

**West Susitna Access Reconnaissance Study
West Susitna Access to Resource Development**

Transportation Analysis Report

7 SUMMARY AND NEXT STEPS

Prepared for:



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Acronyms

AAC	Alaska Administrative Code
AASHTO	American Association of State Highway and Transportation Officials
ADF&G	Alaska Department of Fish and Game
ADL	Alaska Division of Land
AEA	Alaska Energy Authority
AIDEA	Alaska Industrial Development and Export Authority
AMHT	Alaska Mental Health Trust
ANCSA	Alaska Native Claims Settlement Act
ARDF	Alaska Resource Data File
ARTEC	Alaska Railbelt Transmission and Electric Company
AS	Alaska Statute
ASCMCRA	Alaska Surface Coal Mining Control and Reclamation Act
ATV	all-terrain vehicle
bbbl	barrels
BIF	best interest finding
BLM	U.S. Bureau of Land Management
bpd	barrels per day
CEA	Chugach Electric Association
CBM	Coalbed Methane
CIE	Cook Inlet Energy, LLC
CIRI	Cook Inlet Region, Inc.
CWA	Clean Water Act
DEM	digital elevation model
DGGS	Division of Geologic and Geophysical Surveys
DNR	Alaska Department of Natural Resources
DOF	Division of Forestry
DOG	Division of Oil and Gas
DOT&PF	Alaska Department of Transportation and Public Facilities
DPOR	Department of Parks and Outdoor Recreation
EIS	environmental impact statement
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FMU	Forest Management Unit
GIS	Geographic Information System
GMU	Game Management Unit
KPB	Kenai Peninsula Borough

KPEDD	Kenai Peninsula Economic Development District
LNG	liquid natural gas
mcf	million cubic feet
MEA	Matanuska Electric Association
Mgal	million gallons
ML&P	Municipal Light and Power
MLW	Mining, Land and Water
MOA	Municipality of Anchorage
MSB	Matanuska-Susitna Borough
MW	megawatt
NHCC	National Highway Construction Cost Index
NPR-A	National Petroleum Reserve – Alaska
NWI	National Wetlands Inventory
OPMP	Office of Project Management and Permitting
PGDHS	A Policy on Geometric Design of Highways and Streets
PGE	platinum group elements
ROD	Record of Decision
RM	river mile
SRR	State Recreation River
SRS	State Recreational Site
syngas	synthetic gas
UCG	underground coal gasification
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

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7 SUMMARY AND NEXT STEPS

The product of this reconnaissance-level study was the identification of the locations of four possible access routes and one variant road option for providing access to resources within the Susitna basin. These proposed route locations were based on a review of existing literature, interviews with industry stakeholders, an inventory of natural resources and existing infrastructure, identifying reasonable crossing locations of major rivers (e.g., Susitna River), and a constraints and opportunities analysis. Table 7-1 presents a comparative summary of the proposed access routes' strengths/advantages and weaknesses/challenges as previously detailed in Section 6.

Table 7-1. Proposed Access Routes Strengths and Weaknesses Comparison

	North Petersville Road	North Skwentna	Middle Susitna-Skwentna River	Beluga	Deshka Variant
Length (miles)	78.8	71.6	107.9	63.8	33.5
Ranking for amount of resources accessed ¹					
<i>Hardrock minerals</i>	Medium	High	Highest	Lowest	Low
<i>Placer gold mining</i>	Medium	High	Highest	Lowest	Lowest
<i>Coal</i>	Medium	Medium	High	Highest	Lowest
<i>Oil and gas</i>	Lowest	Medium	Medium	High	Highest
<i>Forestry/timber</i>	Low	High	Highest	Low	Medium
<i>Agriculture</i>	Lowest	Lowest	Medium	Lowest	Highest
<i>Recreation</i>	Low	Lowest	Medium	Highest	Low
Ranking for utilizing "opportunistic" land ²	High	Medium	Highest	Medium	Medium
Ranking for optimum geologic considerations ³	Medium	Good	Good	Good	Poor
Ranking for required bridge/culvert structures ⁴	Low	Medium	Requires most bridges/culverts	Low	Lowest
Ranking for terrain type ⁵	Medium	Most mountainous	Medium	Most Level	Most Level
Planning-level Cost Estimate (millions)					
<i>Subtotal</i> ⁶	\$147.6	\$188.3	\$187.4	\$106.9	\$72.2
<i>Total</i> ⁷	\$376.4	\$504.3	\$453.2	\$257.8	\$216.9
<i>Total per mile</i> ⁸	\$4.6	\$6.3	\$4.2	\$4.0	\$5.2

As further detailed in the footnote of Table ES-1, colored shading was used to comparatively indicate the more or less favorable metrics.

Green = Proposed access route(s) with the fewest number of roadway miles, bridges, culverts, and/or costs. Also, indicates highest amount of resources made accessible. Route(s) goes through the most amount of level terrain, utilizing most optimum geologic conditions, and/or traversing most "opportunistic" land based on status.

Red = Proposed access route(s) with the greatest number of roadway miles, bridges, culverts, and/or costs. Also, indicates least amount of resources made accessible. Route(s) goes through the most amount of mountainous terrain, utilizing least optimum geologic conditions, and/or traversing least "opportunistic" land based on status.

Assumptions:

¹ Resources made accessible within a 10-mile buffer of the proposed centerline. See Table 6-1.

² Land status within 200-foot ROW that is ranked as either opportunistic (e.g., State lands) or a constraint (e.g., private). See Table 4-2 and Table 6-2.

³ Geological considerations include 8 features, as detailed in Table 6-7.

⁴ Hydrologic considerations include number of bridges and culverts required. See Table 6-6.

⁵ Percentage of route traversing terrain type, with level terrain viewed as an opportunity and mountainous as a constraint. See Table 6-5.

⁶ Subtotal cost estimate for new proposed roadways includes clearing, earthwork, structures, stream and river crossings (including culverts), guardrail and retaining walls, and miscellaneous items such as topsoil, seeding, geotextile and signing.

⁷ Total cost estimate includes drainage measures, erosion and pollution, surveying, environmental studies and permits, existing road upgrades, construction, mobilization, ROW acquisition, contingency, design, and utilities.

⁸ Total per mile includes only the proposed access routes and does not include existing roadways or cost to upgrade them.

7.1 Identified Data Gaps and Next Steps

This reconnaissance study provides a foundation for additional project development should the project be moved forward. Future tasks to further advance the possibility of an access road into the Susitna Basin west of the Susitna River include further engineering refinement, environmental field studies, origin/destination assessment, economic analysis, acquiring aerial photography or LIDAR, cost estimate refinement, and public involvement and stakeholder engagement. Many of the data sets used in this report contained incomplete information. In other cases, data was sparse.

Engineering refinement. Preliminary conceptual engineering alignments were identified based on engineering judgment using available data. Additional environmental, geotechnical, hydrologic, and topographic data would need to be obtained to further refine the alignments. For the access routes that would connect to and utilize existing roadways (e.g., Oil Well Road, Petersville Road, Little Susitna River Road, etc.), the preliminary cost estimates included an initial examination of the cost to upgrade these roads. However, further field reconnaissance would need to occur to determine actual road width and condition and number of culverts and/or bridges that may need to be upgraded or replaced to accommodate the dimensions of the proposed West Susitna access road. Additional coordination should occur with other interested parties who are already conducting and collecting existing baseline conditions in the area. For instance, recent efforts over the summer of 2013 by Donlin Gold, LLC included conducting fieldwork, such as delineating wetlands along their proposed pipeline corridor.

Affected land management agencies, such as divisions of the State of Alaska and local governments such as the Mat-Su Borough, should also be consulted and coordinated with as routes get further refined and a preferred route is chosen. This is particularly important as route locations would have a fundamental effect on the development of State lands throughout the Study Area. Several State of Alaska departments and divisions have suggested that it would benefit future planning efforts to have identified routes surveyed and reserved to the state for future access needs.

Environmental studies. To supplement the limited available data, a number of field studies and office-based studies are recommended to help further refine the proposed access routes and preferred stream crossing and drainage locations. At a minimum, additional studies should include:

- Soils and Geology
- Hydrology
- Vegetation
- Wetlands and waterbodies
- Fish streams and essential fish habitat
- Wildlife
- Land ownership
- Historic and archaeological resources
- Recreation

Refined origin/destination assessment and travel forecast. Additional analysis should be conducted to determine the most viable project termini based on a project purpose and need, additional details on the types of vehicles and level of traffic demand.


Economic analysis. An economic analysis should be conducted to determine the costs/benefits of constructing an access road into the Susitna basin. This examination would provide supporting information for the purpose and need for the project and would be a foundation for refining the

travel forecast. This would also include further refined analysis of the existing resources in the Study Area. This analysis would assess the value of resource extraction potential being lost due to lack of transportation access.

Aerial photography or LIDAR. Existing mapping is limited to USGS mapping, which is at best, suitable for high-level planning. More detailed aerial photography or LIDAR would be necessary for refining the proposed access routes, preliminary engineering (including cost estimates), and would support environmental studies.

Cost estimate refinement. As the alignments are further engineered, the cost estimates need to be refined.

Public involvement and stakeholder engagement. This reconnaissance-level report was prepared to determine possible locations for an access road into the Susitna basin to support potentially significant resource development opportunities. Should this project be furthered, seeking public input and comment from relevant stakeholders is a critical next step.



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