



June 30, 2016

Submitted electronically to Joseph_Durrenberger@nps.gov

Mr. Joseph Durrenberger
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National Park Service
240 West 5th Avenue
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Subject: Ambler Mining District Industrial Access Project
Revised ANILCA SF299 Consolidated Application Submittal

The Alaska Industrial Development and Export Authority (AIDEA) is proposing the Ambler Mining District Industrial Access Project (AMDIAP or the "Project"), from the Dalton Highway to the Ambler Mining District in Northwest Alaska. AIDEA submitted a consolidated Transportation and Utility System right-of-way (ROW) application (SF299) under the Alaska National Interest Lands Conservation Act (ANILCA) to your office, the Bureau of Land Management, the Federal Highways Administration, the U.S. Coast Guard and the U.S. Army Corps of Engineers on November 24, 2015. AIDEA received your response to that submittal on January 22, 2016 and a subsequent approval of an extension to June 30, 2016 to respond to agency requests for additional information under ANILCA. This Revised SF299 Consolidated application responds to your comments and those of the other relevant federal agencies. The Revised SF299 Consolidated Application is being provided electronically via an Info Exchange transmittal, as well as on a DVD that will be hand delivered with this letter.

This Revised SF299 Consolidated Application is submitted pursuant to Section 201(4) of ANILCA [16 U.S.C. § 410hh (4)], which requires the submission of a consolidated application in accordance with the procedural requirements of Section 1104 of ANILCA [16 U.S.C. § 3164] including simultaneous submission to all relevant agencies. See ANILCA § 1104(b),(c) [16 U.S.C. § 3164(b),(c)]. This revised submittal provides information required by the SF299 consolidated application form developed by the Department of the Interior (DOI), as well as additional information requested by each specific agency. In order to limit the amount of duplication, materials are referenced between the various sections of the application where appropriate. We recommend that each agency review the entire consolidated application to gain the best overall understanding of the Project.

To more clearly delineate the information most relevant to each agency, the application was reorganized into following new sections:

Section 1: AIDEA Supplemental Information

Section 2: Corridor Supplemental Narrative (This section is applicable to all reviewers.)

Section 3: National Park Service Supplemental Narrative

Mr. Joseph Durrenberger
National Park Service Cover Letter
June 30, 2016

Ambler Mining District Industrial Access Project
Revised SF299 Consolidated Permit Application
Page 2 of 2

Section 4: Bureau of Land Management Supplemental Narrative

Section 5: U.S. Army Corps of Engineers Section 404 Permit Application

Section 6: U.S. Coast Guard Bridge Permit Application

The comments in your January 22, 2016 letter on the original SF299 Consolidated Application have been summarized and are addressed in the attached spreadsheet. Hyperlinks to the relevant locations in the Revised SF299 Consolidated Application are provided in the electronic version of the spreadsheet on the DVD and submitted electronically.

We appreciate your time and consideration on our Revised SF299 Consolidated Application and hope the information provided allows you to deem the application sufficient. Please feel free to call me if you have any questions or require any additional information.

Sincerely,



Mark Davis
Chief Infrastructure Development Officer – AIDEA
Alaska Industrial Development Finance Authority

Cc: Jeffrey San Juan, AIDEA
Maryellen Tuttell, DOWL
Rear Admiral Michael F. McCallister, USCG
JN Helfinstine, USCG
Katherine A. McCafferty, USACE
Timothy La Marr, BLM

Blue text indicates a hyperlink to information in the Revised SF299 Consolidated Application files.

Number	Issue	Request	Response	Location in June 2016 Revised SF299 Consolidated Application
1	ROW Ownership and Responsibility	What entity would hold the ROW permit and who would own the road and other improvements? Who would be responsible for maintenance?	Additional information has been added to pg 1 to clarify: AIDEA would hold the ROW granted and the road, but may procure road design, construction, maintenance and operation services through third-parties. This is a proven AIDEA business model and was successfully used to construct the Delong Mountain Transportation System (DMTS) which provides access to the Red Dog Mine in northwest Alaska. AIDEA owns the DMTS but it was constructed and is operated and maintained by private parties under contract to AIDEA.	Section 3: Page 1
2	Application Form	Pursuant to AS 44.88.020, AIDEA is a public corporation, and thus Box 4(b) should be checked, not 4(d). <i>Note: the supplemental page has been completed correctly.</i>	Corrected.	Revised SF299 Application Form
3	Corridor Endpoints	Identify the corridor endpoints for the information provided in Table 1. Use stationing or some other clearly definable feature referenced in the plan and profile maps.	The lat/long and stationing at the west end and east end of the corridor through GAAR has been added at the top of the table and referenced in the text on pg 1: The preferred alignment starts near Station 3950+00 (Latitude 67.0338/Longitude -154.8055) and continues to near Station 5325+00 (Latitude 67.0434/Longitude -153.9265). And pg 3: The alternative alignment starts at Station 505+00 (Latitude 66.9094/Longitude -154.8516) and continues to Station 1445+00 (Latitude 66.8401/Longitude -154.3660).	Section 3: Table 1
4	Wetlands	Clarify in a footnote to Table 1 that the wetland impact quantities listed in Table 1 are jurisdictional wetlands only.	All wetlands were considered jurisdictional. Note clarifying this has been added to Table 3A-1 in Appendix 3A: All mapped wetlands were considered to be jurisdictional wetlands under the Clean Water Act.	Section 3: Appendix 3A Table 3A-1
5	Wetlands	Add another line to Table 1 for non-jurisdictional wetland impacts.	See response above. No wetlands considered non-jurisdictional.	N/A
6	Project Footprint	Identify the limits used to calculate the overall project footprint. Is it the daylight limits or does it include areas of temporary activity within the construction limits of the project. Provide the footprint of temporary activities if not already included in the overall project footprint. Alternatively, you may revise the overall project footprint to reflect the construction limits for that portion of the project located within the Preserve.	Clarification was added to narrative: Table 1 summarizes the overall project footprint and the footprint of each of the major project elements within GAAR for both the preferred and alternative corridors. The footprint is based on the daylight limits for the project elements. Temporary construction effects are estimated with a 10-foot buffer around the daylight limits. Permanent and temporary impacts in wetlands and streams are discussed in more detail in the U.S. Army Corps of Engineers (USACE) application (Section 5: Tables 4 through 6).	Section 3, Page 2 Section 5: Tables 4-6
7	Stream Impacts	What are the criteria for stream impacts in Table 1 and how were they determined? How were the linear feet of disturbance figures generated?	Impacts included in Table 3A-1 in Appendix 3A are based on acres of fill in open water and streams. Fill areas in ponds are estimated based on the road embankment footprint. Fill areas in streams are based on proposed riprap design at bridge crossing locations. Linear stream impacts are addressed further in the USACE permit application narrative in Section 5: Table 6.	Section 3: Appendix 3A-1, Table 3A-1 Section 5: Table 6
8	Project and Road Footprints	Add a new row in Table 1 for footprint of the primary road, exclusive of service roads, material sites, and ancillary facilities. Clarify that the overall project footprint includes impacts of all types.	Table 3A-1 in Section 3: Appendix 3A provides a detailed breakout of the Overall Project Footprint (all inclusive) and the footprint of each project component. A summary table is provided in the narrative.	Section 3: Appendix 3A, Table 3A-1

9	Fiber Optic Communications Line	State whether the communications cable is required for the operation of the proposed road, or is for other purposes. State who will own and operate the fiber optic utility. Describe the associated facilities required for this utility and show where they will be located.	AIDEA has determined that it will not propose installation of fiber optic cables as part of this project; however, AIDEA would note the possibility that communications companies may be interested in installing communications cables in the future and that this eventuality should be considered as a reasonably foreseeable project occurrence in the environmental review process.	N/A
10	Local Hauling	Section 15(C) describes the potential for local communities to hire commercial transportation providers to haul fuel or freight to staging areas that would be accessed by those communities. What other ancillary facilities related to these activities, if any, are also proposed?	No ancillary facilities are proposed for these uses. Communities would be responsible for any access between their community and the road and any staging area not shown in this proposal. This has been clarified in the narrative: Other permitted traffic at times could include commercial deliveries of goods for local communities or commercial transport for local residents and emergency response authorized through access permits. Only commercially licensed drivers would be allowed on the road. The traffic level for these local community and emergency response operations would likely total less than one truck or bus per week. No additional work outside the approved ROW would occur to accommodate this.	Section 2: Page 5
11	Culverts	Table 2 indicates 32 major culverts. Table 3 on the same page indicates a combined total of 34 small and large major culverts. Table 1 in the USACE SF-299 application indicates 34. Please clarify.	Culvert numbers have been verified and updated in Section 2: Tables 1 and 2.	Section 2: Tables 1 and 2
12	Design Speed	Provide the design speed for the road.	Added informaton on design speed (50 mph). The design speed for the road is 50 mph but it is anticipated that sections may be posted for lower speeds. Actual operating speeds are likely to be lower, particular in phases with a one-lane road that would require pilot cars to guide traffic.	Section 2: Page 4
13	Material Sites and Alternative Alignments	Table 2 indicates 40 material sites for each alternative. Section 7(h) indicates 40 material sites for the entire preferred and 30 for the alternative alignment. Please clarify.	Table 1 shows that 1 material site is estimated for each alternative within GAAR. Table 2A-2 in Section 2: Appendix 2A shows the features for the entire length of the corridor. There are 41 material sites identified for the preferred corridor and 46 material sites identified for the alternative corridor from the Dalton Highway to the Ambler Mining District.	Section 2: Appendix 2A, Table 2A-2

14	Gravel Needs	<p>Please provide an estimate of the gravel required within the boundaries of the Kobuk Preserve for the initial construction of the full buildout, Phase III, project as well as the anticipated gravel need for maintenance over the proposed 50 year term of the ROW. Verify these needs have been allowed for in the determination of material site size and location.</p>	<p>Information on needed materials and availability has been added as follows: Construction of Phase III (full build out) of the entire corridor from the Dalton Highway to the Ambler Mining District will require an estimated 12.3 million cubic yards (cy) of fill. Roadway borrow material for embankments would likely be Type C Selected Material, a clean fill material low in organics and frozen matter. It is anticipated structural fill would be made up of Type A or Type B Selected Material and the surface course would be constructed with either D-1 or E-surface material. Riprap needs are estimated at 100,000 cy. Maintenance needs are estimated at 2 inches of material over the entire road each year for the 50-year road life. A total of 41 potential material sites have been identified along the corridor. These sites have an estimated capacity to provide 10.25 million cy of riprap and 42.23 million cy of gravel, so these sites have sufficient resources for the project.</p> <p>Construction of the portion of the preferred road corridor within the Kobuk Unit of GAAR would require an estimated 1.77 million cy beyond materials available from cuts within GAAR. Road maintenance over the life of the project would require an estimated 1.36 million cy, based on 2 inches of material over the road surface every year for 50 years. This results in a total need for 3.13 million cy in GAAR over the 50-year life of the project. The estimated material available from the identified material site on the preferred corridor within GAAR is 180% of the total estimated need.</p> <p>An estimated 2.16 million cy would be needed for road construction on the alternative corridor through GAAR, beyond materials available from cuts within GAAR. Maintenance would require an estimated 0.93 million cy, based on 2 inches of material over the road surface every year for 50 years. This results in a total need for 3.09 million cy in GAAR over the 50-year life of the project. The estimated material available from the identified material site on the alternative corridor within GAAR is 134% of the total estimated need.</p>	<p>Section 3: Page 5</p>
15	Soil Conditions	<p>Typical fill sections shown in Appendix 4-A Fig 2A appear to be for good, moderate, and poor soil conditions. Quantify the percentage of the ROW estimated to be in good, moderate, and poor soil conditions for both alternatives.</p>	<p>Information on percentage of ROW estimated as good, moderate and poor soil conditions has been added. For the portion of the preferred corridor within GAAR, an estimated 80% of the corridor has poor soils and would require embankments of greater than 96 inches and the remainder of the corridor has moderate soils and would require embankments of 72 to 96 inches. The alternative alignment through GAAR is estimated at 85% poor soils and 15% moderate soils.</p>	<p>Section 2: Page 4</p>
16	Phasing and Hydrology/Permafrost	<p>The application indicates it may be a decade or longer before the transition from Phase II to Phase III development. Please elaborate on how drainage structures such as culverts, engineering methods for preserving hydrologic connectivity across the road in wetlands, and mitigation measures for addressing thawing of forzen soils in permafrost areas will be implemented in the proposed phased approach to construction.</p>	<p>Drainage structures will be designed for full buildout and installed to meet full buildout needs in initial phase. See response to #27 below for more information on hydrology and permafrost. Drainage structures installed in Phase I construction will be designed to accommodate expansion of the road to full buildout (Phase III) in later construction phases in order to allow for a single installation program for drainage infrastructure.</p>	<p>Section 2: Page 6</p>
17	Phasing Transitions	<p>Provide information regarding the factors that will determine when the project moves from one phase of development to the next. What conditions will prompt the transition from the pioneer phase to construction of Phase II? What factors will determine the transition from Phase II to Phase III?</p>	<p>Phasing will depend on level of mine activities as discussed in Section 2: page 5. The transition from one phase of the road to another would occur over time and would only proceed as needed based on activity levels in the district and the number of mines in production or being developed, which determines the demand for transportation capacity. The seasonal pioneer road is expected to be sufficient for continuing exploration and initial mine development. Once mine operations reach a level that requires ore shipments and year-round access, construction of Phase II would commence. Phase III would be constructed once traffic volumes on the road justify upgrading to two lanes.</p>	<p>Section 2: Page 6</p>

18	Traffic Estimates	Clarify whether traffic estimates include maintenance and non-mine related traffic occurring under other commercial uses. Provide estimates for this additional traffic if not already included.	Additional information added on pg 4: Other permitted traffic at times could include commercial deliveries of goods for local communities or commercial transport for local residents and emergency response authorized through access permits. Only commercially licensed drivers would be allowed on the road. The traffic level for these local community and emergency response operations would likely total less than one truck or bus per week. No additional work outside the approved ROW would occur to accommodate this.	Section 2: Page 5
19	Migratory Bird Treaty Act	Please acknowledge that construction activities will need to comply with the provisions of the Migratory Bird Treaty Act.	Added possible restrictions for compliance with MBTA. Revised as follows: Construction on the pioneer road would likely take place year round, other than possible restrictions during spring breakup or bird nesting periods in compliance with the Migratory Bird Treaty Act.	Section 2: Page 6
20	Reclamation	Reclamation and revegetation is also likely to occur during construction phases at temporary work areas and as part of the mitigations discussed in 17(c). Reclamation and revegetation is also mentioned as a potential mitigation measure in 17(b). Please expand the discussion of reclamation and revegetation to include these circumstances.	Stabilization and restoration of disturbed sites and use of these measures to reduce visual and water quality effects has been added as follows: Stabilization and restoration of sites disturbed during construction activities would occur in a timely manner as work is completed. Disturbed soils would be stabilized and revegetated with native plant materials to reduce visual impacts and the potential for soil erosion and sediment discharge.	Section 2: Page 7
21	Comparative Evaluation of Alternatives (11 Criteria)	Please provide a comparative evaluation of the preferred and alternative corridor as done in Section 6 of the DOT&PF Summary Report (Appendix 4-E) using the same 11 criteria. The limits of the evaluation should be Station 3600+00 on the west end and station 5915+00 on the east end (west and east junctions of the north and south corridors). Provide the results in table format similar to Table ES-5 and ES-6.	A comparative evaluation of the corridors noted using the 11 criteria and ranking system from the DOT&PF summary report is provided in Table 3 on pg 7.	Section 3: Table 3
22	Medium Bridge Quantity	The statement on page 10 that the southern option would require two additional medium bridges is at variance with the route summaries provided in Tables 1, 2, and 3 in sections 7(a) and 7(c). Please clarify.	Bridge numbers have been clarified on Table 1 and the reference to more bridges on the alternative corridor has been removed.	Section 3: Table 1
23	Potentially Crossing Wilderness Designated Lands	Although not mentioned in the Project Description, maps show the proposed road alignment crossing NPS-managed lands on the eastern side of Gates of the Arctic National Park, as well as the western national preserve unit. This occurs in T25N, R16W, Section 6, Fairbanks Meridian. That is a tract of federal land of approximately 240 acres that lies within Gates of the Arctic National Park and is congressionally designated wilderness. The NPS has no authority to issue a ROW permit for a road across this tract under ANILCA 201. The Title XI procedures for processing an application for a ROW which would cross designated wilderness or which would cross an area for which the managing agency lacks authority to issue such a ROW, are presented in 43 CFR 36.7(b) and Section 1106(b) of ANILCA. Unless the application is revised, and the proposed alignment avoids crossing this tract in the eastern end of Gates of the Arctic National Park, the application will be process in accordance with 43 CFR 36.7(b) and section 1106(b) of ANILCA.	The corridor alignment has been refined to avoid the isolated NPS inholding between State and ANCSA lands. See Figure 3-3 in Section 3: Appendix 3A.	Section 3: Appendix 3A, Figure 3-3 (sheet 3)

24	Wild and Scenic Rivers Act Review Requirement	In the Table 6 list of required permits, add the need for a review under Section 7(a) of the Wild and Scenic Rivers Act (Public Law 90-542; U.S.C. 12371 et seq.). Such a review is triggered by both the USACE CWA Sec. 404 and the Rivers and Harbors Act of 1899 Sec. 10 permit applications. The NPS performs this review under delegated authority from the Secretary of the Interior.	Table 7 in Section 2 has been updated to include the Section 7(a) of the Wild and Scenic Rivers Act review.	Section 2: Table 7
25	Second Best Alternative Ignoring CSUs	AIDEA identified the Elliot Highway Corridor route as the next best alternative based solely on the fact that it is the only alternative that completely avoids all conservation system units (CSUs). However, ANILCA allows for the route to pass through one or more CSUs, and thus avoidance of CSU is not controlling. Please identify the next best alternative based on the same engineering, cost, environmental, and other concerns that form the basis for selecting your proposed route (i.e., if the proposed route was not possible, which route would AIDEA apply for instead?).	<p>The Park Service has asked what route would be preferred by AIDEA if its proposed route across the GAAR was not possible. Consideration of alternative routes is a matter governed by ANILCA. AIDEA submitted its November 2015 SF299 Consolidated Application pursuant to section 201(4) of ANILCA. This section of the statute expressly provides access to the Ambler Mining District by means of a surface transportation route. That route is by statute to be one across the Western unit of the GAAR from the Dalton Highway to the Ambler Mining District. In the original application and in theisrevision, AIDEA included both a preferred (northern) and alternative (southern) route across the GAAR consistent with the access set forth in Section 201(4) of ANILCA. Each of these routes goes through a CSU. In its original submission, and as provided again in this revised submission, there are identified several possible alternatives that were developed by the DOT&PF. In this Revised SF299 Conosolidated Application, AIDEA provided information on why each of these alternatives is not an economically and environmentally feasible alternative. See Section 2: Table 4; see also the discussion of alternatives at pages 8-11 of Section 2.</p> <p>While all of the possible alternatives identified in Section 2: Table 4 present significant challenges, the Elliott Highway, amongst those alternatives and excluding the route described expressly in ANILCA, minimized environmental impacts more than other options listed. Such minimization includes, but is not limited to, potential effects on endangered species and the migration and habitat for the Western Arctic Caribou Herd. This explains the ranking of the Elliott Highway route in Section 2: Table 4. Based on these parameters, the Elliott Highway is listed as the next best route that does not cross the GARR based on a number of environmental and economic factors, and that determination is not based solely on the circumstance that it does not cross a CSU.</p>	Section 3: Page 7
26	Request for Economic Impact Study	Provide the "Ambler Mining region Economic Impact Study" RFP Number 2014-08000-2141 prepared by the McDowell Group.	The report produced under the "Ambler Mining Region Economic Impact Study" RFP Number 2014-08000-2141 and prepared by the McDowell Group was provided electronically to Joe Durrenberger on June 13, 2016.	N/A
27	Phasing and Hydrology/Permafrost	Describe how impacts to permafrost and effects on surface water quality and quantity will be mitigated given the phased approach proposed for construction. For instance, how will drainage structures such as culverts be effective in ensuring free flowing water, preventing erosion and damming, and maintaining fish passage throughout the time period suggested for the three phases of construction? Describe measures to ensure that road design and construction methods will be sufficient during the pioneer phase for the loads anticipated and that effects on permafrost condition and other impacts are mitigated. Please elaborate on how drainage structures such as culverts, engineering methods for preserving hydrologic connectivity across the road in wetlands, and mitigation measures for addressing thawing of forzen soils in permafrost areas will be implemented in the proposed phased approach to construction.	Impacts to permafrost and surfac waters has been addressed in detail in additional information on pgs 24-27 in the Corridor Supplemental Narrative (Section 2).	Section 2: Page 24-27

28	Editing/ Administrative	The water quality data referred to on page 24 of the NPS Narrative is in Appendix 4K, not 4G.	Water quality data collected during fishery studies is now within Section 2: Appendix 2E.	Section 2: Appendix 2E
29	Reclamation and Mitigation	Expand the discussion on revegetation and reclamation to include possible mitigation of permafrost loss and changes in seasonal water flow.	<u>Additional information has been added on pg 6. Stabilization and restoration of sites disturbed during construction activities would occur in a timely manner as work is completed. Disturbed soils would be stabilized and revegetated with native plant materials to reduce visual impacts and the potential for soil erosion and sediment discharge. Reclamation of the industrial access road and support facilities are proposed once material exploration and mine operations in the Ambler Mining District are completed and when a surface transportation corridor to the region is no longer necessary.</u>	Section 2: Page 6
30	Hydroconnectivity	Provide further discussion of measures to preserve groundwater and surface water connectivity across the road. The current statement is insufficient.	Additional information on impacts to groundwater and surface water connectivity has been provided on pgs 24-27 in the Corridor Supplemental Narrative (Section 2).	Section 2: Page 24-27
31	Overflow Culverts and Bridge Span Decisions	"Where practical, overflow culverts will be installed or bridge spans increased to improve floodplain connectivity." Explain the decision-making process that will determine when overflow culverts and increased bridge spans will be implemented.	Additional information on hydrology decision-making has been provided on pgs 24-27 in the Corridor Supplemental Narrative (Section 2).	Section 2: Page 24-27
32	Wetland Delineation Report Copy	The cover sheet on Appendix 4-I indicates the printed copy is an excerpt from the Preliminary Wetland Delineation Report and that the complete report can be found on the DVD. However, the DVD contains only the excerpts. Please provide the full delineation report in digital format.	This full contents of the Preliminary Wetland Delineation Report is provided on the DVD attached to the back cover of the SF299 application submitted in November 2015.	N/A
33	Floodplain Statement	A Wetland and Floodplain Statement of Findings will be required, once a preferred alignment is selected, in order to maintain compliance with NPS Director's Order #77-1 and NPS Director's Order #77-2 and is required before a ROW permit can be issued.	The Wetland and Floodplain Statement of Findings are addressed in Section 2: Table 7 in the Corridor Supplemental Narrative.	Section 2: Table 7
34	GIS Data (Daylight Limits for All Activity)	Provide current GIS data that shows the temporary and permanent impacts from road construction (referred to by the Applicant as "daylight limits") in equal detail for both the northern and southern alignments within Gates of the Arctic National Preserve. The updated GIS layer should show the limits of construction and disturbance footprint for the two-lane road, all material site boundaries, water access roads, airstrips, vehicle turnouts, and all other ancillary construction activity locations and extent within the park boundaries for both alternatives. All information provided should be updated to reflect the full project build out (Phase III) and include all construction daylight limit boundaries for permanent and temporary impacts.	GIS data with the most current alignment and project element footprints are being provided with the submittal of the Revised SF299 Consolidated Application.	N/A

35	Wetlands Functional Assessment	Complete a functional assessment of existing wetland conditions, and evaluation of functional change resulting from road construction, of the affected wetland within Preserve boundaries for each alternative alignment, using the Hydrogeomorphic Approach (HGM), Rapid Assessment Level. The Alaska Interior Wetlands Functional Assessment Guidebook is available at: http://dec.alaska.gov/Water/wnpspc/wetlands/interiorhgm.htm and https://dec.alaska.gov/water/wnpspc/wetlands/interior_operational_draft_may_1999b.pdf	AIDEA has agreed to fund a consultant to complete a functional assessment for NPS using an NPS-drafted Scope of Work and Methodology that addresses these issues. The PS will be part of the evaluation committee that will select a third-party contractor to perform this work.	N/A
36	Wetlands Functional Assessment	Provide the HGM Assessment Report as described in the Guidebook. The report must contain an evaluation of the effects of construction on the functional values of the different types of wetlands including unique systems such as the Nutuvukti Fen, floodplain wetlands of the three unnamed rivers, and the Kobuk riverine crossing.	AIDEA has agreed to fund a consultant to complete a functional assessment for NPS using an NPS-drafted Scope of Work and Methodology that addresses the issues in comment 35. The PS will be part of the evaluation committee that will select a third-party contractor to perform this work.	N/A
37	Wetland Functional Assessment - Hydrology	The evaluation must give significant consideration to, and evaluation of, groundwater and surface water hydrology impacts that will occur in wetlands that are up-gradient and down-gradient of any road construction disturbance footprint.	AIDEA has agreed to fund a consultant to complete a functional assessment for NPS using an NPS-drafted Scope of Work and Methodology that addresses the issues in comment 35. The PS will be part of the evaluation committee that will select a third-party contractor to perform this work.	N/A
38	CadnaA Model	Provide an electronic copy of the CadnaA model used to create this analysis.	The CadnaA model input file was provided to the NPS on June 15, 2016.	N/A
39	GIS Data for Alternative Alignment	Supply GIS layers for the northern and southern alignments at an equal level of detail. Include proposed material and rip rap sites, proposed landing strips, access roads, and stream crossings for the alternative (southern) alignment.	GIS data with the most current alignment and project element footprints are being provided with the submittal of the Revised SF299 Consolidated Application.	N/A
40	Quantities for New East End	Please verify the potential impacts areas used in Tables 10, 11, and 12 have been revised to incorporate the new alignment at the east end of the project.	All tables have been updated to reflect the currently proposed corridor north of Evansville/Bettles.	Section 2: Tables 10 through 12
41	Ores and Chemical Composition	Describe the chemical composition (i.e., copper sulfide) and typical concentration of the ore concentrates expected to be transported from the Ambler Mining District.	Information on concentrate composition had been added on pg 49-50 and Table 17. The Ambler Mining District contains a very wide variety of mineral deposits that have been evaluated over many decades as detailed in a DOI Geological Survey 1977 Regional Alaska Mineral Resource Program publication on mineral resources in the Brooks Range (Grybeck, 1977). A variety of concentrates may be transported from the various mining prospects in the Ambler Mining District, including copper, lead, zinc, gold, silver and others. Mineral deposits are heterogenic in mineral composition and physical form which complicates predicting precise product characterization. The published PEA on the Arctic deposit in the Ambler Mining District provides some information on components of the ore concentrates. Assay results on copper, lead and zinc concentrates at the Arctic deposit are presented here in Table 16.	Section 2: Page 51

42	Cultural Resources Survey Schedule	Many sections of the proposed alignment are outside of the area covered by preliminary archaeological surveys. Describe plans and schedule for conducting a complete inventory of historic properties within the proposed ROW and the broader project area to include material sources, access roads, material sites, airstrips, and other facilities.	Text was added recognizing that additional field work may be needed in GAAR. Refinement of the corridor through GAAR has also resulted in some alignment adjustments that include areas outside the study area of the studies conducted in GAAR. It is anticipated that additional work would be conducted on the east end of the corridor and in GAAR upon completion of the scoping process.	Section 2: Page 41
43	Corps Map Updates	Provide stationing, drainage structures and other information missing from pages 201 to 250 and 325 to 417 of Map Set 1.	Corps maps have been reprinted to reflect stationing, drainage structures, etc.	Section 5: Appendix 5B