

**AMBLER MINING DISTRICT ACCESS PROJECT
REQUEST FOR NPS PERMIT
PROPOSED WETLAND AND VEGETATION SURVEYS
GATES OF THE ARCTIC NATIONAL PARK & PRESERVE**

Project Proponents: DOWL HKM as Agent for:

Alaska Department of Transportation and Public Facilities (DOT&PF)
2301 Peger Road, Fairbanks, AK 99709 / 907-451-2288 and

Alaska Industrial Development and Export Authority (AIDEA)
813 West Northern Lights Boulevard, Anchorage, AK 99503 / 907-771-3000

Project Name: Ambler Mining District Access Project

Project Type: Reconnaissance Level Fieldwork for Roadway Design (Pre-NEPA Analysis)

Project Category: Wetland and Vegetation Surveys

Project Location: The project corridor begins at the Ambler River approximately 6 miles northwest of the Bornite Camp and routes southeast away from the Ambler River then east along the north side of the Cosmos Hills and through Gates of the Arctic National Park & Preserve (GANPP). From the east edge of the Preserve, the corridor continues east, remaining north of the Helpmejack Hills and the Alatna Hills, crossing the Koyukuk River downstream of the confluence with the John River, then following an existing winter trail to the east/southeast along the northern boundary of the Kanuti National Wildlife Refuge to the Dalton Highway near Milepost 136 (Figures 1 through 3). There are two potential routes through the Preserve under present consideration:

- North Option: Passes through GANPP along the north edge of Nutuvukti Lake and south of Walker Lake (25 miles within GANPP).
- South Option: Travels south along the Reed River Valley, crossing the GANPP south of Nutuvukti Lake and exiting the Preserve just north of Norutak Lake (17 miles within GANPP).

Project Description: With the Ambler Mining District Access project, the Alaska Department of Transportation and Public Facilities (DOT&PF) and Alaska Industrial Development and Export Authority (AIDEA) propose to identify, design, and construct a transportation corridor to the Ambler mineral belt. Numerous potential access corridors were initially evaluated based on a broad range of design, construction, and environmental criteria. The initial evaluation of these preliminary corridors led to the refinement and selection of a single study corridor with two alignment options being carried forward for pre-NEPA fieldwork. This corridor, referred to as Brooks East, passes through a challenging array of physical landscapes, geologic features, and varying climatic conditions within the subarctic environment. The corridor crosses numerous streams and rivers, including the Kobuk River, a federally-designated Wild and Scenic River. The corridor length is 203 miles for the north option through the GANPP and 218 miles for the south option.

Field surveys associated with data collection for fisheries, vegetation and wetlands, and river and corridor cross- sections in support of the Ambler Mining District Access project were conducted

within GANPP in 2012. In order to more fully understand sensitive resources potentially affected by and affecting the project, DOT&PF proposes continued field investigation of wetland communities and fisheries resources within the Preserve as well as the initiation of field-based studies of additional parameters within GANPP in 2013. These include:

- Aufeis and Breakup Surveys
- Collection of hydrologic and hydraulic data for the Kobuk and Reed Rivers
- Raptor Surveys
- Cultural Resource Reconnaissance Surveys
- Geotechnical Surveys

To facilitate review, each of the aforementioned categories is presented under individual cover.

Field activities will occur intermittently between approximately March 15 and November 15, 2013, and will primarily be supported by piston-powered light aircraft and turbine-powered helicopter. The applicant intends to minimize overlap of the field investigations and the presence of project related staff and air traffic at any one time. Approximate schedules are outlined in each Study Proposal, but are subject to change based on weather and seasonal conditions. A tentative schedule of the combined field activities is appended hereto.

Wetland Surveys

Objectives: DOT&PF has contracted DOWL HKM to conduct wetland and vegetation surveys for the Ambler Mining District Access Project. DOWL HKM will conduct fieldwork to collect the level of data necessary to prepare an application for a Jurisdictional Determination from the United States Army Corps of Engineers (USACE). The fieldwork will be based on reconnaissance surveys initiated in 2012 and preliminary mapping of wetlands that is currently being refined based on aerial imagery and LIDAR data for the project area acquired after the 2012 fieldwork was completed. Final maps will be presented at a scale of 1:5000.

The primary objective of the field sampling will be two-fold:

- Ground-truth and adjust pre-mapped wetland boundaries while confirming habitat and vegetation classifications.
- Conduct functions and values assessment of wetland and riverine habitats within the study area.

Timing: Two trips of 2-weeks each will occur approximately June 15 – June 30, 2013 and July 15 - 30, 2013. (Note: only 5 days per trip are anticipated to involve ground based surveys within GANPP).

Access: Helicopter. Two person field crews will be dropped by helicopter and conduct work on foot moving generally in a direction parallel to the project corridor across GANPP. Proposed landing locations are illustrated on the attached figure.

Lodging: Dahl Creek Camp or Coldfoot

Personnel: 6 field personnel (4 DOWL biologists, 1 Subsistence Advisor and 1 helicopter pilot).

Procedures: It is anticipated that 2 crews of 2 people will work at one time within GANPP. Field crews will be dropped and retrieved once or twice per day depending on conditions. It is anticipated that field crews will cover approximately 3 miles per day on foot.

Field sampling will be based on the three-parameter approach to wetland identification and delineation as described in the USACE 1987 wetland delineation manual and 2007 Alaska Regional Supplement. It is estimated that field sampling will be conducted on an average of 3 samples per mile along the corridor but adequate sampling of representative habitats, rather than a sampling interval, will dictate the field plan. A shallow soil pit will be excavated at each sample point to approximately 24" below ground surface. Material will be backfilled and, wherever possible, surface vegetation will be replaced with roots intact. All sample points will be classified according to the following systems:

- Wetlands and Deepwater Habitats Classification (Cowardin, et al): Each wetland will be classified to the subclass level with a hydrologic (water regime) modifier;
- Hydrogeomorphic Classification (Brinson): The hydrogeomorphic classification will be determined for each wetland and riverine system; and
- Alaska Vegetation Classification System (Viereck, et al.): Each vegetation community (wetland and upland) will be classified to Level IV.

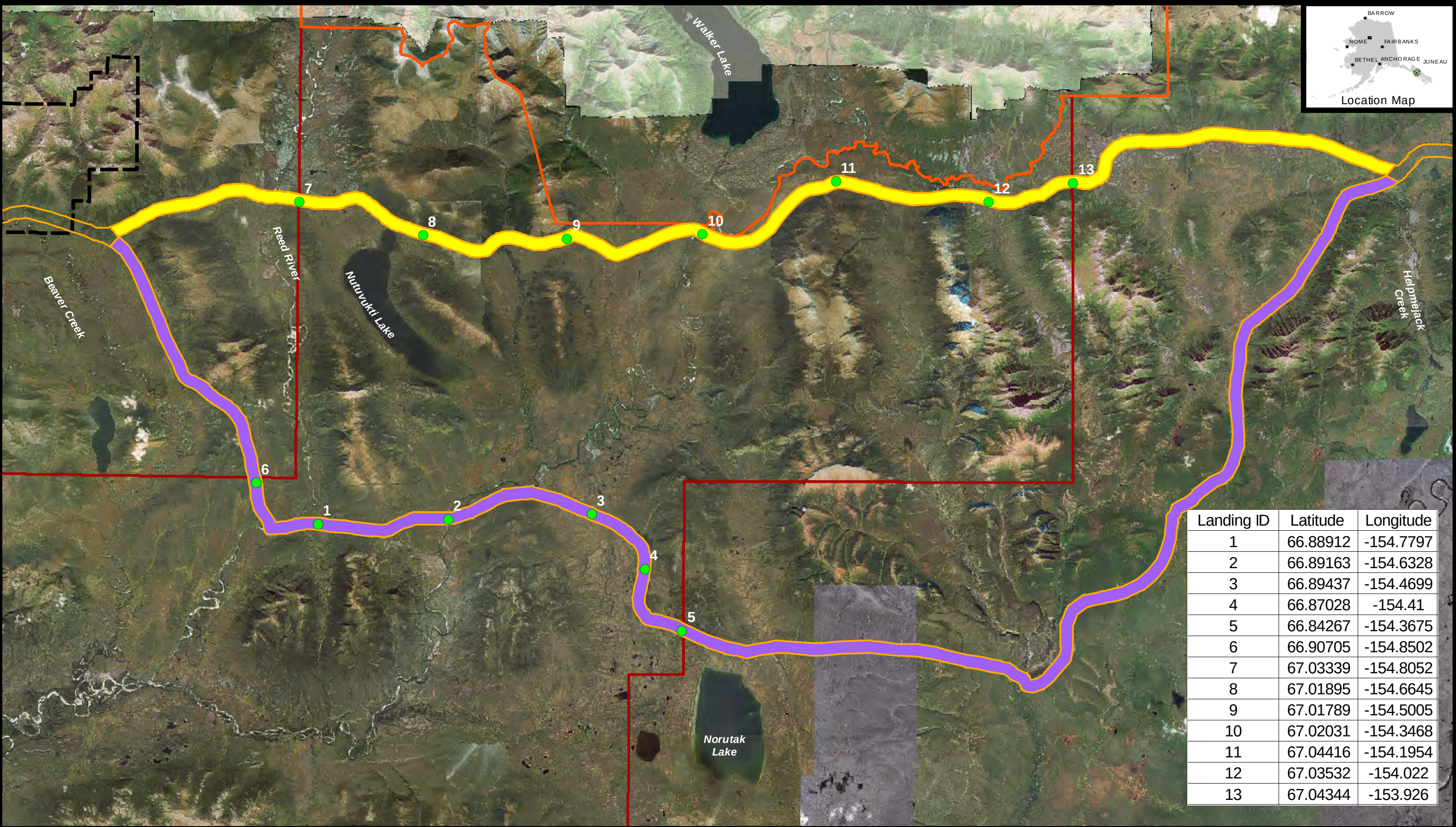
Data to support wetland functional assessments will be collected at each sample point through visual observation and photo-documentation. Functions and values will be assessed according to the 10 general categories of wetland services outlined in the USACE Alaska District Regulatory Guidance Letter ID No. 09-01. The procedure may be modified to accommodate riverine systems and will likely incorporate elements of the USACE guidance for hydrogeomorphic assessments.

Prior to initiating wetland fieldwork in 2013, DOWL HKM will review the proposed sampling plan and functional assessment methodology with representatives from the USACE to ensure sufficiency of the sampling effort and appropriateness of the selected functional assessment for the project.

Results/Deliverable Products

The results and the products to be provided at the conclusion of the study are as follows:

- A detailed map of wetlands and vegetation within the study area.
- A report documenting methods and results of the wetland and vegetation surveys.



Landing ID	Latitude	Longitude
1	66.88912	-154.7797
2	66.89163	-154.6328
3	66.89437	-154.4699
4	66.87028	-154.41
5	66.84267	-154.3675
6	66.90705	-154.8502
7	67.03339	-154.8052
8	67.01895	-154.6645
9	67.01789	-154.5005
10	67.02031	-154.3468
11	67.04416	-154.1954
12	67.03532	-154.022
13	67.04344	-153.926

-  Ambler Mineral Belt

 Gates of the Arctic National Preserve

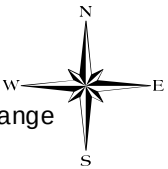
 Gates of the Arctic National Park & Preserve
-  Study Area (2000-ft wide corridor)

 North Option-25 Miles through GANPP

 South Option-17 Miles through GANPP

 Approximate Helicopter Landing Locations*

*Helicopter landing locations subject to change depending on site specific conditions



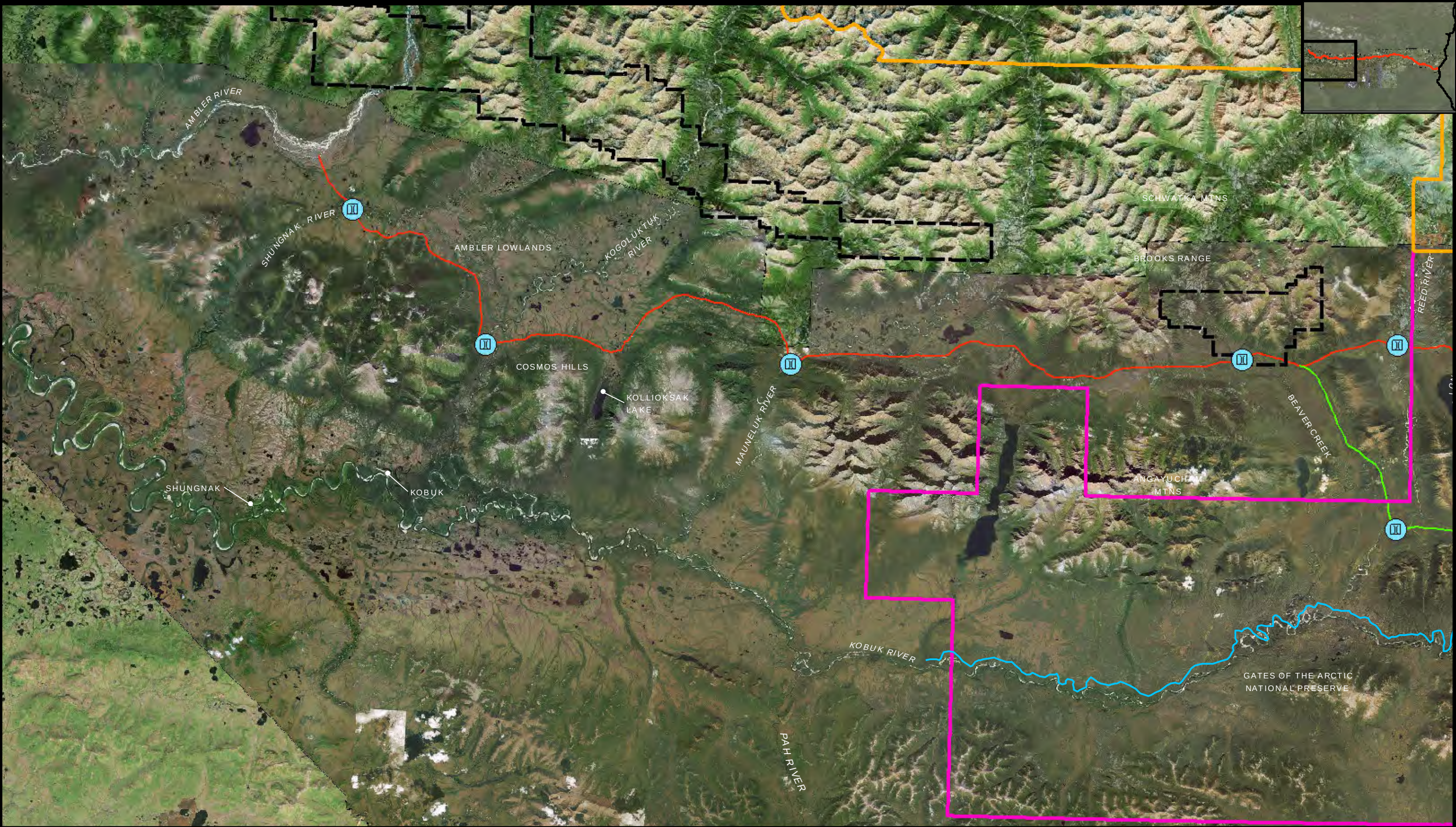
Coordinate System: NAD 1983 Alaska Albers

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION

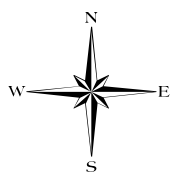
AMBLER MINING DISTRICT ACCESS

2013 BROOKS EAST CORRIDOR - GANPP
WETLANDS AND VEGETATION

DATE: February 19, 2013



- | | | |
|--|-----------------------|--|
| Brooks East Corridor
203 Miles-25 Miles through GANPP | Existing Roads | Gates of the Arctic National Park
(National Wilderness Preservation System) |
| Southern Brooks East Corridor Option
218 Miles-17 Miles through GANPP | Large Bridges | Gates of the Arctic National Preserve
(National Park Service) |
| Ambler Mineral Belt | Wild and Scenic River | Kanuti National Wildlife Refuge |



0 2 4 8
Miles

Source:
Gates of the Arctic: DNR
Wild and Scenic River: DNR
Aerial Imagery: i-Cubed 2012
Background Image: alaskamapped.org
Coordinate System: NAD 1983 Alaska Albers

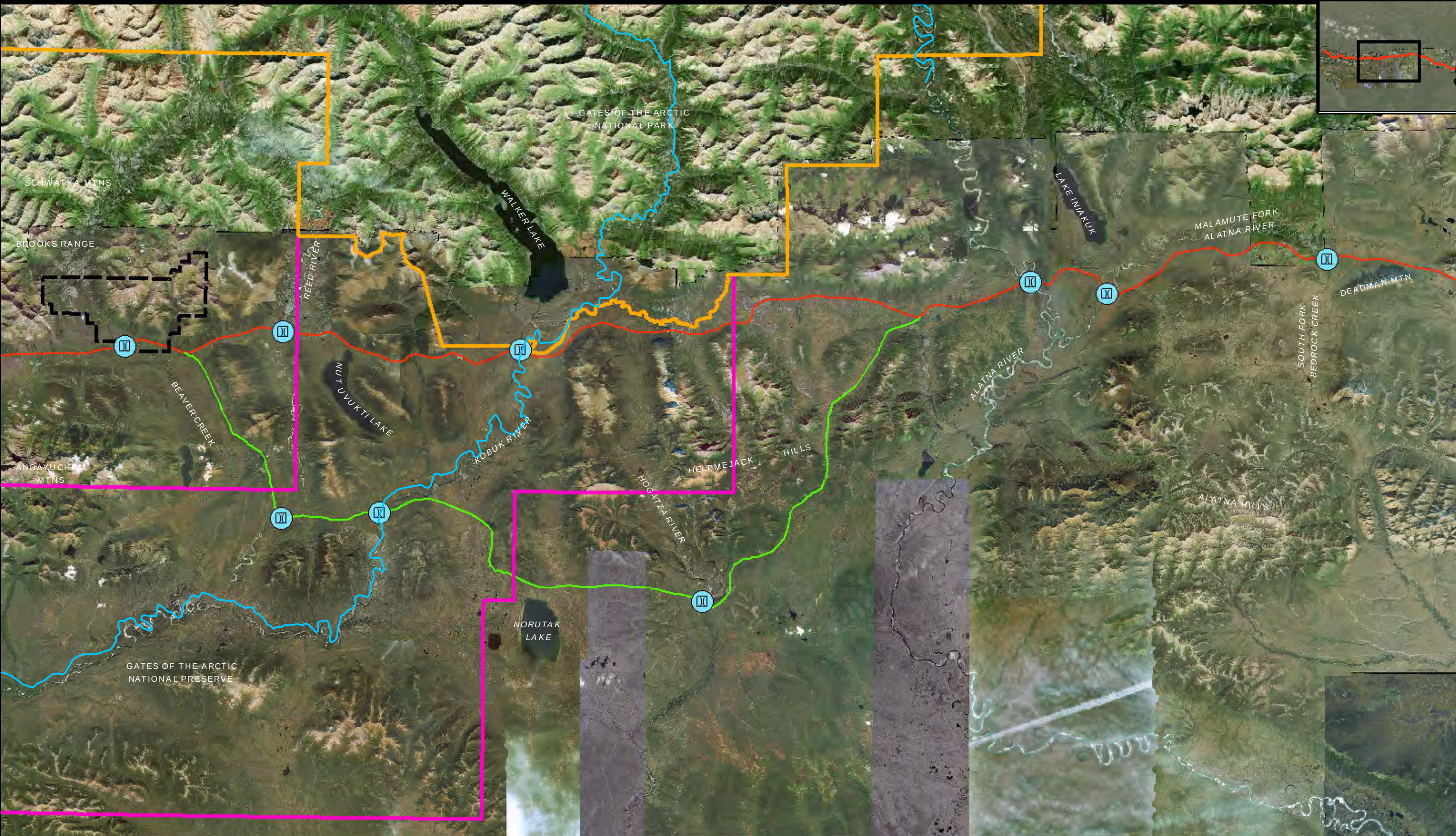
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PROPOSED BROOKS EAST CORRIDOR

DATE: February 25, 2013

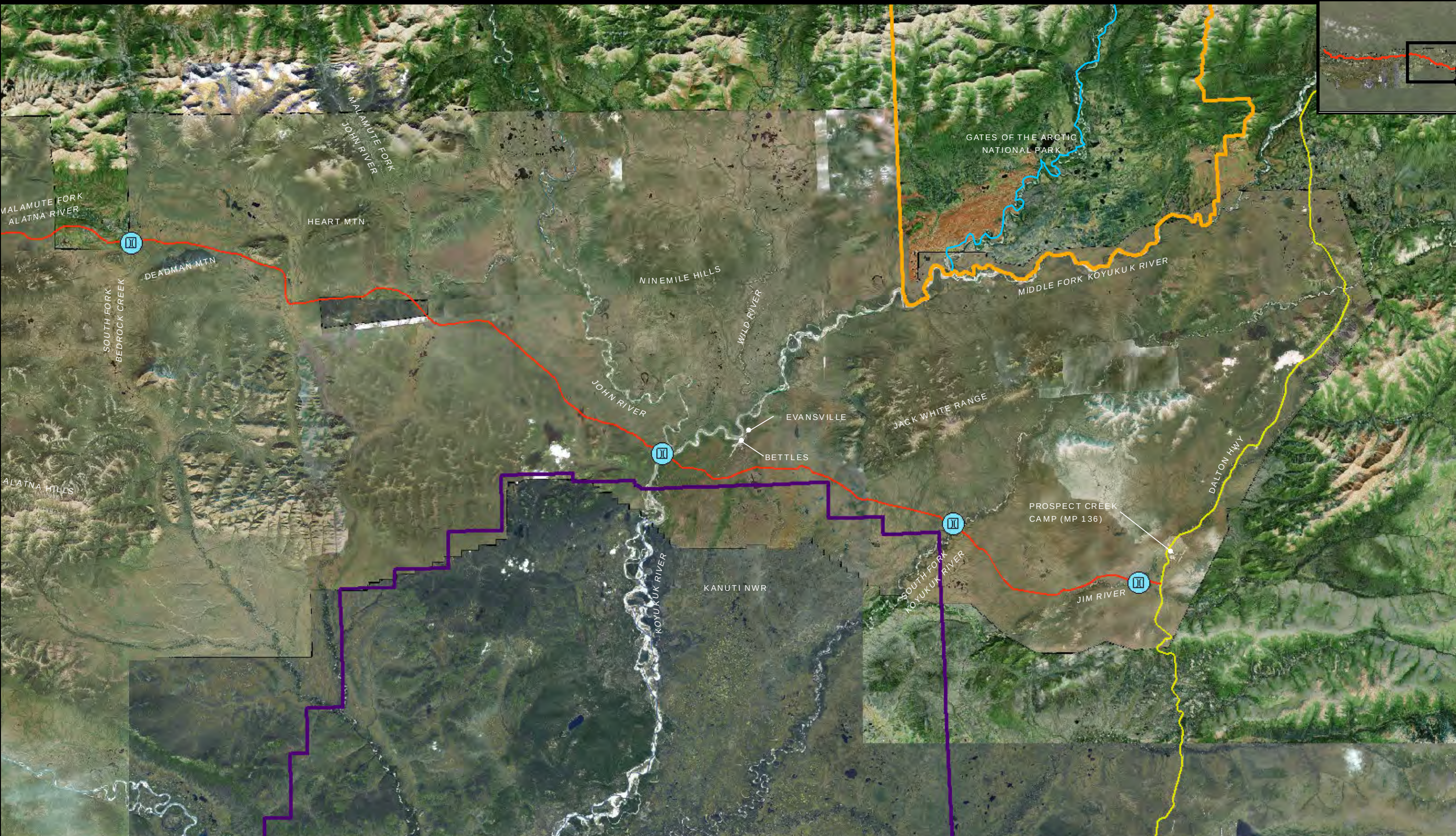
Figure 1



Brooks East Corridor 203 Miles-25 Miles through GANPP	Existing Roads	Gates of the Arctic National Park (National Wilderness Preservation System)
Southern Brooks East Corridor Option 218 Miles-17 Miles through GANPP	Large Bridges	Gates of the Arctic National Preserve (National Park Service)
Ambler Mineral Belt	Wild and Scenic River	Kanuti National Wildlife Refuge

Source:
Gates of the Arctic: DNR
Wild and Scenic River: DNR
Aerial Imagery: i-Cubed 2012
Background Image: alaskamapped.org
Coordinate System: NAD 1983 Alaska Albers

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES NORTHERN REGION	
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PROPOSED BROOKS EAST CORRIDOR	
DATE: February 25, 2013	Figure 2



Brooks East Corridor 203 Miles-25 Miles through GANPP	Existing Roads	Gates of the Arctic National Park (National Wilderness Preservation System)
Southern Brooks East Corridor Option 218 Miles-17 Miles through GANPP	Large Bridges	Gates of the Arctic National Preserve (National Park Service)
Ambler Mineral Belt	Wild and Scenic River	Kanuti National Wildlife Refuge

Source:
Gates of the Arctic: DNR
Wild and Scenic River: DNR
Aerial Imagery: i-Cubed 2012
Background Image: alaskamapped.org
Coordinate System: NAD 1983 Alaska Albers

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES NORTHERN REGION	
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PROPOSED BROOKS EAST CORRIDOR	
DATE: February 25, 2013	Figure 3

Ambler Access 2013 Fieldwork

Draft Schedule

April 3 - 10: UAF Basin Scale Snow Survey - UAF

- 7 days helicopter access; 2 staff; 1 pilot

Mid-May: Breakup Survey

- 5-day helicopter survey; 3 staff; 1 Subsistence Advisor; 1 pilot

May 8-May 26: Spring Breakup Survey River Gaging - UAF

- 10-14 day daily helicopter access; 2 staff; 1 pilot

1st week of June: Fish Surveys

- 7 days; 4 staff; 1 Subsistence Advisor; 1 pilot
- 3 days within GANPP, 8 landing sites proposed, each to be visited on two or three successive days

June 10-20: Bird surveys (Raptor Nest Aerial Surveys) – R44

- 7 days; 2 staff; 1 pilot
- No landing proposed in GANPP

July 5 -7: Additional H&H in GANPP on Kobuk and Reed Rivers

- 3-day helicopter survey within GANPP; 3 staff; 1 Subsistence Advisor; 1 pilot
- Approximately 8 landing sites proposed

July 10 – 22: JD Level Wetlands Delineation

- 14 days; 6 staff, 1 Subsistence Advisor, 1 pilot
- 5 days within GANPP

Mid July: Summer River Gaging – UAF

- 2 day helicopter access within GANPP; 2 staff; 1 pilot
- Kobuk River landing site

July 15-25: Bird surveys (Raptor Nest Aerial Surveys) – R44

- 5 days; 2 staff; 2 pilot/mechanic
- No landing proposed with GANPP

July 23 – August 1: Archaeological Reconnaissance Trip

- 10 days; 3 staff; 1 Subsistence Advisor; 1 pilot
- Approximately 5 days within GANPP, 30 landing sites proposed

August 2 - 16: JD Level Wetlands Delineation

- 14 days; 6 staff, 1 Subsistence Advisor, 1 pilot
- Approximately 5 days within GANPP

Ambler Access 2013 Fieldwork

Draft Schedule

3rd week of August 17 -24: Fish Surveys

- 7 days; 4 staff; 1 Subsistence Advisor, 2 pilot/mechanic
- 3 days within GANPP, 8 landing sites proposed, each to be visited on two or three successive days

Mid-September: Fall River Gaging/Winterizing – UAF

- 3 day helicopter access; 2 staff; 1 pilot
- Kobuk River landing site

Timing of all surveys will be coordinated with ADF&G and NPS, and will depend on local conditions. Annual variability in conditions could alter survey schedule by 2-4 weeks.