter of the pipeline has not been finalized but for the purpose of these Resource Reports a 42-inch diameter pipeline is assumed. The Mainline will include compressor stations, heater stations, meter stations, and various mainline block valves; pig launcher and receiver facilities; and associated ancillary and auxiliary facilities. Ancillary and auxiliary facilities will include additional temporary work spaces, access roads, helipads, construction camps, pipe storage areas, contractor yards, material extraction sites, and material disposal sites. Along the Mainline route, there will be at least five off-take interconnection points to allow for the opportunity for future in-state deliveries of natural gas. The size and location of such interconnection points are unknown at this time. None of the potential third-party facilities used to condition, if required, or move natural gas away from these off-take points will be part of the Project.

- GTP: A new GTP and associated facilities in the Prudhoe Bay area will receive natural gas from the PBU Gas Transmission Line and the PTU Gas Transmission Line. The GTP will treat/process the natural gas for delivery into the Mainline. The Project also includes a new pipeline that will deliver natural gas processing byproducts from the GTP to the PBU.

- PBU Gas Transmission Line: A new natural gas transmission line will extend approximately one mile from the inlet flange of the GTP to the outlet flange of the PBU gas production facility.

- PTU Gas Transmission Line: A new natural gas transmission line will extend approximately 60 miles from the inlet flange of the GTP to the outlet flange of the PTU gas production facility.

- Ancillary Facilities: Existing State of Alaska transportation infrastructure will be used during the construction of these new facilities including ports, airports, roads, and airstrips (potentially including previously abandoned airstrips). The potential need for new infrastructure and modifications or additions to these existing in-state facilities is under evaluation. The Liquefaction Facility, Mainline, and GTP will require the construction of material offloading facilities.

Draft Resource Report No. 1, Appendices A and B contain general maps of the Project footprint. Detailed plot plans will be developed during the pre-front-end engineering and design (Pre-FEED) process and will be provided to the Commission in a subsequent draft of Resource Report No. 1. An update to the current list of affected landowners is being filed under separate cover as privileged and confidential information.

Outside the scope of the Project, but in support of, or related to, the Project, additional facilities or expansion/modification of existing facilities will be needed or may be constructed. These other projects may include:

- Modifications/new facilities at the PTU;

- Modifications/new facilities at the PBU;
- Relocation of the Kenai Spur Highway; and
- Third-party pipelines and associated infrastructure to transport natural gas from the off-take interconnection points to markets in Alaska.

4.1.1 Purpose of Resource Report

As required by 18 C.F.R. § 380.12, the Applicants have prepared this draft Resource Report in support of a future application under Section 3 of the NGA to construct and operate the Project facilities. The purpose of this Resource Report is to:

- Describe consultations with regulatory agencies and Alaska Native Organizations and groups with land or other responsibilities in reasonable proximity to the Project;
- Identify the preliminary area of potential effect (APE) and cultural resource survey methodology;
- Describe the status of cultural resource investigations conducted within the Project survey corridor;
- Identify historic properties and cultural resources within the Preliminary APE and the Project area;
- Assess potential Project effects to cultural resources and historic properties and preliminary potential mitigation measures that are based on best practices; and
- Address how unexpected discoveries will be managed if encountered during Project construction activities.

The data for this draft Resource Report were compiled based on a review of:

- Preliminary Pre-FEED engineering design, to the extent available;
- USGS topographic maps;
- Recent aerial photography;
- Field survey data;
- State Historic Preservation Office's (SHPO) state archaeological database and review of other studies and surveys pertinent to the proposed Project footprint;
- Scientific literature; and
- Geographic Information System (GIS) data from federal and state agencies.

The results of the cultural resource investigations are presented in Appendices A and B. Appendix A shows the results of the archaeological surveys on USGS quadrangles. Appendix B provides the technical survey reports on these investigations. Since these appendices contain information on the location, character, and ownership of cultural resources they are marked privileged and are not for public release in accordance with FERC guidance for environmental report preparation (FERC 2002). Archaeological information is restricted and confidential under state and federal law including AS 40.25.120(a)(4), Alaska State Parks Policy and Procedure No. 50200, the National Historic Preservation Act (PL 89-665, 16 U.S.C. 470), and the Archaeological Resources Protection Act (PL 96-95).

4.1.2 Regulatory Context

The National Environmental Policy Act (NEPA) requires that federal agencies assess the environmental impacts of proposed federal actions, including impacts to historic and cultural resources. FERC, as the lead federal agency for this Project responsible for compliance with NEPA, is required to assess potential impacts to historic and cultural resources.

In addition, Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations (36 C.F.R. Part 800) require federal agencies to take into consideration the effects of their undertakings upon historic properties and to afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings. Historic properties are cultural resources that are listed or eligible for listing in the National Register of Historic Places (NRHP) (36 C.F.R. Part 60). The Section 106 process seeks to balance historic preservation concerns with the requirements of the federal undertaking through consultation among the responsible lead federal agency (FERC) and other parties, including the SHPO, federal land-managing agencies, federally-recognized Native Alaskan groups, representatives of local government, and other potentially interested parties (36 C.F.R. § 800.2). The goal of such consultation is to identify historic properties potentially affected by the undertaking, assess the effects of the undertaking, and seek measures of avoid, minimize, or mitigate adverse effects to historic properties.

Legislation addressing cultural resources and historic properties in the State of Alaska includes the Alaska Historic Preservation Act of 1971 (AHPA; Alaska Statute 41.35.010-41.35.240). The AHPA established state policy to preserve and protect the historic, prehistoric, and archaeological resources of Alaska from loss, desecration, and destruction so that the scientific, historic, and cultural heritage embodied in those resources may pass undiminished to future generations. The AHPA, administered by the SHPO under the authority of the Alaska Historical Commission, affords protection to cultural resources on state-owned and administered lands.

The Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology (OHA) serves as the SHPO and administers historic preservation programs pursuant to the Alaska Administrative Code (AAC) (11 AAC 16.010-16.090). The OHA is responsible for the issuance of Alaska Cultural Resource Permits authorizing the investigation, excavation, gathering or removal of cultural resources from state-owned or administered lands (Alaska Statute 41.35.080 and 11 AAC 16.030). Professional qualifications and the structure for cultural resource surveys and reporting are established through the permitting system.

4.2 AGENCY AND ORGANIZATION CONSULTATION

4.2.1 Consultation with Federal Land Managing Agencies

4.2.1.1 Bureau of Land Management (BLM)

The Bureau of Land Management (BLM) will be a cooperating agency for this Project under NEPA and a consulting party for the Project throughout the NHPA Section 106 process. Informal consultation with the BLM on the Project was initiated in October, 2014; however, discussions and meetings with the BLM regarding cultural resources have been ongoing since 2013. These discussions focused on obtaining permits under the Archaeological Resources Protection Act of 1979 (ARPA), the Antiquities Act of 1906, and the BLM's specific statutory and regulatory authority over lands that it manages along the proposed Project route. A summary of the consultation efforts, are summarized in Table 4.2.1-1 and provided in greater detail in Appendix C. Also, included in Appendix Care copies of correspondence associated with archaeological permit applications, discussion of survey protocols, and date of permit issuance for the 2013 and 2014 summer archaeological field sessions.

TABLE 4.2.1-1

Summary of Consultation with Federal and State Agencies

Agency	Date Contacted	Summary
BLM	6/21/2013	Discussion regarding archaeological permit
BLM	12/10/2013	Discussion regarding 2014 field study scope
USACE, USCG, BLM, NPS, EPA, USFWS, ADNR, SPCO, ARRC, ADF&G	2/25 – 2/27/2014 and 3/4/2014	Multi-agency meeting to discuss project right-of-way and permitting with state and federal agencies
BLM, OHA, ADF&G, USACE	6/9/2014	Discussion regarding historical field survey data and protocols
SPCO, OHA, OPMP	6/10/2014	Discussion regarding cultural resources survey protocols and data
BLM	8/28/2014	Discussion regarding cultural resource data
OHA, SPCO, BLM	10/3/2014	Discussion of FERC pre-filing schedule and Section 106 consultation
BLM	12/16/2014	Discussion of preliminary recommendations for sites located with the preliminary APE; planning for 2015 fieldwork

4.2.1.2 Other Federal Agencies

Other Federal agencies with NHPA Section 106 responsibilities related to the Project include the U.S. Fish and Wildlife Service (USFWS); the U.S. Army Corps of Engineers (USACE); the U.S. Coast Guard (USCG); the U.S. Bureau of Indian Affairs (BIA); and the National Park Service (NPS). No formal consultations have been initiated with any of these agencies, but informal meetings and discussions about the Project were held with agency representatives in 2013 and 2014. A comprehensive summary of the informal Project discussions is contained in Appendix D of Resource Report No. 1. A multi-agency kick off meeting was held on February 25–27, 2014, and on March 4, 2014 to discuss the 2014 summer field season, the proposed Project right-of-way, and permitting.

4.2.2 Consultation with State Agencies

4.2.2.1 Office of History and Archaeology (OHA) / State Historic Preservation Office (SHPO)

As the SHPO, the OHA will provide input regarding compliance with all relevant state historic preservation laws and will act as a consulting party throughout the Section 106 process. Although formal consultation with the OHA under Section 106 of the NHPA has not been initiated, informal discussions and meetings with the OHA have been ongoing since 2013. In addition, applications for Field Archaeology Permits were submitted in 2013 and 2014 for summer field seasons. These applications, associated permit numbers, and other permit correspondence with the OHA are listed in Table 4.2.2-1 and included in Appendix C. Other meetings and informal discussions with the OHA also are summarized in Table 4.2.2-1.

Meetings with the OHA have focused on historical field survey data and survey protocols, discussion regarding cultural resources data, and discussion of the FERC pre-filing schedule and Section 106 consultation. The OHA and other state and federal agencies were included in a kick-off meeting for the 2014 summer field season held in Anchorage on February 25 – 27, 2014. That meeting provided an introduction to the Project and discussed permitting for the field studies.

TABLE 4.2.2-1

Summary of Meetings and Communication with State of Alaska Agencies

Agency Contact	Date Contacted	Summary
USACE, USCG, BLM, NPS, EPA, USFWS, ADNR, SPCO, ARRC, ADF&G	2/25 – 2/27/2014 and 3/4/2014	Multi-agency kick off meeting to discuss the 2014 summer field season, project right-of-way and permitting
BLM, OHA, ADF&G, USACE	6/9/2014	Discussion regarding historical field survey data and protocols
SPCO, OHA, OPMP	6/10/2014	Discussion regarding cultural resources survey protocols and data
OHA, SPCO	8/27/2014	Discussion regarding cultural resource data
OHA, SPCO, BLM	10/3/2014	Discussion of FERC pre-filing schedule and Section 106 consultation
OHA, SPCO	12/17/2014 01/07/2015	Discussion of preliminary recommendations for sites located with the preliminary APE; planning for 2015 fieldwork

4.2.3 Consultation with Alaska Native Organizations and Groups

FERC has not yet initiated formal government to government consultation with Alaska Native organizations and groups under Section 106 of the NHPA. A number of informal informational meetings have been held by representatives of the Project with individual Alaska Native groups throughout 2013 and 2014. In addition, an informational meeting was held with the Alaska Native Corporations Regional Association on May 28, 2014. Appendix C of this Resource Report provides information on the meetings held with these groups. A preliminary list of federally recognized Alaska Native organizations and groups who may have knowledge of, or an interest in, cultural resources potentially affected by the Project is included in Table 4.2.3-1. Additional information regarding consultations with these groups will be included in this table in subsequent versions of this Resource Report.

TABLE 4.2.3-1

Summary of Consultation with Federally Recognized Alaska Native Groups

Organization	Date	Description
Alatna Village	10/23/2014	Consultation request letter sent
Allakaket Village	10/23/2014	Consultation request letter sent
Eklutna Native Village	10/23/2014	Consultation request letter sent
Evansville Tribal Council	10/23/2014	Consultation request letter sent
Inupiat Community of the Arctic Slope	10/23/2014	Consultation request letter sent
Kaktovik Village	10/23/2014	Consultation request letter sent
Kenaitze Indian Tribe	10/23/2014	Consultation request letter sent
Knik Tribe	10/23/2014	Consultation request letter sent
Nagsragmuit Traditional Council (Anaktuvuk Pass Federally Recognized Tribe)	10/23/2014	Consultation request letter sent
Native Village of Barrow Inupiat Traditional Government	10/23/2014	Consultation request letter sent
Native Village of Cantwell	10/23/2014	Consultation request letter sent
Native Village of Minto	10/23/2014	Consultation request letter sent
Native Village of Nuiqsut	10/23/2014	Consultation request letter sent
Native Village of Stevens	10/23/2014	Consultation request letter sent
Native Village of Tyonek	10/23/2014	Consultation request letter sent
Nenana Native Association	10/23/2014	Consultation request letter sent
Ninilchik Traditional Council	10/23/2014	Consultation request letter sent
Rampart Traditional Council	10/23/2014	Consultation request letter sent
Village of Salamatof	10/23/2014	Consultation request letter sent

4.2.4 Consultations with Other Interested Parties

In addition to state and federal agencies and Alaska Native organizations, the Section 106 process includes consultation with other parties who may have an interest in the Project and the cultural resources that may be affected by the Project. These may include local governmental organizations, Certified Local Governments (CLGs), boroughs, municipalities, and other groups. To date, representatives of the Project have held informational meetings with a number of CLGs that may qualify as consulting parties for Section 106. These are the Fairbanks North Star Borough (FNSB) and City of Fairbanks; the City of Kenai and the Kenai Peninsula Borough; the City of Seward; the Matanuska-Susitna Borough (Mat-Su); the Municipality of Anchorage; and the North Slope Borough. A summary of consultations conducted with other interested parties will be included in a subsequent draft of this Resource Report.

4.3 AREA OF POTENTIAL EFFECT AND SURVEY METHODOLOGY

4.3.1 Area of Potential Effect

The Area of Potential Effect (APE) is the "geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of or use of historic properties, if any such properties exist" (36 C.F.R. § 800.16(d)). The APE for archaeological resources includes all areas where the ground or seabed may be disturbed. The APEs for historic architectural properties include areas where direct and indirect impacts have the potential to alter character-defining features of a property's significance.

The APE for direct impacts to archaeological resources from the Project includes the workspace needed for construction of the pipeline and aboveground facilities, access roads, pipe storage areas, contractor yards, additional temporary work areas, and other ancillary facility locations including submerged and

submersible land offshore from the Liquefaction Facility and West Dock where dredging or alteration of the seabed might occur. For purposes of the Project, the APE has been defined to include the following:

- LNG Liquefaction facility and docking facilities;
- A 300-ft wide (91.4 m) cultural resource survey corridor encompassing the planned pipeline centerline and construction footprint for the mainline and PTTL;
- Potential GTP location;
- Ancillary facilities located in the PBU Compressor station locations;
- Material sites;
- Airstrips and helicopter pads;
- Temporary ice pads and roads;
- Material and equipment staging areas/storage yards;
- Access roads; and
- Other ancillary facility locations.

The APE for indirect impacts generally is defined as the area in which a project could affect the qualities for which a historic property is eligible or listed in the NRHP. The potential indirect impacts associated with construction of the Project are likely to be visual in nature but might include noise and vibration. The APE for indirect effects will be established in consultation with the SHPO and federal agencies.

4.3.2 Survey Methodology

Prior to initiating cultural surveys for the Project, meetings were held with representatives from various agencies (reference Table 4.2.2-1) to review data collection methodologies, protocols and scope for the 2013 and 2014 field season. Subsequent to agreement on the path forward, existing data were compiled from relevant cultural resource surveys previously completed along the proposed Project corridor. The results of these investigations provided the basis for predictive models and survey methods employed during the Project studies to date. A discussion of the source of these datasets follows.

Two early pipeline projects resulted in surveys that covered portions of the Project corridor between Prudhoe Bay and Livengood and provided preliminary information on a number of archaeological sites recorded in the vicinity of the Project route. Investigations for the Trans-Alaska Pipeline System (TAPS), which coincides in part with the Mainline study corridor, were conducted between 1969 and 1977 by the University of Alaska Fairbanks and Alaska Methodist University (now Alaska Pacific University). Surveys for the proposed Northwest Alaska (NWA) Pipeline were conducted in the late 1970s along a study corridor that generally follows the Project route from Prudhoe Bay to Livengood before turning east toward the U.S.-Canada border. Concerns expressed by SHPO about the quality of the archaeological information available from older surveys caused most recent investigations to re-examine areas that may

have been included in previous surveys. The early surveys often lack accurate site locations and sufficient data to determine the NRHP eligibility of those sites.

Subsequent pipeline projects resulted in additional cultural investigations along the proposed Project corridor. In 2001, investigations for the Alaska Gas Pipeline Producers Team (AGPPT) pipeline were conducted by NLURA and Chumis Cultural Resources Services (NLURA/Chumis) along a corridor from Prudhoe Bay and the U.S.-Canada border (Port Alcan) (Potter et al. 2001). A predictive model based on geomorphic variables ranked the potential of finding culturally significant sites and was used to structure the field investigations. Portions of the route were ranked as Type A (low potential), Type B (moderate potential), or Types C and D (high potential). Type A locations were spot-checked by helicopter survey whereas Types B, C, and D were examined via pedestrian surveys and shovel testing. Approximately 624 miles of the AGPPT route were surveyed with 122 cultural resources identified during those investigations. As the northern portion of the 2001 AGPPT corridor (Prudhoe Bay to Livengood) is similar to the proposed Mainline route for this Project, the results of those surveys provided the foundation for the Project study area and the site location sensitivity mapping effort.

In 2010, the Alaska Pipeline Project (APP) applied the results of the 2001 AGPPT archaeological sensitivity model using GIS data and observations from pre-field survey helicopter overflights to develop a generalized sensitivity map of the entire proposed pipeline facilities corridor (Higgs et al. 2011a, 2011b, Higgs et al. 2012). This essential step enabled stratification of the 2010 pipeline facilities corridor into areas of cultural resource sensitivity (Type A or Type B, described below) based on relationships between known sites and key environmental variables. The APP Project did not maintain the distinction between Type B, C, and D survey methods and reported pedestrian and shovel testing as Type B. The 2010 Phase I cultural resources surveys for the APP were completed within a nominal 328-foot-wide (100 meters) corridor, with some areas expanded to up to 2,625 feet wide (800 meters).

South of Livengood, Alaska LNG has utilized survey results of the Alaska Stand Alone Pipeline (ASAP) Project for surveys they conducted between 2010 and 2014. The data was made available by the SHPO's office and is comprised primarily of Type A and B surveys, site locations, and site form information. ASAP conducted surveys in a 200 foot corridor centered over their proposed centerline and portions of their route overlap with the proposed Alaska LNG Project. Building on approaches developed for these earlier projects, a sensitivity model was developed for the Project that allowed field surveys to effectively target high sensitivity areas while still providing data on areas deemed to have low potential of containing cultural resources. The sensitivity maps developed for the Project were based on data from overflights, previous surveys, recorded site locations, geomorphologic setting, and other environmental variables. These data were combined to define areas of low and high potential for cultural resources.

Field investigations were designed based on the mapped sensitivity or archaeological potential of areas along the Project corridor. Pre-survey helicopter overflights were employed to demarcate generally high- or low-potential segments and note any visible historic buildings or structures. A desktop review of the corridor, applying the predictive model, identified areas with very low to no potential for cultural resources and those areas were eliminated from field surveys. The remaining areas were segregated into low potential (Type A) and high potential (Type B) areas. For Type A areas, helicopter or vehicular surveys of segments not previously surveyed were used to identify isolated higher-potential areas for targeted field survey. For Type B areas, field investigations were implemented, including pedestrian transect surveys with systematic shovel testing of previously unsurveyed areas, as well as targeted surveys where the previous surveys (e.g., Denali, AGPPT, APP, or ASAP) may have been inadequate.

As stated above, the field investigations included a combination of walkover, surface inspection, and shovel testing. Of these techniques, walkover transects or vehicular/aerial surveys were used most frequently in Type A survey areas, with visual inspection of areas where previous surveys were conducted or where topography and vegetation cover suggested a lower potential for cultural resources. These areas include wetlands or inundated areas, previously disturbed locations, and areas where the slope exceeds 15 percent. Shovel testing was the primary survey method for Type B areas. Shovel tests were placed at a maximum interval of 15 meters and assigned a unique identification number. Location data were collected using handheld GPS units; both location data and survey results were recorded on survey forms. The shovel tests were excavated to a depth below which cultural materials might be found; as little as 10 cm below the base of the A horizon or over 100 cm in alluvial or colluvial settings. One-inch diameter cores were used to investigate strata below the base of standard shovel tests. Prehistoric artifacts found in shovel tests were collected. Unique or diagnostic historic artifacts were collected, but non-diagnostic and mass-produced historic items were simply recorded and returned to the shovel test site for reburial.

Surface inspection was conducted along transects spaced at 5- to 10-m intervals. This survey method was principally used on historic-age sites where surface materials were sufficiently abundant to determine the approximate age, function, and limits of the site. Provenience information on diagnostic items or tools found on the surface was recorded using GPS units and documented in photographs and notes. This method also was used on prehistoric sites but was supplemented by shovel tests on landforms where there was also a strong potential for subsurface prehistoric components.

4.4 ARCHAEOLOGICAL AND ABOVEGROUND RESOURCES BACKGROUND RESEARCH AND SURVEY RESULTS

File searches and literature reviews were conducted to identify previous cultural resource surveys and previously recorded cultural resources in the Project vicinity. The previous surveys and data then were used to form the foundation for the research and field methodology for the Liquefaction Facility and interdependent facilities (i.e.., Mainline, GTP, PBTL, and PTTL). Data sources from previous large-scale survey efforts that have occurred in or adjacent to the Project corridor provided the most substantive data on the corridor and include TAPS data summaries; NWA data summaries; AGPPT data and summaries; APP data and summaries; and, Alaska Heritage Resources Survey (AHRS) inventory data, which contains supplemental information on cultural resources that were located during other surveys not associated with pipeline projects. The background research is described in detail in the 2010, 2011, and 2013 Phase I cultural resources summary report for the Project, located in Appendix B, and is summarized below in Section 4.4.3.

4.4.1 Alaska Stand Alone Pipeline Project

The Alaska Stand Alone Pipeline (ASAP) is a pipeline project that has been under consideration since 2010 and has generated additional cultural resources data. Project researchers examined ASAP data from surveys conducted in 2010 and 2011 and identified areas where the two projects would be collocated. Large-scale maps were available to Project researchers and used to compare the ASAP gross centerline to the Project's preliminary base route. Approximately 25 miles of the ASAP 2010 and 2011 survey coverage between Livengood and the Susitna River Crossing were adequately surveyed and incorporated into the Alaska LNG database. A summary of these areas is presented in the 2014 Cultural Resources Data Gap Analysis and Sensitivity Model (Greiser et al. 2014: Table 4-6).

4.4.2 Alaska Pipeline Project

A majority of the northern spreads[2] of the Mainline, as well as the GTP area and PTTL, were surveyed as part of the APP in 2010-2012. These surveys examined a 300 to 600-foot wide corridor within which the APE for the planned pipeline will be located. This survey corridor width is designed to accommodate the construction ROW footprint and additional temporary work areas, but is larger than the footprint that will be impacted by the Project. Ancillary facilities such as pipe yards, additional temporary workspaces, and access roads also were surveyed. A review of the cultural resources survey data from the APP (Greiser et al. 2013a) indicated that:

- 16,389 acres were surveyed on the Mainline;
- 12,075 acres were surveyed for facilities and pipeline segments that were off the right-of-way for the Mainline;
- 743 acres were surveyed for the GTP at Prudhoe Bay; and
- 1,638 acres were surveyed along the PTTL route.

4.4.3 Alaska LNG Project Survey Summary and Status

Cultural resource investigations included background research and field investigations. Background research compiled information on previously recorded cultural resources located within a 2,000-foot wide study corridor within which the proposed Project corridor is located. Field investigations sought to identify cultural resources located within the provisional 300-foot wide APE. These investigations were conducted in accordance with standards and guidelines issued by FERC and OHA (FERC 2002, OHA 2003). The field investigations conducted for the Project's Mainline in 2013 focused on completing survey of those areas where the Project centerline diverged from the APP route north of Livengood. The results of those investigations are presented in separate reports for work on Bureau of Land Management lands (Greiser et al. 2013b) and on private and state lands (Greiser et al. 2013c). These 2013 surveys examined:

- 1,796 acres on the Mainline;
- 4,332 acres for facilities, access roads and pipeline segments that were off the right-of-way for the Mainline; and,
- 8 acres (100%) at the GTP at Prudhoe Bay; and
- 292 acres on the PTTL.

South of Livengood, the Mainline diverges from the APP route. Portions of the Project corridor are in many cases collocated with the ASAP Project. Analysis of available ASAP Project data indicate that

[2] The Mainline is divided into eight spreads: Prudhoe Bay to Atigun Pass, Atigun Pass to Yukon River, Yukon River to Livengood, Livengood to Healy, Healy to Trapper Creek, Trapper Creek to Cook Inlet, Cook Inlet to Kenai Peninsula, and Kenai Peninsula to the Liquefaction Plan in Nikiski.

approximately 25 miles of the 302 mile ASAP route between Livengood and the Susitna River crossing may be adequately surveyed and may not need to be resurveyed again for the Project (Greiser et al. 2014).

Cultural resource surveys conducted in 2014 examined select survey target areas along the Mainline corridor south of Livengood. The methods for selection of these areas, as well as the results of the investigations will be presented in a report that will be prepared at the end of the field season. Survey of approximately 30 percent of the proposed Liquefaction Facility site near Nikiski was also completed in 2014 (URS 2014). Preliminary data on surveys completed in 2014 are included in Table 4.4-1. Compressor station locations and off right-of-way facilities for the Project, including additional temporary workspace, access roads, airstrips, material sites, construction camps, and pipe storage yards, have not yet been identified and surveyed; therefore, information from surveys around these facilities will be contained within a subsequent version of this Resource Report.

The status of cultural resource surveys along the Project footprint is varied. Cultural resource surveys conducted to date have focused primarily on the northern half of the Mainline corridor and other northern Project facilities. Significant portions of the northern spreads along the Mainline corridor are complete; between approximately 73 and 91 percent of the spreads north of Livengood are complete. The surveys for the proposed GTP and PTTL are substantially complete; less than 0.5 percent of the approximately 60-mile portion remains unsurveyed. Survey completion rates progressively decrease south of Livengood along the Mainline corridor. The spread between Trapper Creek and Cook Inlet is approximately 19 percent complete and no surveys have been completed on the Kenai Peninsula. The need for surveys to detect cultural resources along the portion of the Mainline corridor crossing the Cook Inlet will be discussed with SHPO and FERC in 2015. A total of 20,937 acres along the entire length of the 300-foot wide Mainline field survey corridor and facilities have been surveyed, comprising approximately 57 percent of the total acreage for the Project's preliminary APE field survey area.

TABLE 4.4-1

Status of Cultural Resource Survey in (acres) 2014

Survey Spread	Surveyed Undefined [c]	Type A Survey	Type B Survey	Unsurveyed	APE Survey Area (300-ft Corridor)	Percent Complete
LIQUEFACTION FACILITY[a]						
LNG Plant	526	--	--	1,240	1,765	30%
Marine Terminal	--	--	--	--	--	--
PIPELINES[a]						
Mainline						
Prudhoe Bay to Atigun Pass	--	2,542	1,932	1,657	6,130	73%
Atigun Pass to Yukon River	--	1,111	4,495	1,254	6,860	82%
Yukon River to Livengood	--	451	1,092	146	1,689	91%
Livengood to Healy	--	2,060	--	2,338	4,398	47%
Healy to Trapper Creek	--	3,495	--	1,668	5,163	68%
Trapper Creek to Cook Inlet	--	973	--	4,058	5,031	19%
Cook Inlet Crossing[b]	--	--	--	2,009	2,009	0.00%

TABLE 4.4-1

Status of Cultural Resource Survey in (acres) 2014

Survey Spread	Surveyed Undefined [c]	Type A Survey	Type B Survey	Unsurveyed	APE Survey Area (300-ft Corridor)	Percent Complete
Kenai Peninsula	--	--	--	1,608	1,608	0.00%
Offshore Access Channel and Turning Basin[b]	-	--	--	--	--	--
PTTL		2,180	71	9	2,260	99%
PBTL[a] Located on GTP pad and PBU	-	--	--	--	--	--
PIPELINE ABOVEGROUND FACILITIES [a]			Unsurveyed at this time			
Compressor Stations	--	--	--	--	--	--
Heater Station	--	--	--	--	--	--
Liquefaction Facility Meter Station	--	--	--	--	--	--
PBU Meter Station	--	--	--	--	--	--
PTU Meter Station	--	--	--	--	--	--
Mainline Meter Station	--	--	--	--	--	--
MLBVs (not on Compressor sites)	--	--	--	--	--	--
PIPELINE ASSOCIATED INFRASTRUCTURE [a]			Unsurveyed at this time			
Access roads	--	--	--	--	--	--
ATWS	--	--	--	--	--	--
Contractor yards	--	--	--	--	--	--
Pipe yards	--	--	--	--	--	--
Construction camps	--	--	--	--	--	--
Disposal sites	--	--	--	--	--	--
Material sites	--	--	--	--	--	--
GTP [a]						
GTP		8		--	8	100.00%
ASSOCIATED GTP INFRASTRUCTURE[a]			Unsurveyed at this time			
Module Staging Area	--	--	--	--	--	--
Offshore West Dock	--	--	--	--	--	--
Access Roads	--	--	--	--	--	--
Construction Camp	--	--	--	--	--	--
Material Sites	--	--	--	--	--	--
Water Reservoir, Pump Facilities, Transfer Line	--	--	--	--	--	--
GRAND TOTAL	255	12,821	7,591	16,249	36,916	55%

Notes:
Type A (low potential; reconnaissance survey), Type B (moderate-high potential; pedestrian or shovel testing survey)
[a] Facility is unsurveyed at this time. Survey information will be included in subsequent draft and final versions of this Resource Report when siting and route development for these facilities have been further defined.
[b] The need for marine archaeological investigations will be discussed with SHPO and FERC in 2015.
[c] Survey undefined includes a mixture of Types A and B.

4.5 ARCHAEOLOGICAL, MARINE, AND ABOVE GROUND RESOURCES: BACKGROUND AND SURVEY RESULTS

4.5.1 Sites Located within the 2,000-foot wide Study Area

Table E-1 in Appendix E provides a list of archaeological sites that are located within the 2,000-foot wide study area for the Project, but are not within the 300-ft wide preliminary APE. These sites include those identified during cultural resource surveys conducted for the Project as well as previously recorded sites listed in the SHPO database. All of these resources are depicted on maps in Appendix A. These data and those in Appendix E provided information to assist in defining a project route that minimizes impacts to known historic resources. Of the 169 sites recorded in this study area, three are identified as paleontological, 133 are described as prehistoric, 1 is protohistoric, and 25 are historic and/or modern. One site has both prehistoric and historic components, and six sites have insufficient data to identify them temporally as either prehistoric or historic. Of the prehistoric sites, the majority are characterized as lithic scatters. Other sites are described as camp sites, a rock shelter, house pits and cache pits, artifact and bone scatters. One site (BET-00137) has been described as a village site, but has not been evaluated for NRHP eligibility.

A portion of the Atigun Archaeological District (PSM-00204) is located within the study area in the Prudhoe to Atigun Pass spread, in the vicinity of Galbraith Lake on the north slope of the Brooks Range. This district, most recently investigated in 1981, is attributed to the late prehistoric Athapaskan Kavik culture. The complex of sites has undergone damage from haul road and pipeline construction. Site PSM-00074, Atigun I, is a prehistoric camp dating from Before Present (BP) 360+/-100 and 310+/-140 comprising a scatter of Kavik material including chert flakes, fire-cracked rock, and animal bones. Located within sand dunes that extend along the Atigun River, the site consists of several discrete loci that include hearths. NRHP nomination has been closed for the district and for PSM-00074, pending re-evaluation.

Also within the study area are several sites associated with the Rosebud Knob Archaeological District (LIV-00284, listed in Table E-2). Site LIV-00030 is a small primary workshop-quarry locus, Site LIV-00040 is a scatter of lithic artifacts adjacent to a chert outcrop, and Site LIV-00043 is a large prehistoric camp site including a variety of points, edge tools, cores, microblades and burins, as well as two small hearths/charcoal smears and two circular piles of ochre covered stones. All of these sites will need to be re-evaluated for NRHP eligibility if they are impacted by the Project.

The majority of the sites identified within the 2,000-foot wide study area have not formally been evaluated for NRHP eligibility. One site, a prehistoric lithic scatter (WIS-00426), has been recommended as eligible for the NRHP, pending review by the SHPO. One isolated lithic site (LIV-00719) has been determined not eligible for the NRHP. Most of the sites are located along the Mainline of the Project. None are within the GTP, and only two are within the PTTL study corridor.

There is only one site in the vicinity of the Project currently listed on the NRHP. This Paleoarctic site (PSM-00050) is considered one of the oldest on the North Slope. Although it is not located within the current footprint of the Project, it should be noted in order to ensure protection during construction.

4.5.2 Results of Surveys within the Preliminary APE

To date, 134 cultural sites and two paleontological sites have been recorded within the preliminary APE for the Project (Appendix E, Table E-2). Of these, 70 are classified as prehistoric sites, 56 date from the historic or modern periods, and one has both prehistoric and historic components. Seven sites did not have sufficient data to classify them by temporal period. The majority of the sites have not been evaluated for eligibility for listing in the NRHP. One historic site was determined eligible for the NRHP under Criterion C (HEA-0076) and another is under SHPO review for NRHP eligibility (CHN-00025). Two historic refuse scatters (FAI-01557 and FAI-01559) were determined not eligible for the NRHP. The prehistoric sites include isolated lithic finds, lithic scatters, artifact scatters, house pits, cache pits, and camp sites. Historic sites include domestic refuse scatters, house sites, camp sites, trails, a road, a tunnel, mine sites, and other historic or modern cultural materials. Seven segments of the Dalton Highway, which parallels the proposed Project centerline between Prudhoe to Livengood, are treated as eligible for the NRHP under the terms of a Programmatic Agreement with the Federal Highway Administration (FHA). In addition, two other roads and several trails cross the proposed centerline of the Project; the eligibility of these other transportation features have not been evaluated (Appendix E, Table E-2).

Along the PTTL alignment, two sites are located within the preliminary APE. Site XBP-00020 is an Inupiat winter sod house located along the bank of the Sagavanirktok River. Several cache pits and depressions were identified, along with the remains of a boat rack, caribou bone, and a scatter of cans. The site has not been evaluated for NRHP eligibility. Site XFI-00036 also is located between Point Thomson and Prudhoe. It has been described as a domestic trash scatter dating from the 1960s, probably associated either with U.S. military activity, or with oil exploration in the 1960s. Site PSM-00049, Mosquito Lake Archaeological Site, is a prehistoric camp comprising about 24 small isolated loci scattered over an area measuring 400 by 1200 feet on the east side of Mosquito Lake. The site includes a variety of lithic materials representing Denbigh and probably later occupations; radiocarbon dates indicate that the site was occupied about 600 to 500 BC, a late date for a Denbigh site. The Mosquito Lake and Atigun I Sites are two of several sites that comprise the proposed Atigun Archaeological District (PSM-00204; Table E-1), which is thought to be significant for its association with the Kavik Phase (AD 1500-1800), a late prehistoric complex that most archaeologists attribute to the ancestors of modern Athapaskans (AHRS Card accessed Oct 17, 2014). A National Register nomination form was prepared for the district, but it has not yet been formally evaluated and the sites associated with the district are currently listed in the AHRS files as "Nomination Closed."

Site CHN-00025 is a can scatter that dates from ca. 1910-1930. This site was identified during investigations for the 2001 AGPPT Project and was relocated by investigators working on the APP. Although the site is listed as "nomination pending" in AHRS documentation, researchers working on the APP considered it to have low potential to contain additional cultural material. They characterized it as a probable roadside dump or ephemeral camp with no contextual relationship to persons or places and a low potential for eligibility for listing on the NRHP (Higgs et al. 2011a; Greiser et al. 2013a).

Also within the 300-foot wide survey corridor are portions of the Rosebud Knob Archaeological District south of Livengood. That district (LIV-00284) consists of a dense concentration of prehistoric archaeological sites associated with exposed layers of chert, which were extracted and used in tool manufacture. The sites range from lookouts and flaking stations to complex, multi-component camps. Several of the Rosebud Knob Archaeological District sites are located just outside of the preliminary APE, but the current Project APE includes Site LIV-00047. This site is a large workshop-quarry

encompassing approximately 5,575 square feet and containing considerable lithic debris. Archaeological testing and/or excavation was carried out within many of the Rosebud Knob Archaeological District sites, and they were considered eligible for listing on the National Register of Historic Places for their ability to contribute to an understanding of land and resource use by interior aboriginal peoples. The nomination has been closed, however, pending re-evaluation.

Moody Tunnel (HEA-00076) is a railroad tunnel located in the Healy Canyon /Nenana River Gorge area. The 262-foot long tunnel was built in the early 1920s using the drill and blast method through schist bedrock. Timbers were used as structural members for the portals and interior timber sets. The tunnel was determined eligible for the NRHP under Criteria C in 2003 as part of a study of proposed realignment of sections along the Alaska Railroad. The Alaska Railroad determined that no feasible and prudent alternative existed to "daylighting" or removing the roof of the tunnel due to safety concerns. The tunnel was recorded to Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Level II Standards and the rock over the roof was removed in 2007-2008.

Several large prehistoric sites were identified in the low Susitna River Valley during field surveys in 2014. These sites are characterized by multiple pit house and cache pit features. Notable sites were identified on the Deshka River and Alexander Creek.

Table E-2 in Appendix E indicates the distribution of the identified sites within each of the eight spreads. Eleven sites were identified in the surveyed portions of the Liquefaction Facility near Nikiski. Most of the sites are located along the Mainline. The distribution is weighted to the northern portion of the Mainline primarily because survey has not been completed in the section of the route south of Livengood. No sites were recorded within the GTP, and only two sites were identified along the PTTL pipeline route.

4.5.3 Sites Located within the 2,000-foot wide Study Area for the Alternate Route

Table E-3 in Appendix E provides a list of archaeological sites that are located within the 2,000-foot wide study area for an Alternate Route between the Deshka River and the Kenai Peninsula. The resources recorded in the SHPO database are depicted on maps included in Appendix A. The previously recorded cultural resources located along this alternate route are included for reference at this time. Of the 15 cultural resources recorded in the study area along the alternate route, five are described as prehistoric, one is prehistoric or historic, and nine are historic or modern. Six of the resources are identified as trails, including two trails that date from the early twentieth century. Four prehistoric sites are characterized by small to medium sized surface depressions that may be cache pits. Another site (TYO-00009) features three square house pits and a trade bead indicating that the site dates from the historic period.

4.5.4 Sites Located within Pipeline Associated Infrastructure

The exact location of infrastructure associated with the Project has not yet been defined. Cultural resources identified within these compressor stations, extra workspaces, storage yards, access roads and other facilities will be listed in Table E-4 in a subsequent draft of this Resource Report.

4.6 ETHNOGRAPHIC STUDY

An ethnographic analysis is underway to identify Alaska Native Organizations and Groups with ties to the Project area and to identify properties of traditional religious or cultural importance to those organizations, interested parties, and ethnic groups.

An Ethnographic Study report will be completed that presents the results of interviews and observations and systematically describes the behavior, beliefs, and knowledge that are germane to understanding the property's cultural significance.

This study will be included as an Appendix in Resource Report No. 5 and will be filed under a separate cover marked "CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE."

4.7 POTENTIAL CONSTRUCTION IMPACTS AND MITIGATION MEASURES

A general summary of potential impacts to cultural resources from construction of projects similar to this Project is provided in Appendix F. This Appendix also includes a summary of the types of plans, as examples, that can be developed to address potential construction impacts. Although the Project route and design are still under development, preliminary plans indicate that the Project has potential to impact cultural resources that are eligible for listing on the NRHP. A variety of treatment approaches might be applied to avoid, minimize, or mitigate these effects. Project redesign to avoid effects may be an option, depending on SHPO and FERC and/or BLM concurrence or requirements. Should engineering treatment options be pursued, plans will be prepared and presented in the Treatment Plans for the Project. Treatments for indirect visual effects might include vegetative screening or sympathetic building design. Finally, if other options are not practical, data recovery might be suitable for archaeological sites that are significant under Criterion D for the information that they contain. Data recovery plans will be developed for these archaeological sites. These plans would identify research questions to be addressed by archaeological investigations at the site and specify field and laboratory methods to ensure that the necessary data will be collected.

Once the engineering studies and planning are completed, a detailed assessment of the potential Project construction impacts will be conducted on those cultural resources that are eligible for or listed on the NRHP. A list of potentially effected resources will be prepared and treatments will be proposed for review and comment by the OHA, FERC, appropriate state and federal agencies, and associated consulting parties on the Project. A Memorandum of Agreement will be prepared in consultation with these parties, and the Project documentation will be submitted to the Advisory Council on Historic Preservation (ACHP) for their mandatory review of the Project.

4.8 POTENTIAL OPERATIONAL IMPACTS AND MITIGATION MEASURES

A general summary of potential operational impacts to cultural resources of projects similar to this Project is provided in Appendix F. This Appendix also includes a summary of the types of plans, as examples, that can be developed to address potential operation impacts. Once the engineering studies and planning are completed, a subsequent draft of this Resource Report will include a detailed assessment of the potential Project operational impacts on those cultural resources that are eligible for or listed on the NRHP.

4.9 UNANTICIPATED DISCOVERIES PLAN

A draft Construction Unanticipated Discoveries Plan for Cultural Resources and Human Remains has been developed following the regulatory guidance related to Section 106 of the NHPA. A copy of the draft plan is included as Appendix G. The plan establishes procedures to be used in the event that previously unreported historic properties or human remains are found during construction of the Project. The OHA, FERC, and BLM will receive the Construction Unanticipated Discoveries Plan for review and comment. During construction, copies of the Construction Unanticipated Discoveries Plan will be kept at the main construction office on each spread, and construction field management and environmental inspectors will be trained in its contents.

4.10 REFERENCES CITED

Arctic Slope Regional Corporation Energy Services (ASRC). 2011. Alaska Stand Alone Gas Pipeline/ASAP. Cultural Resource Report for the 2010 Field Season. Prepared for Alaska Gasline Development Corporation. Report on file: OHA, Anchorage.

ASRC. 2012. Alaska Stand Alone Gas Pipeline/ASAP. Cultural Resource Report for the 2010 and 2011 Field Seasons. Prepared for Alaska Gasline Development Corporation. April.

Federal Energy Regulatory Commission (FERC). 2002. *Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects*. Office of Energy Projects, Washington, DC.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013a. *2010, 2011, and 2013 Phase I Cultural Resource Summary Report: Archaeological Survey and Site Documentation* (USAKE-UR-SRZZZ-00-0017). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013b. 2013 *Phase I Cultural Resource Report: Archaeological Survey and Site Documentation on Bureau of Land Management Lands* (USAKE-UR-SRZZZ-00-0020). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013c. *2013 Phase I Cultural Resource Report: Archaeological Survey and Site Documentation* (USAKE-UR-SRZZZ-00-0021). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2014. *2014 Cultural Resources Data Gap Analysis and Sensitivity Model* (USAKE-UR-SRZZZ-00-0033). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Higgs, A. S., T.W. Greiser, L.T. King, and B.J. Neely. 2011a. 2010 *Cultural Resource Field Study Results, Phase I: Identification Cultural Resource Survey of the Alaska Pipeline Project.* Supplemental Report to OHA Permit No. 2010-17. Report USAG-UR-SRZZZ-000011 prepared

for Environmental Regulatory Support Services and TransCanada/ExxonMobil. Prepared by NHG Alaska LLC, Anchorage, Alaska.

Higgs, A. S., T.W. Greiser, L.T. King, and B.J. Neely. 2011b. *Phase I: Identification Cultural Resource Survey of the Alaska Pipeline Project*. Supplemental Report to BLM Permit No. AA-92471. Report USAG-UR-SRZZZ-000010 prepared for Environmental Regulatory Support Services and TransCanada/ExxonMobil. Prepared by NHG Alaska LLC, Anchorage, Alaska.

Higgs, A., T. W. Greiser, L. T. King, K. Garrad, J. Picklesimer, and B. Neely. 2012. *Phase I Cultural Resources Overview and Survey Report for the Alaska Pipeline Project, Prudhoe Bay, to the Alaska, United States-Canada Border, 2010-2011*. Report USAG-UR-SRZZZ-000030 prepared for Environmental Regulatory Support Services and TransCanada/ExxonMobil. Prepared by NHG Alaska LLC, Anchorage, Alaska.

Office of History and Archaeology (OHA). 2003. Standards and Guidelines for Investigation and Reporting Archaeological and Historic Properties in Alaska. Alaska Department of Natural Resources, OHA, Historic Preservation Series No. 11.

Potter, B. A., P. M. Bowers, S. C. Gerlach, O. K. Mason, M. Ganley, and S. S. Legge. 2001. *Site Location Model and Survey Strategy for Cultural Resources in the Alaska Gas Producers Pipeline Project Area*. Report Prepared for Alaska Gas Producers Pipeline Team by Northern Land Use Research, Inc., and Chumis Cultural Resource Services, Anchorage, AK.

URS. 2014. 2014 Phase I Cultural Resources Inventory Report for the Proposed Liquefaction Facility Component of the Alaska LNG Project, Nikiski, Alaska. Report prepared by URS for the Alaska LNG Project.

APPENDIX A CULTURAL RESOURCE MAPPING

PROVIDED UNDER SEPARATE COVER

PRIVILEGED AND CONFIDENTIAL—DO NOT RELEASE

APPENDIX B CULTURAL RESOURCE REPORTS

PROVIDED UNDER SEPARATE COVER

PRIVILEGED AND CONFIDENTIAL—DO NOT RELEASE

The cultural resources survey reports contain Privileged and Confidential information. Accordingly, these reports are being provided under separate cover.

Note: All cultural resource survey reports have been clearly marked "CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE" in accordance with FERC requirements.

Reports included in this Appendix:

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013a. *2010, 2011, and 2013 Phase I Cultural Resource Summary Report: Archaeological Survey and Site Documentation* (USAKE-UR-SRZZZ-00-0017). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013b. *2013 Phase I Cultural Resource Report: Archaeological Survey and Site Documentation on Bureau of Land Management Lands* (USAKE-UR-SRZZZ-00-0020). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2013c. *2013 Phase I Cultural Resource Report: Archaeological Survey and Site Documentation* (USAKE-UR-SRZZZ-00-0021). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

Greiser, T. Weber, Molly Proue, Timothy King, Andrew Higgs, Lindsay Argo, Burr Neely, Michael S. Kelly, and Michael D. Gray. 2014. *2014 Cultural Resources Data Gap Analysis and Sensitivity Model* (USAKE-UR-SRZZZ-00-0033). Report prepared by Northern Land Use Research Alaska, LLC for the Alaska LNG Project.

APPENDIX C AGENCY CORRESPONDENCE

PROVIDED UNDER SEPARATE COVER

PRIVILEGED AND CONFIDENTIAL—DO NOT RELEASE

APPENDIX D TABLE OF SURVEY COVERAGE

TABLE D-1

Survey Summary for the Alaska LNG Project
(TO BE UPDATED IN A SUBSEQUENT DRAFT OF THIS RESOURCE REPORT)

Facility	Begin MP / End MP	Surface Survey Method	Subsurface Survey Method	Survey Status	Sites Identified or Revisited	Total Miles	Acres
LIQUEFACTION FACILITY							
LNG Plant							
Marine Terminal							
PIPELINES							
Mainline							
PTTL							
PBTL							
PIPELINE ABOVEGROUND FACILITIES							
Compressor Stations							
Heater Station							
PTU Meter Station							
Prudhoe Bay Meter Station							
Mainline Meter Station							
LNG Terminal Meter Station							
MLBVs (not on Compressor sites)							
PIPELINE ASSOCIATED INFRASTRUCTURE							
Access roads							
ATWS							
Contractor yards							
Pipe yards							
Construction camps							
Disposal sites							
Material sites							
GTP							
GTP							
Associated GTP Infrastructure							
Module Staging Area							
Offshore West Dock							
Access Roads							
Construction Camp							

TABLE D-1

Survey Summary for the Alaska LNG Project
(TO BE UPDATED IN A SUBSEQUENT DRAFT OF THIS RESOURCE REPORT)

Facility	Begin MP / End MP	Surface Survey Method	Subsurface Survey Method	Survey Status	Sites Identified or Revisited	Total Miles	Acres
Material Sites							
Water Reservoir, Pump Facilities, Transfer Line							

Survey methods:

Desktop	Vehicle	Shovel Test
Aerial	Pedestrian	

APPENDIX E CULTURAL RESOURCES WITHIN THE PRELIMINARY AREA OF POTENTIAL EFFECT (APE) AND THE STUDY AREA

PROVIDED UNDER SEPARATE COVER

PRIVILEGED AND CONFIDENTIAL—DO NOT RELEASE

APPENDIX F GENERAL IMPACTS FROM SIMILAR PROJECTS IN ALASKA

Potential Impact	Project Activity												*Potential Plans to Address Impacts
	Grading, Clearing, Excavating (incl. Blasting), Trench, Pipelay, Backfill, Reclamation	Water Crossings (Pipelines & Bridges)	Ice Roads & Pads	Erosion Control & Drainage Control	Water Withdrawal & Usage	Water Discharge	Solid Waste Storage & Disposal	General Infrastructure Activities	Facility Construction	Facility Operations	Offshore Construction	Resource Report No.	
Air Emissions (including dust) from Construction	X	X	X	X	X	X	X	X	X		X	1, 9	C, J, O, T, W
Air Emissions from Operations										X		9	J, W, LL
Surface Water Quality Impacts (Increased Turbidity [TSS] / Sedimentation in Surface Water)	X	X	X	X	X	X	X	X	X	X	X	2, 3, 7	G, H, J, T, V, Y, II, KK
Contamination Migration	X	X				X	X	X		X		1, 2, 3, 7	G, I, GG
Disruption / Loss of Wildlife, Fish or Marine Mammal Habitat	X	X	X	X	X	X		X	X	X	X	2, 3	A, B, C, G, H, K, N, R, V, DD, EE, JJ
Disturbance & Vessel Strikes from Vessel Traffic								X		X	X	3	B, N
Disturbance of Known Historic Archaeological or Architectural) and Paleontological Resources	X	X	X					X	X		X	1, 4, 6, 7	C, D, E, Z, AA
Erosion	X	X		X		X			X		X	1, 2, 6, 7, 8	G, H, II, KK
Groundwater Impacts (Withdrawal, Drawdown, Vertical & Horizontal Hydraulic connectivity, Wells)	X	X	X		X				X	X		1, 2	Y, MM
Hazards to Aviation								X	X	X		1, 11	M
Hazards to Marine Navigation		X						X			X	1, 11	B, M
Inadvertent HDD Mud Release		X										1, 2, 3, 7	I
Incidental Take of Wildlife, Birds, & Marine Mammals	X	X	X		X	X	X	X	X		X	3	A, B, C. F, G, H, N, R
Increased Surface Water Runoff	X			X		X			X	X		2, 3, 7	Y, II
Introduction of Non-native Species	X	X	X			X		X	X	X	X	2, 3	G, K, KK
Impact to Public Use or Public Land	X	X						X	X	X	X	1, 2, 3, 8	B, F, H, L, BB, CC, FF
Impacts to existing infrastructure	X							X	X	X	X	1, 2, 3, 7, 8	M, S, U
Construction Noise Impacts	X	X						X	X			3, 9	C, F, P, N, FF, JJ
Operational Noise Impacts										X		9	F, P, FF
Potential Impacts to Vegetation, Wildlife, Fish, Birds, & Threatened Species	X	X	X	X	X	X	X	X	X	X	X	1, 2, 3, 6, 7, 8, 9	A, C. G, H, K, Q, R, T, DD,EE, JJ
Fish passage impacts		X										3	H, DD, JJ
Reduced Surface Water Recharge Rates	X		X		X	X						2, 3, 6	V, Y, MM
Watercourse Realignment and Scouring		X		X		X		X	X			2	G, H, V
Seismic Hazards / Mass Wasting, Soil Liquefaction	X	X						X	X	X	X	1, 6, 11	X
Tundra Degradation, Thermokarst	X	X	X	X	X				X	X		2, 3, 6, 7	G, X, KK
Unanticipated Discovery of Cultural Resources	X	X	X					X	X		X	1, 4	D, E
Unanticipated Discovery of Paleontological Resources	X	X						X	X		`	1, 4, 6	C, Z, AA
Unplanned spills/releases		X							X	X	X	2	G, I, HH, II
Vegetation & Topsoil Degradation or Loss	X		X	X				X				3, 7	G, II, KK

Potential Impact	Project Activity												*Potential Plans to Address Impacts
	Grading, Clearing, Excavating (incl. Blasting), Trench, Pipelay, Backfill, Reclamation	Water Crossings (Pipelines & Bridges)	Ice Roads & Pads	Erosion Control & Drainage Control	Water Withdrawal & Usage	Water Discharge	Solid Waste Storage & Disposal	General Infrastructure Activities	Facility Construction	Facility Operations	Offshore Construction	Resource Report No.	
Vertical and Horizontal Hydraulic Connectivity of Ground Water and Surface Water (Groundwater Discharge to Surface Water)	X	X	X		X	X			X		X	2, 3	C, G, X, Y, MM
Visual Impacts	X	X					X	X	X	X	X	1, 8	L, V, CC
Waste from Construction and Operations - Liquid and Solid, Hazardous and Non-Hazardous									X	X		2, 8	T
Impacts to Wetlands – footprint and functionality									X			2	DD, EE
***Potential Plans to Address Activity**	**A, C, D, E, G, K, L, O, P, R, Z, GG, II, KK**	**D, E, G, H, I, K, L, O, V, Y, DD, EE, II, JJ**	**G, L, O, R**	**G, L, O, V, II, KK**	**G, L, O, MM**	**G, K, L, O Y, MM**	**G_T O, T, Y, GG, HH**	**D, G, M, O, R, S, HH, II**	**D, E, F, G, K, M, P, R, S, T, W, X, Z, FF, GG, HH, JJ, II, MM**	**F, HH, J, K, O, P, R, T, W, FF, MM**	**D, E, G, M, N, O, P, Q, R, W**	**All**	

List of Potential Plans*

A.	Avian Protection Plan
B.	Marine Logistics Shipping Plan
C.	Blasting Plan
D.	Unanticipated Cultural Resource Discovery Plan
E.	Cultural Resources Data Recovery Plans and/or Treatment Plans
F.	Ambient Noise Level Studies
G.	FERC 2013 Wetland and Waterbody Construction and Mitigation Procedures with Requested Project-Specific Variances (the Applicants' Procedures) AKLNG Procedures
H.	Site-specific Waterbody Crossing Plans
I.	HDD Inadvertent Release Plan (Project Specific HDD Contingency Plan)
J.	Health Impact Assessment
K.	Invasive Species Mitigation Plan
L.	Public Land Construction Plan
M.	Project Logistics Plans
N.	Marine Mammal Mitigation and Monitoring Plan
O.	Mobile Emissions Control Plan
P.	Noise Control and Mitigation Plan
Q.	Plan of Cooperation (POC)
R.	Polar Bear and Wildlife Interaction Plan
S.	Project Transportation Plan
T.	Project Waste Management Plan
U.	Project-specific Railroad crossing Plans
V.	Riparian Buffer Planting Plan
W.	Modeling Site-specific Impacts to Air Quality Emissions
X.	Site-specific Geohazards Plan
Y.	Water Monitoring Plan
Z.	Unanticipated Paleontological Discovery Plan
AA.	Paleontological Resources Management Plans
BB.	Site-specific Public Land Use and Recreational Use Coordination Plans
CC.	Visual Aesthetics Study
DD.	Site-specific Wetland Resources Crossing Plans (as required)
EE.	Wetland Mitigation Plans
FF.	Site-specific Noise Mitigation Plans (as required)
GG.	Unanticipated Contamination Discovery Plan
HH.	Spill Prevention, Control, and Countermeasure Plan (SPCC)
II.	Storm Water Pollution Prevention Plan (SWPPP) – general and spread specific
JJ.	Species-specific Wildlife Protection Plan
KK.	FERC 2013 Upland Erosion Control, Revegetation, and Maintenance Plan with Requested Project-Specific Variances (the Applicants' Procedures) AKLNG Plan
LL	Design/Operations Emissions Management Plan
MM	Groundwater Management Plan

* In addition to the potential plans listed above, FERC requires implementation plans that outline how the Project will meet all required environmental permits and stipulations. The applicants will also prepare overarching Construction Environmental Management Plans and Operations Environmental Management Plans for the Project.

APPENDIX G UNANTICIPATED DISCOVERY PLAN

THE ALASKA LNG PROJECT

PLAN FOR UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES AND HUMAN REMAINS DURING CONSTRUCTION

INTRODUCTION

This plan establishes procedures applicable to the Alaska LNG Project (Project) to be used in the event that previously unreported and unanticipated cultural resources or potential human remains are found during survey, by non-cultural resource contractors, and/or during construction of the Project. The procedures differ depending on whether unanticipated non-human cultural materials or potential human remains are encountered, as well as whether unanticipated cultural materials are found on federal, state, or private lands.[1]

Prior to the commencement of work in the field, Project representatives and contractor personnel will receive environmental training. Environmental training will include guidance on identifying potential cultural materials and human remains.

UNANTICIPATED DISCOVERY OF CULTURAL MATERIALS OR HUMAN REMAINS

1. Upon discovery of a material of potential cultural significance or human remains, the Contractor must stop work immediately in the vicinity of any cultural resources or suspected cultural resources and take steps to protect the integrity of the find.

2. The Contractor will promptly notify the Project's on-site Field Coordinator of the find. Notification should include a detailed description of the nature and extent of the cultural resources and an accurate and precise location including GPS coordinates. No photographs or site-specific location information should be released to the press or to individuals other than those who have a need to know.

Contact:	[To be determined]
Telephone:	[To be determined]
Email:	[To be determined]
Address:	[To be determined]

3. The Field Coordinator will promptly notify the Project's Environmental Supervisor of the find.

Contact:	[To be determined]
Telephone:	[To be determined]
Email:	[To be determined]

[1] As set forth by the National Historic Preservation Act (NHPA), as amended (16 USC 470) and implementing regulations (36 CFR 800), Archaeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and Alaska Statutes 11.46.482 (a)(3), 12.65.5, 18.50.250, and 41.35.200.

Address: [To be determined]

4. The Project's Environmental Supervisor will coordinate with the Project's cultural resource consultant who will travel to the location and evaluate the find.

5. Following evaluation of the fine, the cultural resource consultant will promptly notify the Project's Environmental Supervisor by telephone, providing a preliminary assessment of the significance of the find.

6. If the materials found are potential human remains, refer to the procedure in sections C or D. Otherwise, refer to the procedures in sections A or B below.

A. Discovery of cultural materials on private and state-managed land

1. The Project's Environmental Supervisor will promptly notify the contractor or construction Environmental Inspector to flag or fence off the site with a radius of 20 meters surrounding the find, where applicable. This buffer area may be larger if there is the possibility of more resources in the area or in the case of slopes or cut banks where ongoing construction may impact the site.

2. The Project's Environmental Supervisor will direct the cultural resources consultant to begin a more detailed assessment of the find's significance and the potential effect of construction.

3. The Project's Environmental Supervisor will promptly notify the Alaska State Historic Preservation Office (SHPO) and the Federal Energy Regulatory Commission (FERC) of the find.

Contact:	Lori Boros, Senior Technical Expert
Telephone:	(202) 502-8046
Email:	Lori.Boros@ferc.gov
Address:	Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

Contact:	Ms. Judith Bittner State Historic Preservation Officer
Telephone:	(907) 269-8715
Fax:	(907) 269-8908
E-mail:	judy.bittner@alaska.gov
Address:	Alaska Dept. of Natural Resources Office of History and Archaeology 550 West 7th Avenue Anchorage, AK 99501-3561

4. The cultural resources consultant will assess and document the find. If the cultural resources consultant assesses the find as not significant or

completely disturbed by construction activities, then the consultant will notify the Project's Environmental Supervisor. The Alaska LNG Environmental Supervisor will inform FERC and SHPO regarding the "not significant" finding. Upon FERC/SHPO agreement with this finding, Alaska LNG will request approval to resume construction. A brief report on the find will be provided to FERC and SHPO within 3 days of its discovery and evaluation. If the cultural resources consultant recommends that the find may be significant, then the following steps must be implemented.

5. The Project's Environmental Supervisor will notify other parties, such as the appropriate Alaska Native organization, as directed by the SHPO or FERC.

   Alaska Native Regional Corporations:

   Brooks Range and north:

   Contact: [To be determined]
   Telephone: (907) 852-8633
   Fax: Fax: (907) 852-5733
   Address: Arctic Slope Regional Corporation
   P.O. Box 129
   Barrow, AK 99273

   Contact: [To be determined]
   Telephone: (907) 852-0320
   Address: North Slope Borough
   Iñupiat History Language and Culture Commission
   P.O. Box 69
   Barrow, AK 99723

   South of the Brooks Range:

   Contact: [To be determined]
   Telephone: (907) 459-2037
   Fax: (907) 459-2062
   Address: Doyon Ltd.
   1 Doyon Place, Suite 300
   Fairbanks, AK 99701

   Contact: Bob Sattler
   Telephone: (907) 452-8251
   Fax: (907) 459-3936
   Address: Tanana Chiefs Conference, Inc.
   122 1st Avenue, Suite 600
   Fairbanks, AK 99701

Nearest Alaska Native Village and/or Tribal organization:

Contact list attached

6. If the find is assessed as significant, and continuing work may damage more of the site, the Project's Environmental Supervisor will request recommendations from the SHPO, FERC, and other parties regarding appropriate measures for site treatment. These measures may include:

   a. Formal archaeological evaluation of the site;

   b. Visits to the site by the SHPO, FERC, and other parties;

   c. Preparation of a mitigation plan by the Project representatives for approval by the SHPO and FERC;

   d. Implementation of the mitigation plan; and

   e. Approval to resume construction following completion of the fieldwork component of the mitigation plan.

7. If upon further analysis by the cultural resource consultant, the find is assessed as lacking significance, the Project's Environmental Supervisor will consult with the SHPO, FERC, and other appropriate parties, and will request approval to resume construction, subject to any further measures that may be required by FERC or SHPO.

   The Project's Environmental Supervisor will notify the onsite Field Coordinator who will grant clearance to the Contractor to start construction.

B. Discovery of cultural materials on federal or Native allotment lands[2]

The Project's Environmental Supervisor will promptly notify the Environmental Inspector to flag or fence off the site with a radius of 20 meters surrounding the find, where applicable. This buffer area may be larger if there is the possibility of more resources in the area or in the case of slopes or cut banks where ongoing construction may impact the site.

[2] Pursuant to the Alaska Native Claims Settlement Act, Native allotment lands require an ARPA permit administered through the Bureau of Indians Affairs (BIA). Due to the BIA's responsibilities in this process and for the sake of this document, Native allotment lands will be grouped with federal lands as the BIA will be acting as the land managing agency under Section 106 of NHPA.

1. The Project's Environmental Supervisor will direct the cultural resources consultant to begin a more detailed assessment of the find's significance and the potential effect of construction.

2. The Project's Environmental Supervisor will promptly notify FERC, appropriate federal land managing agency, and SHPO of the find.

Contact:	Lori Boros, Senior Technical Expert
Telephone:	(202) 502-8046
Email:	Lori.Boros@ferc.gov
Address:	Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

Contact:	[To be determined]
Telephone:	[To be determined]
Address:	Bureau of Indian Affairs Realty Office 3601 C Street, Suite 1100 Anchorage, AK 99503-5947

Contact:	Bob King
Telephone:	(907) 271-5510
Fax:	(907) 271-5479
Email:	r2king@blm.gov
Address:	Bureau of Land Management 222 West Seventh Ave., Suite 13 Anchorage, AK 99513

Contact:	Ms. Judith Bittner State Historic Preservation Officer
Telephone:	(907) 269-8715
Fax:	(907) 269-8908
E-mail:	judy.bittner@alaska.gov
Address:	Alaska Dept. of Natural Resources Office of History and Archaeology 550 West 7th Avenue Anchorage, AK 99501-3561

3. The cultural resources consultant will assess and document the find. If the cultural resources consultant assesses the find as not significant or completely disturbed by construction activities, then the cultural resources consultant will notify the Project's Environmental Supervisor. The Project Manager will inform FERC, appropriate federal land managing agency, and SHPO concerning the "not significant" finding. Upon federal land managing agency/SHPO agreement with this finding, Project representatives will request approval to resume construction. A brief report on the find will be provided to FERC, the appropriate federal

land managing agency (on which land the cultural resources were found), and SHPO within 3 days of its discovery and evaluation. If the cultural resources consultant recommends that the find may be significant, then the following steps must be implemented.

4. The Project's Environmental Supervisor will notify other parties, such as the appropriate Alaska Native organization, as directed by the appropriate federal land managing agency or SHPO.

Alaska Native Regional Corporations:

Brooks Range and north:

Contact:	[To be determined]
Telephone:	(907) 852-8633
Fax:	Fax: (907) 852-5733
Address:	Arctic Slope Regional Corporation P.O. Box 129 Barrow, AK 99273

Contact:	[To be determined]
Telephone:	[To be determined]
Address:	North Slope Borough Iñupiat History Language and Culture P.O. Box 69 Barrow, AK 99723

South of the Brooks Range:

Contact:	[To be determined]
Telephone:	(907) 459-2037
Fax:	(907) 459-2062
Address:	Doyon Ltd. 1 Doyon Place, Suite 300 Fairbanks, AK 99701

Contact:	Bob Sattler
Telephone:	(907) 452-8251
Fax:	(907) 459-3936
Address:	Tanana Chiefs Conference, Inc. 122 1st Avenue, Suite 600 Fairbanks, AK 99701

Alaska Range Area

Contact:	[To be determined]
Telephone:	(907) 822-3476
Fax:	Fax: (907) 822-3495

Address: Ahtna Inc.
PO Box 649
Glennallen, Alaska 99588

Cook Inlet Area

Contact: [To be determined]
Telephone: (907) 274-8638
Fax: (907) 297-8836
Address: Cook Inlet Region, Incorporated
2525 C Street, Suite 500,
Anchorage, AK 99503

Nearest Alaska Native Village and/or Tribal organization:

Contact list attached

5. If the find is assessed as significant, and continuing work may damage more of the site, the Project's Environmental Supervisor will request recommendations from the appropriate federal land managing agency and SHPO, and other parties regarding appropriate measures for site treatment. These measures may include:

   a. Formal archaeological evaluation of the site;

   b. Visits to the site by the appropriate federal land managing agency, FERC, SHPO, and other parties;

   c. Preparation of a mitigation plan by Project representatives for approval by the appropriate federal land managing agency and SHPO;

   d. Implementation of the mitigation plan; and

   e. Approval to resume construction following completion of the fieldwork component of the mitigation plan.

6. If upon further analysis by the cultural resource consultant, the find is assessed as lacking significance, the Project's Environmental Supervisor will consult with the appropriate federal land managing agency, SHPO, and other appropriate parties, and will request approval to resume construction, subject to any further measures that may be required by the federal land managing agency or SHPO.

7. The Project's Environmental Supervisor will notify the onsite Field Coordinator who will grant clearance to the Contractor to start construction.

C. Discovery of potential human remains on private and state-managed land

1. The Project's Environmental Supervisor will promptly notify the Environmental Inspector to flag or fence off the site with a radius of 20 meters surrounding the find, where applicable. This buffer area may be larger if there is the possibility of more resources in the area or in the case of slopes or cut banks where ongoing construction may impact the site.

   The Project's Environmental Supervisor will notify a peace officer of the state (police, Village Public Safety Officer, or Alaska State Trooper (AST)) and the Alaska State Medical Examiner (SME) immediately of the discovery, as stipulated in Alaska Statute 12.65.5. In addition to a local peace officer (if in a local jurisdiction), notification should include the AST Criminal Investigation Bureau. If the human remains appear recent (less than 50 years old) in the judgment of the archaeologists, the AST and SME will determine whether the remains are of a forensic nature and/or subject to criminal investigation.

Contact:	Sgt. Kid Chan
Telephone:	(907) 269-5643
Fax:	(907) 338-7243
E-mail:	choong.chan@alaska.gov (cc: Stephanie Johnson at steph.johnson@alaska.gov)
Address:	Alaska State Troopers Missing Persons Bureau 5700 East Tudor Road Anchorage, AK 99507

Contact:	Dr. Katherine P. Raven Deputy Medical Examiner
Telephone:	(907) 334-2200
Fax:	(907) 334-2216
E-mail:	katherine.raven@alaska.gov
Address:	Alaska State Medical Examiner 4500 South Boniface Parkway Anchorage, Alaska 99507

2. The Alaska SHPO will also be notified of any discovery unless circumstances indicate that the death or burial is less than 50 years old and that there is need for a criminal investigation or legal inquiry by the coroner.

Contact:	Ms. Judith Bittner State Historic Preservation Officer
Telephone:	(907) 269-8715
Fax:	(907) 269-8908
E-mail:	judy.bittner@alaska.gov
Address:	Alaska Dept. of Natural Resources Office of History and Archaeology 550 West 7th Avenue Anchorage, AK 99501-3561

3. Written authorization in the form of a Burial Transit Permit from the Alaska State Bureau of Vital Statistics shall be obtained prior to any excavation or re-interment of any human remains. In addition, clearance from the appropriate Alaska Native organization must be obtained prior to excavation or re-interment of Alaska Native remains.

Contact:	Phillip Mitchell Section Chief
Telephone:	(907) 465-8604/465-8643
Fax:	(907) 465-3618
E-mail:	phillip.mitchell@alaska.gov
Address:	Alaska Bureau of Vital Statistics 5441 Commercial Boulevard P.O. Box 110675 Juneau, AK 99801

4. If the human remains are found to be historic in nature, a qualified professional physical anthropologist with experience in the analysis of human remains will examine them in situ to determine racial identity. The physical anthropologist shall document, analyze, and photograph the remains so that an independent assessment of racial identity can be made. The physical anthropologist shall be afforded no more than 30 days time to conduct his or her analysis.

5. The Project's Environmental Supervisor will promptly notify FERC of the find.

Contact:	Lori Boros, Senior Technical Expert
Telephone:	(202) 502-8046
Email:	Lori.Boros@ferc.gov
Address:	Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

6. If the unanticipated discovery consists of Alaska Native human remains, Project representatives will consult with the Alaska SHPO, FERC, and appropriate Alaska Native organizations regarding the appropriate measures to respectfully handle such a discovery. If it can be determined

adequately that the identified human remains have affinity to any federally recognized tribe(s), a reasonable effort will be made by Project representatives to identify, locate, and notify these tribes. The appropriate Alaska Native Regional Corporations also will be contacted by Project representatives.

Alaska Native Regional Corporations:

Brooks Range and north:

Contact: [To be determined]
Telephone: (907) 852-8633
Fax: Fax: (907) 852-5733
Address: Arctic Slope Regional Corporation
P.O. Box 129
Barrow, AK 99273

Contact: [To be determined]
Telephone: [To be determined]
Address: North Slope Borough
Iñupiat History Language and Culture
P.O. Box 69
Barrow, AK 99723

South of the Brooks Range:

Contact: [To be determined]
Telephone: (907) 459-2037
Fax: (907) 459-2062
Address: Doyon Ltd.
1 Doyon Place, Suite 300
Fairbanks, AK 99701

Contact: Bob Sattler
Telephone: (907) 452-8251
Fax: (907) 459-3936
Address: Tanana Chiefs Conference, Inc.
122 1st Avenue, Suite 600
Fairbanks, AK 99701

Alaska Range Area

Contact: [To be determined]
Telephone: (907) 822-3476
Fax: Fax: (907) 822-3495
Address: Ahtna Inc.
PO Box 649
Glennallen, Alaska 99588

Cook Inlet Area

Contact:	[To be determined]
Telephone:	(907) 274-8638
Fax:	(907) 297-8836
Address:	Cook Inlet Region, Incorporated 2525 C Street, Suite 500, Anchorage, AK 99503

Nearest Alaska Native Village and/or Tribal organization:

Contact list attached

7. The Project's Environmental Supervisor will notify other parties, as directed by the SHPO or FERC.

8. If the human remains are not Native American, and a determination has been made by the AST and Alaska SME that a death investigation is not warranted, the Project representatives, in consultation with the Alaska SME, will identify, locate, and inform descendants of the deceased.

9. After permission to resume construction has been issued by FERC, the Project's Environmental Supervisor will notify the onsite Field Coordinator who will grant clearance to the Contractor to restart construction.

D. Discovery of potential human remains on federal land

1. The Project's Environmental Supervisor will promptly notify the Environmental Inspector to flag or fence off the site with a radius of 20 meters surrounding the find, where applicable. This buffer area may be larger if there is the possibility of more resources in the area or in the case of slopes or cut banks where ongoing construction may impact the site.

   The Project's Environmental Supervisor will notify a peace officer of the state (police, Village Public Safety Officer, or AST) and the Alaska SME immediately of the discovery, as stipulated in Alaska Statute 12.65.5. In addition to a local peace officer (if in a local jurisdiction), notification should include the AST Criminal Investigation Bureau. If the human remains appear recent (less than 50 years old) in the judgment of the archaeologists, the AST and SME will determine whether the remains are of a forensic nature and/or subject to criminal investigation. The FERC and appropriate federal land managing agency will also be contacted in case the human remains are related to a crime scene.

Contact:	Sgt. Kid Chan
Telephone:	(907) 269-5643
Fax:	(907) 338-7243
E-mail:	choong.chan@alaska.gov (cc: Stephanie Johnson at steph.johnson@alaska.gov)
Address:	Alaska State Troopers Missing Persons Bureau 5700 East Tudor Road Anchorage, AK 99507

Contact:	Dr. Katherine P. Raven Deputy Medical Examiner
Telephone:	(907) 334-2200
Fax:	(907) 334-2216
E-mail:	katherine.raven@alaska.gov
Address:	Alaska State Medical Examiner 4500 South Boniface Parkway Anchorage, Alaska 99507

Contact:	[To be determined]
Telephone:	[To be determined]
Address:	Bureau of Indian Affairs Realty Office 3601 C Street, Suite 1100 Anchorage, AK 99503-5947

Contact:	Bob King
Telephone:	(907) 271-5510
Fax:	(907) 271-5479
Email:	robert_king@ak.blm.gov
Address:	Bureau of Land Management 222 West Seventh Ave., Suite 13 Anchorage, AK 99513

Contact:	Lori Boros, Senior Technical Expert
Telephone:	(202) 502-8046
Email:	Lori.Boros@ferc.gov
Address:	Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

2. The Alaska SHPO will also be notified of any discovery unless circumstances indicate that the death or burial is less than 50 years old and that there is need for a criminal investigation or legal inquiry by the coroner.

Contact:	Ms. Judith Bittner State Historic Preservation Officer
Telephone:	(907) 269-8715
Fax:	(907) 269-8908
E-mail:	judy.bittner@alaska.gov
Address:	Alaska Dept. of Natural Resources Office of History and Archaeology 550 West 7th Avenue Anchorage, AK 99501-3561

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Contact:	Phillip Mitchell Section Chief
Telephone:	(907) 465-8604/465-8643
Fax:	(907) 465-3618
E-mail:	phillip.mitchell@alaska.gov
Address:	Alaska Bureau of Vital Statistics 5441 Commercial Boulevard P.O. Box 110675 Juneau, AK 99801

4. If the human remains are found to be historic in nature, Project representatives, as directed by the appropriate federal land managing agency, will determine the origin of the human remains. A qualified professional physical anthropologist with experience in the analysis of human remains will examine them in situ to determine racial identity. The physical anthropologist shall document, analyze, and photograph the remains so that an independent assessment of racial identity can be made. The physical anthropologist shall be afforded no more than 30 days time to conduct his or her analysis. The appropriate federal land managing agency will follow NAGPRA and the implementing regulations set forth in 43 CFR 10, for Alaska Native remains.

5. For Alaska Native remains, the appropriate federal land managing agency will retain the responsibility for determining and contacting the appropriate Alaska Native groups. In this case, NAGPRA dictates that work in the immediate vicinity of the remains cannot proceed until 30 days after the reply from the federal agency in charge or appropriate Alaska Native group that the documents regarding the finding were received, unless a written and binding agreement is issued from the federal agency in charge and the affiliated Native American group(s) (NAGPRA 25 USC 3002 Sec 3(d)). The remains will then be assessed and treated based on the guidance of the federal agency in charge and the appropriate Alaska Native group as defined by NAGPRA.

6. If the human remains are not Native American, and a determination has been made by the AST and Alaska SME that a death investigation is not warranted, then Project representatives, as directed by the appropriate federal land managing agency in consultation with the Alaska SME, will identify, locate, and inform descendants of the deceased.

7. The Project's Environmental Supervisor will notify other parties, as directed by the appropriate federal land managing agency.

8. After permission to resume construction has been issued by the appropriate federal land managing agency, the Project's Environmental Supervisor will notify the onsite Field Coordinator who will grant clearance to the Contractor to restart construction.

List of Contacts for Alaska Native Representatives

Peter David, First Chief
Alatna Village
P.O. Box 70
Alatna, AK 99720

Gordon Bergman, First Chief
Allakaket Village
P.O. Box 50
Allakaket, AK 99720

Lee Stephan, President & First Chief
Eklutna Native Village
26339 Eklutna Village Road
Chugiak, AK 99567-6339
907-692-5005
nve@eklutna-nsn.gov

Frank Thompson, First Chief
Evansville Tribal Council
P.O. Box 26087
Bettles Field, AK 99726
907-692-5005
evansvillealaska@gmail.com
fthompson@starband.net

George Olemaun,
President Inupiat Community of the Arctic Slope
P.O. Box 934
P.O. Box 278
Barrow AK 99723
907-852-4227
907-367-6181
executive@inupiatgov.com
golemaun@hotmail.com

Isaac Akootchook, President
Kaktovik Village
P.O. Box 130
Kaktovik AK 99747
907-640-2042
nvkaktovik@starband.net

Rose Tepp, Chairperson
Kenaitze Indian Tribe
P.O. Box 988
Kenai AK 99611
907-335-7200
rtepp@kenaitze.org

Michael Tucker, President
Knik Tribe
951 E. Bogard, Suite 101
Wasilla AK 99564
907-373-7991
mtucker@kniktribe.org

Lillian Stone, President
Nagsragmuit Traditional Council (Anaktuvuk Pass Federally Recognized Tribe)
P.O. Box 21170
Anaktuvuk Pass AK 99721
907-661-2575
akp@inupiatgov.com

Thomas Olemaun, President
Native Village of Barrow Inupiat Traditional Government
P.O. Box 1130 Barrow AK 99723
907-852-4411
tolemaun@nvbarrow.net

Rene Nicklie, President
Native Village of Cantwell
P.O. Box 94
Cantwell AK 99729
907-768-2591
hallvc@mtaonline.net

Lori Baker, First Chief
Native Village of Minto
P.O. Box 58026
Minto AK 99758
907-798-7112
mintovillagecouncil@hotmail.com

Bernice Kaigelak, President
Native Village of Nuiqsut P.O.
Box 89169
Nuiqsut AK 99789
907-480-3010
native.village@astacalaska.net

Alfred Goozmer, President
Native Village of Tyonek
P.O. Box 82009
Tyonek AK 99682
907-583-2111
janell-b@tyonek.net

Greg Encelewski, President
Ninilchik Traditional Council
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Ninilchik AK 99639
907-567-3313
ninilchik@hotmail.com

Penny Carty, President
Village of Salamatoff
P.O. Box 2682
Kenai AK 99611
907-283-7864
snainc@alaska.net

Harold W. Simon, President
Native Village of Stevens
P.O. Box 74016
Stevens Village AK 99774
907-649-2104
haroldsimon907@gmail.com

Paul Moses, First Chief
Nenana Native Association
P.O. Box 356
Nenana AK 99760
907-832-5461
nenananativecouncil@gmail.com

Tom Wiehl, President
Rampart Traditional Council
P.O. Box 67029
Rampart AK 99767
907-358-3312
NO EMAIL