

McCarthy Road Planning and Environmental Linkages (PEL) Study
AK FLAP DOT 198(4)

PEL Study Report
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Prepared for:
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In partnership with:
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Executive Summary

The McCarthy Road Planning and Environmental Linkages (PEL) Study, conducted by the Federal Highway Administration (FHWA) Western Federal Lands Division (WFL) in partnership with the National Park Service (NPS) and the Alaska Department of Transportation and Public Facilities (DOT&PF), outlines a plan for implementing future transportation-related improvements along the McCarthy Road corridor. The PEL study is intended to provide a framework to help project sponsors prioritize and implement road corridor improvements in the future as funding becomes available.

The study corridor is approximately 63 miles. It includes the McCarthy Road stretching eastward from Chitina to the Kennicott River for about 59 miles and another approximately 4 miles to the southern end of the Kennicott subdivision. The Kennicott subdivision is part of the Kennecott Mines National Historic Landmark (NHL) located within Wrangell-St. Elias National Park and Preserve (WRST), the nation's largest park and preserve.

The McCarthy Road corridor is an important roadway in Alaska, providing community connections and access to private and public lands. The McCarthy Road is seasonally maintained by DOT&PF and is one of two roads into WRST. The communities of Chitina and McCarthy are located near the beginning and end of the study corridor, respectively, with a couple of smaller seasonal and year-round pockets of residents in the corridor. The McCarthy Road is the only surface transportation to McCarthy, though there is air access with the DOT&PF-owned airport in McCarthy. A summer seasonal uptick occurs in the corridor in population and visitors.

Largely following a former railbed, the McCarthy Road is a beloved road corridor by residents and visitors due to its history and the intrinsic values (such as scenic, visual, natural, rural) associated with WRST that are particularly appreciated by road users.

This study identifies solutions to improve the road and resolve some identified issues. Examples of these issues include narrow road width, poor road conditions, and natural hazards such as landslide areas and erosion near bridges. The McCarthy Road serves many user groups including, but not limited to, local residents, recreational users, property owners, miners, tourists, and WRST visitors. Improving safety and conditions and maintaining reliable access and road reliability are top goals identified during this study.

This study does not deviate from past studies and plans for the corridor, such as the *McCarthy Road Scenic Corridor Plan* (NPS, DNR, and DOT&PF 1997) or McCarthy Roundtable Project (Land Design North 2002), that highlight the need to address roadway deficiencies and safety issues while still balancing the desire to protect the intrinsic characteristics of the corridor.

PEL Study Process

Given the many needs and opportunities along this long road corridor, the PEL study sponsors (WFL, DOT&PF, and NPS) determined that using a PEL study would be an efficient way to prioritize future road corridor improvements. PELs are intended to be a flexible approach to better linking the planning and environmental review phases of delivering transportation projects.

The WFL, DOT&PF, and NPS prioritized seeking input from the public, stakeholders, tribal groups, and agencies; the analysis and results in this study reflect that engagement.

Financed in part through funding from WFL’s Federal Lands Access Program (FLAP), the study process spanned over 2 years and followed these three key phases:

- **Phase 1: Assess Needs and Opportunities:** Understand existing conditions, needs, and opportunities through site visits, public outreach, and stakeholder engagement, and identify a corridor vision and goals.
- **Phase 2: Develop and Evaluate Improvement Options:** Use information from Phase 1 to develop and evaluate potential solutions, guided by corridor vision and goals and public and stakeholder input.
- **Phase 3: Prioritize and recommend future corridor improvements:** Document the process and results and provide a framework for future road corridor transportation improvements.

FLAP was established in 23 U.S.C. 204 to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands.

Identified Issues, Needs, and Opportunities

The following represents the main themes identified through public and stakeholder outreach:

- Improve road corridor safety
Address issues such as narrow road and bridge widths, limited sight distance/road curvature, steep grades and roadbed slopes, and speeding.
- Improve the road/infrastructure conditions and maintenance
Address issues such as dust, overgrown brush, poor road surface, drainage, erosion, poor soils, glaciation over roadway during winter, limited winter road maintenance, and culverts.
- Improve road reliability and protection from natural hazards (resiliency)
Address geohazard locations (landslides)
- Reliably maintain and enhance access and support land uses, including visitor experience
Examples: improve signage, provide adequate pullouts (for both safety and visitor experience), and expand recreational opportunities (trails, access to lakes)
- Consider non-motorized roadway users, such as pedestrians
- Avoid to the extent possible and minimize environmental impacts and improve environmental conditions when road improvements occur (such as improving salmon habitat and passage)
- Consider the improvements and community interests included in previous plans

Identified Overall PEL study Corridor Vision and Goals

Based on input from the public and stakeholders, these corridor vision and goals were developed:

- The **overall corridor vision** is to provide a safe road corridor and reliable access for residents and travelers on the McCarthy Road that embraces the scenic and cultural values of the surrounding environment and communities.
- The **primary goals** are related to resolving a transportation need—in particular fundamental needs.
 - Provide a safe road corridor
 - Maintain reliable access
- The **secondary goals** are related to resolving another need that supports the transportation facility or access to public lands. These goals reflect desirable outcomes but are not considered core.
 - Maintain intrinsic values of the corridor (scenic, visual, natural, rural)

- Promote environmental stewardship
- Enhance access and support land uses in the corridor, including related to visitor experience and recreational access
- Accommodate motorized and non-motorized users
- Promote economic vitality

Recommended Solutions for Implementation



A screening process using goals-related screening criteria led to the identification of 20 recommended solutions. Nearly half of the recommended solutions fall into one of the following three main project types:

- Drainage improvements
- Road rehabilitation
- Road reconstruction

Other project types include the following:

- Localized culvert improvements associated with an adjacent shorter roadway improvement (in four locations)
- Bridge improvements (Gilahina River bridge and Kennicott River pedestrian bridge)
- Pullouts (between McCarthy and the Kennicott subdivision)
- Erosion control (upstream of the Kennicott River pedestrian bridge)

The 20 recommended solutions (or “projects”) are listed in Table ES-1 and shown on Figure ES-1 and Figure ES-2. The projects are generally listed in order by project type and from west to east. These 20 projects represent nearly \$240 million in project costs (based on concept level designs).

An important part of the PEL study was to prioritize how and when the improvements should be implemented. Each of the 20 recommended solutions was assigned a low, medium, or high priority. Priority was based on factors such as the need for the improvement (based on identified goals) and public and stakeholder input. Table ES-1, Figure ES-1, and Figure ES-2 show the assigned priority rating.

A proposed implementation timeline was assigned to each recommended solution, which represents when funding would be needed to start the project in the preconstruction phase (for example, design). Identified timelines were assigned a short-, medium-, or long-term value to represent solutions occurring within the next 5 years, between 5 and 10 years, and beyond 10 years, respectively.

Suggested Enhancements. This PEL study also contains a list of potential projects within the road corridor termed “enhancements” that would not necessarily make the road safer or more reliable but may contribute to secondary goals related to the scenic and cultural values of the surrounding environment and communities. These suggested enhancements came directly from public and stakeholder input. Enhancement projects could be advanced by a project sponsor in the future as a standalone project or in conjunction with one of the recommended solutions identified in the PEL study. A detailed analysis of these enhancements was not conducted. Other previous plans and studies for the corridor identify additional enhancements not captured in the PEL process.

Enhancements were placed in the following three categories:

- Visitor experience: Visitor enhancements could include scenic pullouts, parking areas, and signage.
- Recreation access: Recreation enhancements could include opportunities to enhance access to lakes, rivers, and trails.
- Environmental enhancements: Environmental enhancements would be largely related to improving fish passage and habitat, particularly related to culverts.



Implementation of the recommended solutions depends on several factors, including the availability of funding to advance design and construction, right-of-way (ROW) acquisition (if needed), and environmental approvals. The PEL study set out to provide a framework to assist decisionmakers in the prioritization and sequencing of recommended solutions by collecting baseline information such as anticipated future regulatory environmental requirements, potential funding sources, and planning-level cost estimates. This PEL study may be incorporated by reference in a future National Environmental Policy Act (NEPA) environmental review process.

This study provides conceptual, planning-level information. If a project moves forward, the project sponsor would seek input from the public, agencies, tribal groups, and stakeholders during the next phase of the project which includes preliminary design and additional environmental review. Next steps for projects are outlined in Section 8.

Table ES-1. List of Recommended Solutions: Priorities and Implementation Timelines

ID #	Name (generally listed in order by project type and from milepost [MP] west to east)	Project Type	Priority ^[a]	Timeline ^[b]	Total Cost Estimated (millions) (2025)
①	McCarthy Road MP 0 to 21 Drainage Improvements	Drainage	High	Short-term	\$7.0
②	McCarthy Road MP 21 to 43 Drainage Improvements	Drainage	High	Short-term	\$6.6
③	McCarthy Road MP 43 to 63 Drainage Improvements	Drainage	High	Short-term	\$8.6
④	McCarthy Road MP 0 to 15 Rehabilitation (<i>from rock cut near Chitina to Strelna Creek</i>)	Rehabilitation	High	Medium-term	\$16.1
⑤	McCarthy Road MP 15 to 27 Rehabilitation (<i>between Strelna Creek and Chokosna River</i>)	Rehabilitation	High	Medium-term	\$17.0
⑥	McCarthy Road MP 27 to 44 Rehabilitation (<i>between Chokosna River and Lakina River</i>)	Rehabilitation	High	Medium-term	\$24.0
⑦	McCarthy Road MP 44 to 59 Rehabilitation (<i>between Lakina River and Kennicott River</i>)	Rehabilitation	High	Medium-term	\$25.9
⑧	McCarthy Road MP 59 to 63 Rehabilitation (<i>between Kennicott River and southern boundary of Kennicott subdivision</i>)	Rehabilitation	Medium	Medium-term	\$8.9
⑨	McCarthy Road MP 1.5 to 3 Reconstruction (<i>reroute near Kotsina Bluffs</i>)	Reconstruction	High	Long-term	\$72.1
⑩	McCarthy Road MP 29 Gilahina River Bridge (#1194) Replacement	Bridge	Medium	Short-term	\$6.4
⑪	McCarthy Road MP 44 to 48.5 Reconstruction (<i>existing alignment improvements near Long Lake</i>)	Reconstruction	High	Medium-term	\$14.9
⑫	McCarthy Road MP 58 Reconstruction (<i>existing alignment improvements</i>)	Reconstruction	Medium	Medium-term	\$5.0
⑬	McCarthy Road Kennicott River Footbridge (#6004) Rehabilitation	Bridge	Medium	Medium-term	\$2.0
⑭	McCarthy Road Kennicott River Erosion Control (MP 59.3)	Erosion control	High	Short-term	\$11.5
⑮	McCarthy Road MP 59.5 to 59.7 Reconstruction (<i>existing alignment improvements near the swimming hole</i>)	Reconstruction	Medium	Medium-term	\$1.9
⑯	McCarthy Road Pullouts between McCarthy and Kennicott	Other	Medium	Medium-term	\$1.2
⑰	McCarthy Road MP 40.2 Ruth Creek Culvert Replacement	Culvert	Low	Medium-term	\$2.3
⑱	McCarthy Road MP 47.9 Long Lake Creek/Tributary Culvert Replacement	Culvert	Low	Medium-term	\$3.5
⑲	McCarthy Road MP 56.1 Swift Creek Culvert Replacement	Culvert	Low	Medium-term	\$3.0
⑳	McCarthy Road MP 59.8 Clear Creek Culvert Replacement	Culvert	Low	Medium-term	\$2.5

^[a] Project priority: low, medium, or high.

^[b] Project timeline is when funding would be needed to start the project in the preconstruction phase. Timeline represents within the next 5 years (short-term), between 5 and 10 years (medium-term), or beyond 10 years (long-term).

Figure ES-1. Recommended Solutions and Priority Ratings, West End of Study Corridor (McCarthy Road MP 0 to MP 40)

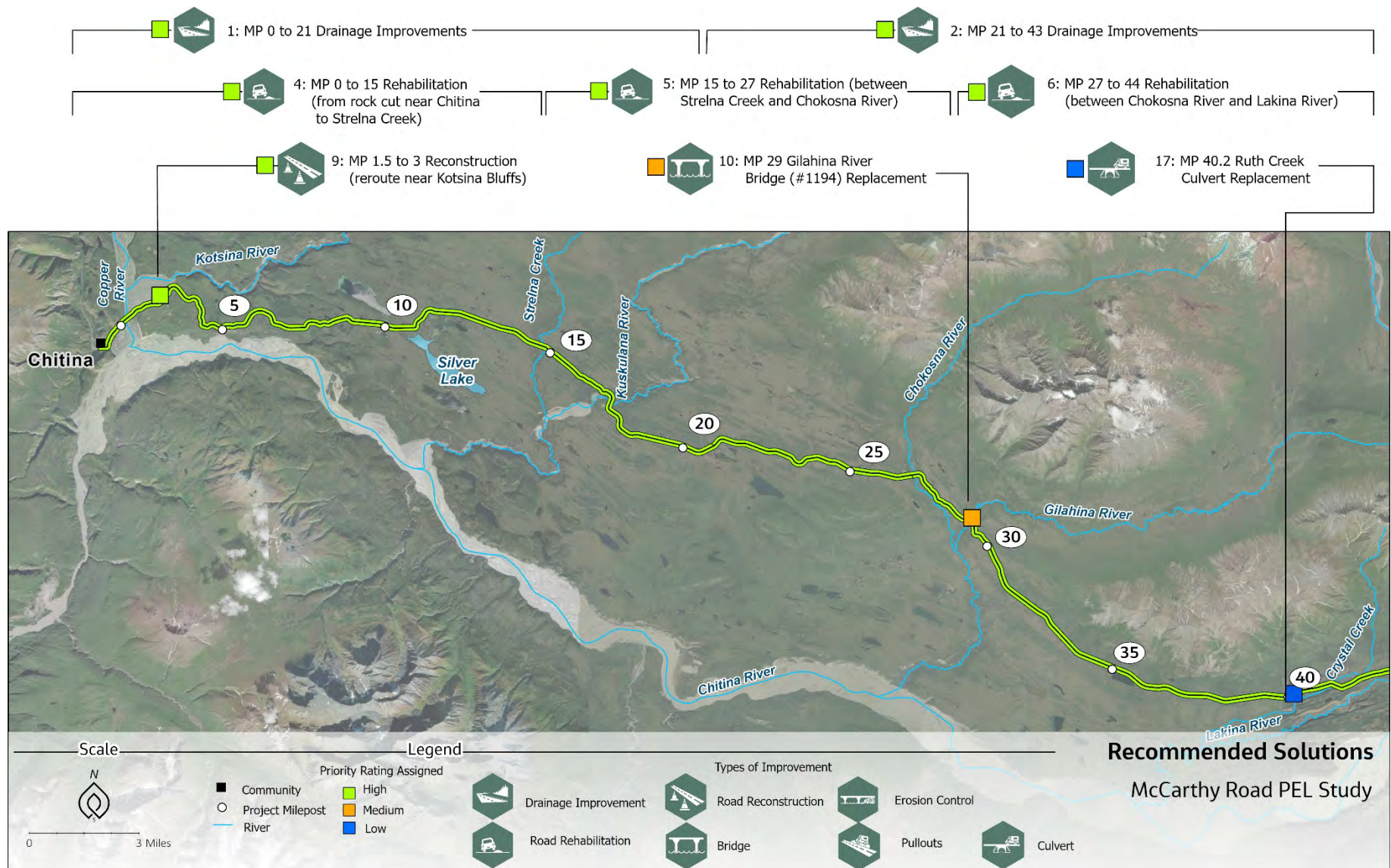
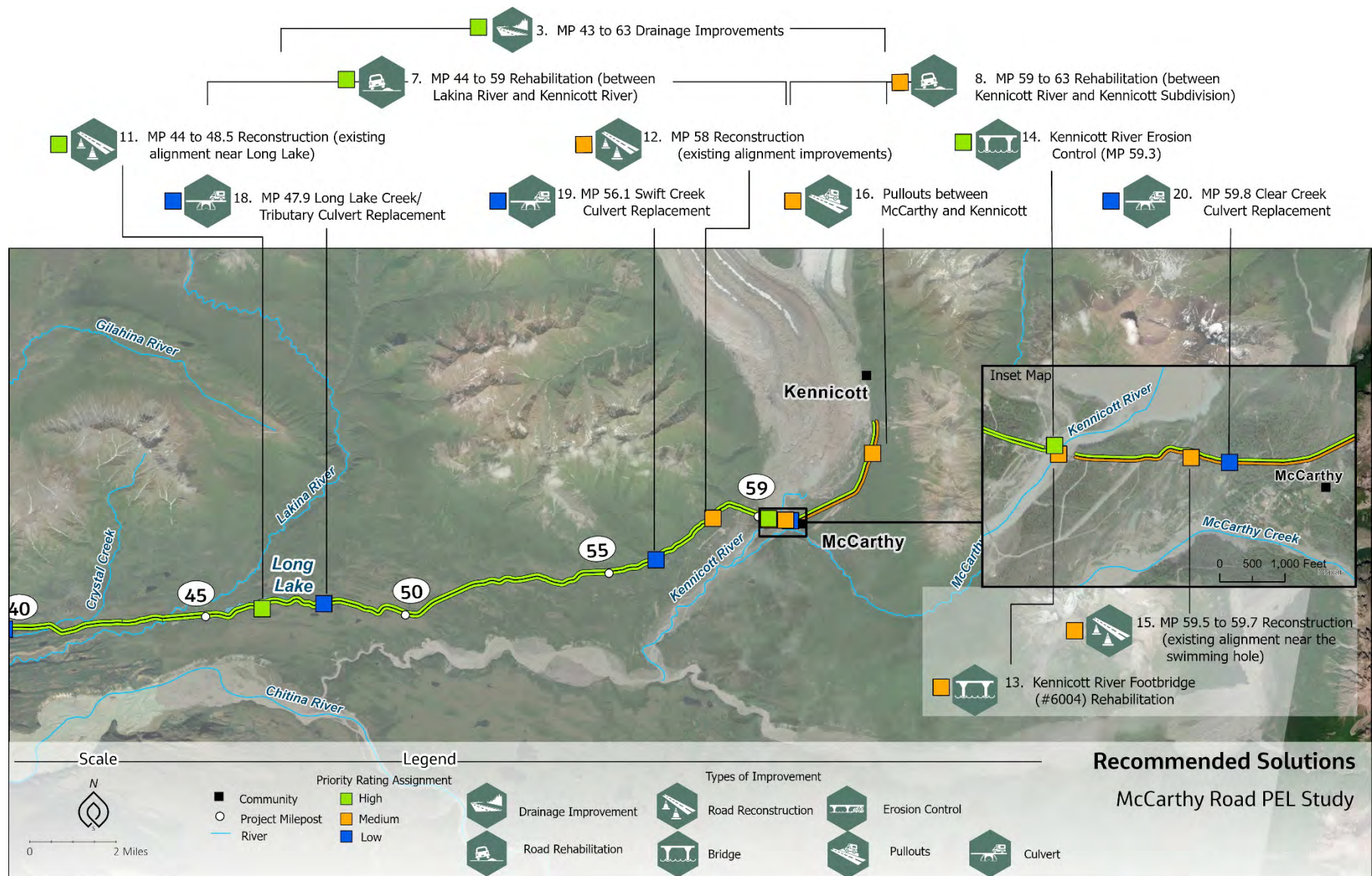


Figure ES-2. Recommended Solutions and Priority Ratings, East End of Study Corridor (McCarthy Road MP 40 to MP 63)



Meaningful engagement is essential to developing transportation solutions that reflect community values, local knowledge, and real-world needs. The recommended solutions in this PEL study report were shaped directly by input from the public, stakeholders, tribal groups, agencies, and an advisory committee. This input influenced project priorities, timelines, and the refinement of proposed solutions and impact analyses. The study team worked to ensure that the recommendations were grounded in the experiences of those who live in, use, or manage lands and road infrastructure within the McCarthy Road corridor.

The planning process drew a wide spectrum of public and stakeholder input—ranging from calls for no upgrades, to strong support for maintaining the road in its current condition with minor improvements, to proposals for substantial upgrades (refer to Section 2.3). This diversity of perspectives underscores the complexity in planning in such a sensitive and valued landscape.

While the study includes 20 recommended solutions, many other ideas and needs raised by the public—such as year-round maintenance, corridor-wide vegetation clearing, dust mitigation, and improved signage—did not meet criteria for standalone capital improvement projects (refer to Section 4.3.4). These important issues are often constrained by funding or categorized as maintenance activities. Future project sponsors are encouraged to consider these safety and operational measures as part of future design efforts as they advance.

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Acronyms and Abbreviations

Acronym	Definition
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AHRS	Alaska Heritage Resource Survey
AKEPIC	Alaska Exotic Plants Information Clearinghouse
ANILCA	Alaska National Interest Lands Conservation Act
ANCSA	Alaska Native Claims Settlement Act
AOP	Aquatic Organism Passage
ATV	all-terrain vehicle
AWC	Anadromous Waters Catalog
BFP	Bridge Formula Program
BIP	Bridge Investment Program
BUILD	Better Utilizing Investments to Leverage Development
CE	categorical exclusion
CFR	<i>Code of Federal Regulations</i>
COA	class of action
CRWP	Copper River Watershed Project
DNR	Department of Natural Resources
DOT&PF	Alaska Department of Transportation and Public Facilities
EA	environmental assessment
EFH	essential fish habitat
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
EO	Executive Order
FAST	Fixing America's Surface Transportation
FHWA	Federal Highway Administration
FLAP	Federal Lands Access Program
FLPP	Federal Lands Planning Program
FLTP	Federal Lands Transportation Program
FY	Fiscal year
GO	General Obligation
H&H	hydraulic and hydrology

Acronym	Definition
HSIP	Highway Safety Improvement Program
IJA	Infrastructure Investment and Jobs Act
INFRA	Infrastructure for Rebuilding America
IPaC	Information for Planning and Consultation
LHS	Location Hydraulic Study
LWCF	Land and Water Conservation Fund
M&O	maintenance and operations
MAC	McCarthy Area Council
MP	milepost
MPDG	Multimodal Project Discretionary Grant Program
mph	mile(s) per hour
NBI	National Bridge Inventory
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NHPP	National Highway Performance Program
NOAA	National Oceanic and Atmospheric Administration
NOFO	Notice of Funding Opportunity
NPS	National Park Service
NRHP	National Register of Historic Places
NSFLTP	Nationally Significant Federal Lands and Tribal Projects
NWI	National Wetland Inventory
OOH	online open house
PAC	project advisory committee
PEL	Planning and Environmental Linkages
PM	Preventive Maintenance
PROTECT	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation
ROW	right-of-way
RS	Revised Statute
SEO	Statewide Environmental Office
SHPO	State Historic Preservation Office
STBG	Surface Transportation Block Grant

Acronym	Definition
STIP	Statewide Transportation Improvement Program
TA	Transportation Alternatives
TTP	Tribal Transportation Program
U.S.C.	<i>United States Code</i>
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
WFL	Western Federal Lands
WRST	Wrangell-St. Elias National Park and Preserve

1. Introduction

1.1 PEL Study Overview and Purpose

This report documents the results of a Planning and Environmental Linkages (PEL) study for the McCarthy Road in Alaska. The Federal Highway Administration (FHWA) Western Federal Lands (WFL) Highway Division conducted the study in partnership with the Alaska Department of Transportation and Public Facilities (DOT&PF) and National Park Service (NPS) over a 2-year period. It involved coordination with regional stakeholders, agencies, and the public. The PEL study is intended to help project sponsors implement proposed improvements in the future if and as funding becomes available.

The 63-mile study corridor includes McCarthy Road, stretching eastward from Chitina to the Kennicott¹ River, and another approximate 4 miles to the southern end of the Kennicott subdivision. The Kennicott subdivision is part of the Kennecott Mines National Historic Landmark (NHL) located within Wrangell-St. Elias National Park and Preserve (WRST), the nation's largest park and preserve.

The PEL study's purpose is to identify a list of roadway corridor transportation improvements that could be implemented in the future. The PEL study has two main desired outcomes:

- Provide a framework that identifies prioritized transportation-related projects along the McCarthy Road and a plan to advance them.
- Bring together stakeholders and users of the McCarthy Road to improve communication and build relationships to identify transportation and access needs.

1.2 Why Conduct a PEL Study?

A PEL² study represents an integrated planning-level process that looks at transportation issues, recommends solutions, and considers environmental resources. PEL studies are intended to help streamline the transportation project development and delivery process by better “linking” the planning phase with the environmental review phase. The analysis and decisions made during this PEL study can be used to inform and streamline future environmental review processes and may be incorporated by reference.

PEL studies are typically prepared early in the transportation decision-making process and provide an opportunity to consider environmental and community issues early before a formal environmental review (i.e., a National Environmental Policy Act [NEPA]) process begins.

A PEL process is flexible. Many components of a PEL closely follow key components of a NEPA process. This includes public, agency, tribal, and stakeholder involvement; identifying purpose and need (i.e., goals and objectives); alternatives development, including screening and evaluation; and documentation.



This PEL logo shows the intended linking of the planning and environmental phases of the transportation decision-making process.

¹ Depending on the area feature being described, different spellings of Kennicott and Kennecott are used.

² The FHWA defines a PEL as “a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.” (FHWA 2025)

Products prepared as part of a PEL study process need to be made available for public and agency comment and provide public notice that these products may be included by reference in a future NEPA process.

PEL studies follow the provisions set forth in [23 United States Code \(U.S.C.\) 168 – Integration of planning and environmental review](#) and are conducted in accordance with the provisions linking planning and NEPA presented in 23 *Code of Federal Regulations* (CFR) 450.318 and [Appendix A of 23 CFR 450](#). The intent behind a PEL approach is to better streamline the process of moving a project from a concept to construction. If NEPA is started within 5 years of PEL study completion, decisions and analysis done during a PEL study can be adopted or incorporated by reference in future NEPA documents as long as it was prepared in compliance with the 10 statutory conditions listed in 23 U.S.C. 168. Considering the 5-year time timeline, DOT&PF tends to emphasize the planning aspects of PEL studies—such as corridor-level analysis and purpose and need development—over detailed environmental evaluations. Should NEPA for a future project begin beyond the 5-year timeline, then DOT&PF will verify the validity of the information within the PEL study and make updates to the analysis at that time.

The DOT&PF’s PEL Guidebook (2021) provides additional guidance and benefits for conducting PEL studies.

1.3 Study Corridor Context and Setting

1.3.1 Study Area

The McCarthy Road is accessed at the east end of the 33-mile Edgerton Highway, near Chitina. The Edgerton Highway begins at milepost (MP) 83 of the Richardson Highway. The intersection of the Richardson and Edgerton highways is approximately 32 miles south of the regional hub of Glennallen (refer to Figure 1-1 and Figure 1-2).

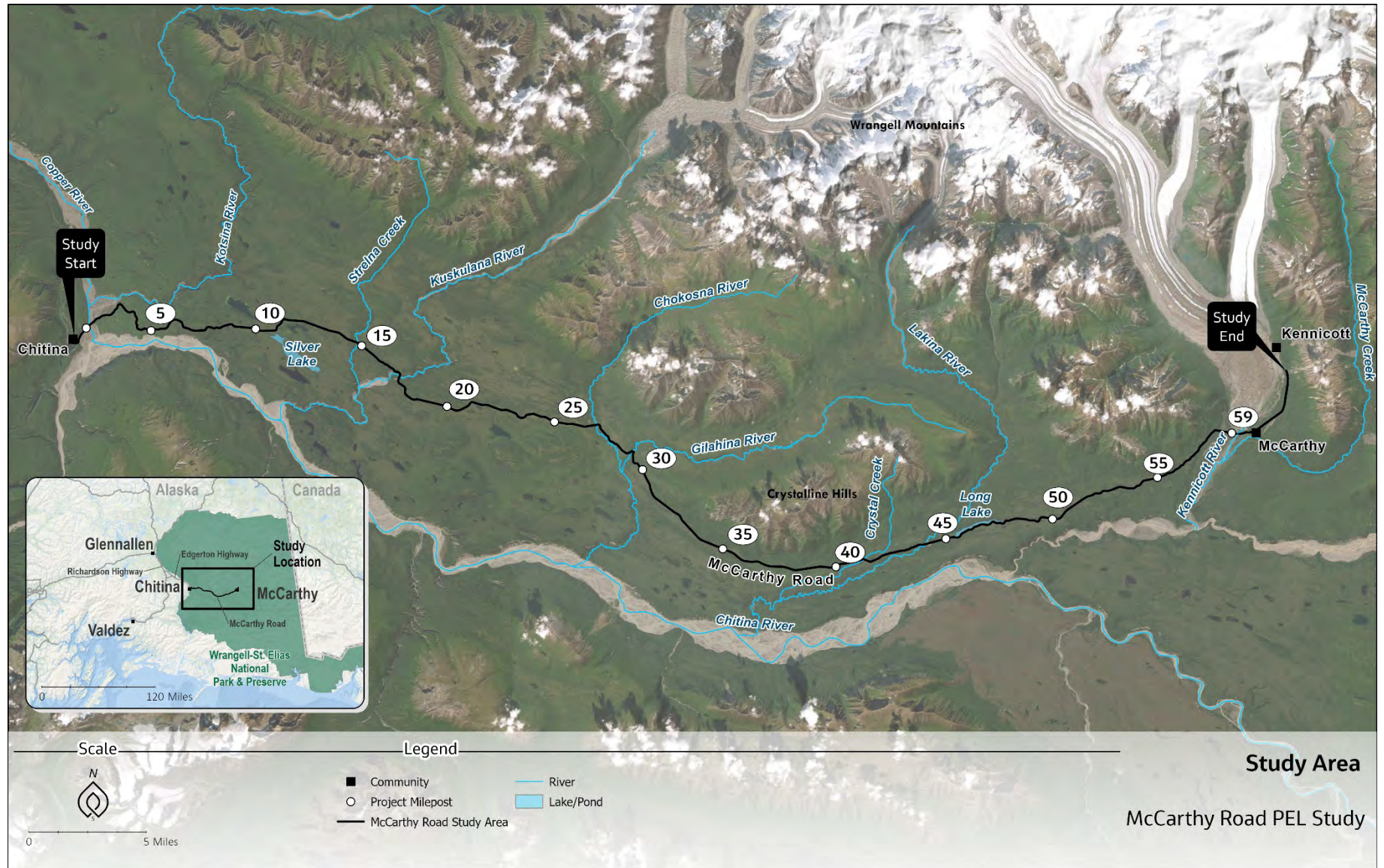
From Chitina, the McCarthy Road extends eastward about 59 miles into the heart of WRST. The McCarthy Road ends at the Kennicott River, which the public can cross using an existing bridge referred to as the “DOT footbridge” or “pedestrian bridge.” Even though the bridge is referred to as a footbridge, all-terrain vehicles (ATVs) also use it. There is also a private vehicular bridge that is usable “under lock and key” that crosses over the Kennicott River farther downstream from the footbridge. Once the river is crossed over by the footbridge, the road extends another approximate 4 miles, where it terminates at the southern boundary of NPS’s Kennecott Mines NHL. The area near the NHL is also referred to as Kennicott.

The PEL study corridor begins at the eastern edge of Chitina, then it travels briefly through a single-lane bedrock cut and extends almost 64 miles to where it ends at the southern end of the Kennicott subdivision (refer to Figure 1-2). The end of the study corridor coincides with the end of the DOT&PF road right-of-way (ROW). Although the PEL study will focus on improvements along the McCarthy Road corridor, activities beyond the main road corridor are of consideration since they influence the needs of the McCarthy Road and its users.

Figure 1-1. Study Location Vicinity



Figure 1-2. PEL Study Corridor



1.3.2 Study Corridor Context Overview

The study team acknowledges that the McCarthy Road and people that use it are within Ahtna Homeland. Ahtna people have lived in the Copper and Susitna River Basins for more than 5,000 years (Potter 2008). While not the first colonization contact, the Americanization of Ahtna Territory intensified in 1898 with the gold rush into the Copper River Basin (Simeone 2018).

Communities

The contemporary communities of Chitina/Tsedi Na' and McCarthy (2024 population 109 and 128, respectively) are located toward the beginning and end of the study corridor (ADCCED 2024). Chitina is near the study corridor start on the west end. The population of Chitina has slightly decreased since 2010. McCarthy is approximately 0.5 mile east of the Kennicott River crossing, on the east end of the study corridor. Since 2010, McCarthy has seen a steady population increase. There is a sprinkling of smaller seasonal and some year-round population settlements along the study corridor, such as Strelina (between approximate MPs 10 and 15) and Long Lake (between approximate MPs 45 and 47). The community of Kennicott is located just outside of the eastern end of the study corridor. There is a sizable, seasonal population bump region wide in the summer.

Refer to **Appendix A, Needs and Opportunities Assessment Report, Section 8.2.1 – Population**, for more details on the communities and historic population.

Road History

The McCarthy Road largely follows a former railbed. The railroad was constructed in the early 1900s and operated to support extraction of copper from the Kennecott Mines; it was closed and abandoned in the late 1930s. Beginning in the 1960s, the railbed was turned into a roadbed. Railroad ties and rails were removed (though not fully) and the railbed was graded for use as a pioneer road. At the time, it was a 12-foot-wide primitive road.

Vehicular bridges were constructed along the corridor in the early 1970s. Subsequent improvements and repairs have occurred over the decades since. The corridor's railroad history remains evident today: remnant rail trestles are still present, the rock cut east of Chitina is the location of a former railroad tunnel (see Figure 1-3), and the Kuskulana rail bridge is still in use, having been converted to a single-lane vehicular bridge.

Figure 1-3. Rock Cut East of Chitina and Rail Tunnel, Now and Then



Historic photo credit: NPS.

Refer to **Appendix A, Needs and Opportunities Assessment Report, Section 1.3.2.2 – Road History: Rail to Road** and **Section 3.2 – Road Corridor History and Past Projects**, for more details about road history.

Roadway Users and Adjacent Landowners

About two-thirds of the land adjacent to the McCarthy Road is under federal or state ownership, with the NPS having the greatest proportion. Other adjacent landowners are the University of Alaska, Alaska Native regional and village corporations, and private landowners.

The McCarthy Road is used by a variety of travelers including residents, seasonal and other property owners, tourists (residents and non-residents), park visitors and other recreational users, subsistence users, and others harvesting off the land (including resource development). The Kennecott Mines NHL receives the vast majority of WRST's reported visitors.

The McCarthy Road is considered one of two primary gateways into WRST (the other is Nabesna Road). As such, many of the intrinsic values associated with WRST are particularly appreciated by road users, which serves as the primary access point to these lands.

Refer to **Appendix A**, the *Needs and Opportunities Assessment Report*, Section 4.1.2 – Roadway Users, for more details about road users.

Roadway Characteristics Overview

Refer to **Appendix A**, *Needs and Opportunities Assessment Report*, Section 4.3 – Roadway Characteristics, for more detailed information about the characteristics of the McCarthy Road.

The McCarthy Road is seasonally maintained by the DOT&PF from about May 15 to October 1.

Road Surface

The McCarthy Road is composed mostly of gravel, except between MP 3 and MP 17 where the road consists of emulsified asphalt overlaid by crushed aggregate (also referred to as “high-float” emulsion asphalt surface treatment). In 2014, the DOT&PF laid down this harder surface material as part of a multi-week project to smooth out some of the roadway and to make it easier for DOT&PF to maintain. During the PEL outreach, there were mixed and strong opinions by roadway users on the use of the high-float material compared with gravel; many comments were against the use of high-float emulsion.

The “pros” for high-float surfacing (compared to gravel) include dust mitigation, more durable and smoother driving surface, and lower life cycle costs. The “cons” for high-float surfacing include higher initial construction cost, weather-dependent construction, reliance on quality roadway base, and the potential for vehicles to travel faster.

Road Right-of-Way

The width of the road ROW is generally 100 feet (extending 50 feet on both sides of the road centerline), but there are areas where the ROW varies from this distance. For instance, the road ROW narrows at the southern boundary of the Kennecott Mines NHL, where the PEL study corridor ends.

There are a few discrepancies where the road centerline does not follow the road ROW and extends beyond the ROW. This occurs near the Gilahina Trestle (near MP 29) and just east of the Kennicott River footbridge near the community swimming hole. DOT&PF and NPS are the landowners and intend to resolve these ROW discrepancies.

Cross Section

The desired road width is 24 feet, based on design standards identified by the DOT&PF and NPS. In general, the existing gravel road is composed of two unmarked lanes, each varying in width between 9 and 11 feet (for a total of between 18 and 22 feet). About 45% of the road corridor is no more than 18 feet wide.

In addition to the single lane width through the rock cut east of Chitina, the road eventually narrows to one lane east of the Kennicott River crossing, with limited pullouts for vehicles to pass as it approaches Kennecott Mines and the Kennicott subdivision on the east end of the study corridor. The Gilahina River bridge and Kuskulana River bridge are both single laned.

The road has little to no shoulders and variable side slopes and ditch depths.

Geometry

The road grades are typically good except at some river crossings (such as Gilahina River); steeper grades exist near the abandoned old railroad trestle, and the road was routed around them.

Horizontal and vertical curvature directly affect the operational characteristics of the roadway. The road has substandard horizontal and vertical roadway curvature, based on a design speed of 35 miles per hour (mph).

Posted Speed

The typical posted speed on the McCarthy Road is 35 mph, but it is reduced with advisory speeds in certain areas with constrained geometry. There have been several requests by residents to reduce speeds near communities along the road, such as near the residential areas near Long Lake and Strelina. Public comment indicated the need for additional speed limit signs, though not so many as to distract from the character of the road and its remoteness.

Bridges

The McCarthy Road crosses over a handful of mountain streams originating from the Wrangell Mountains to the north. Table 1-1 lists the existing public bridges in the study corridor and presents bridge characteristics. In addition to this list, there is a privately owned bridge over the Kennicott River, downstream of the DOT&PF footbridge (#6004). Prior to the footbridge, there was a tram and very briefly a public vehicle bridge that washed away shortly after it was constructed.

Table 1-1. Bridges in the Study Corridor

NBI Structure Number	Bridge Name	Approximate Milepost	Sufficiency Rating ^[a]	Overall Length (feet)	Year Built
0205	Copper River (Chitina)	1.2	74	1,378	1971
0397	Kuskulana River	17	77.1	775	1910; reconstructed in 1988
1193	Chokosna River	26.8	94.2	146	2021
1194	Gilahina River	29	52	41	1991
1195	Lakina River	44	94.2	336	2016
6004	Kennicott West	N/A	N/A	450	1997
6005	Kennicott East	N/A	N/A	271	1997

The data for this table was pulled from the DOT&PF bridge routine inspection reports that DOT&PF completed in 2021.

^[a] Bridge sufficiency ratings are determined by DOT&PF using the National Bridge Inspection Standards, which is based on bridge observations, structural analysis, average daily traffic, and other considerations; they provide a numeric value presented as a percentage in which 100 represents a fully sufficient bridge and 0 (zero) represents an insufficient bridge. Sufficiency ratings are only listed for the vehicle bridges.

N/A = not applicable (footbridges over Kennicott River occur beginning immediately east of the end of the McCarthy Road).

NBI = National Bridge Inventory

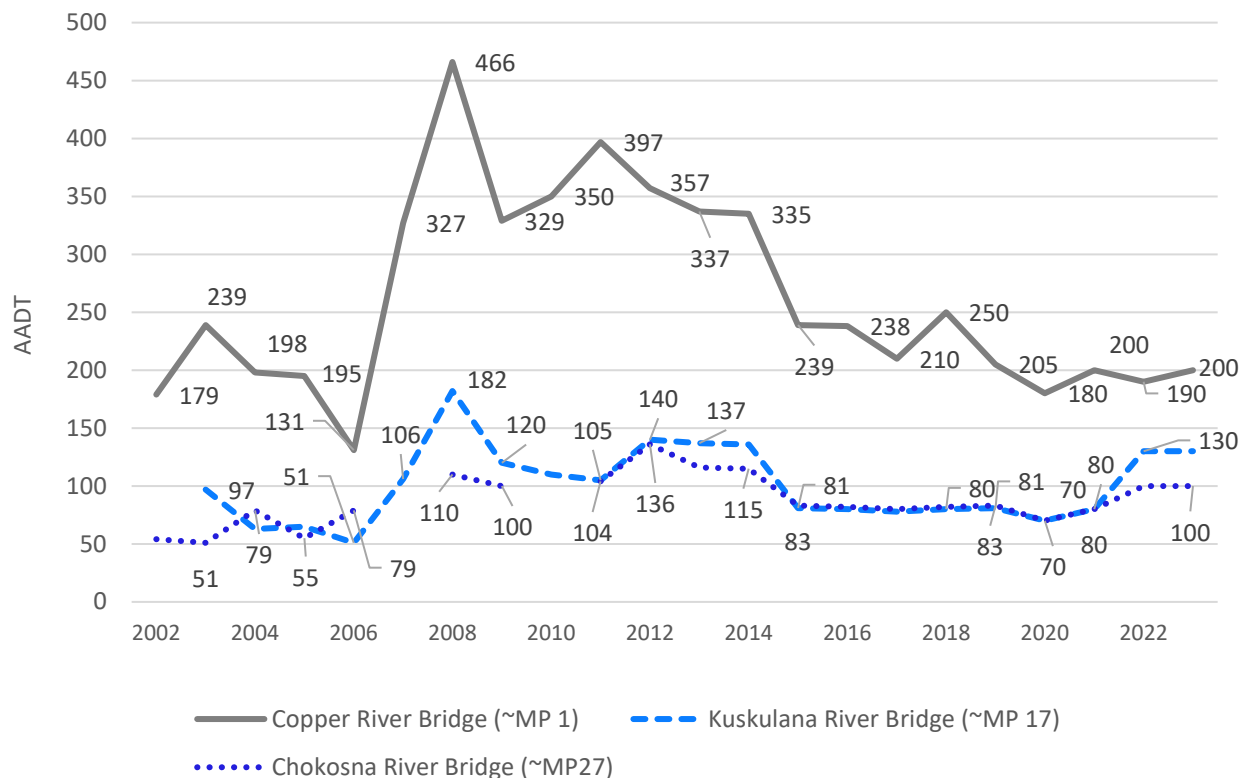
Refer to **Appendix A, Needs and Opportunities Assessment Report, Section 6.2 – (Baseline Area Drainage Analysis)** Existing Conditions and Facilities, for more details about bridge crossings.

Traffic

The DOT&PF collects traffic data in three locations along the study corridor. This occurs near the Copper River bridge (MP 1.2), Kuskulana River bridge (MP 17), and Chokosna River bridge (MP 26.8). Figure 1-4 shows the annual average daily traffic volumes at these three locations between 2002 and 2023. Historic counts consist of actuals, estimates, and/or user supplied; therefore, these counts should be viewed from a trend perspective rather than actual accounts for each year. There are a few years that do not have reported traffic counts.

Traffic counts at the Copper River and Kuskulana River bridges peaked in 2008. Over the past decade between 2013 to 2023, traffic volumes decreased from 337 to 200 near the Copper River bridge, whereas traffic counts remained relatively the same at the Kuskulana River and Chokosna River bridges except for a slight upward bump beginning after 2020. The decreasing trend in traffic counts at the Copper River might be attributed to variations in the subsistence and dipnet fishery in the immediate vicinity. Based on anecdotal comment, there has been an increase in air charter flights between Chitina and McCarthy, which may have influenced the reported traffic volumes.

Figure 1-4. Annual Average Daily Traffic, 2002 to 2023



Source: DOT&PF 2023a

For another data point for reference, *McCarthy Road Reconnaissance Study* (DOT&PF 1989) indicated current average daily traffic for the McCarthy Road was 125 vehicles at the Copper River bridge and 25 vehicles at the Chokosna River bridge. Over the three-decade period, this represents an approximate 50% increase in traffic at the Copper River bridge and a 300% increase at the Chokosna River bridge, indicating a larger percentage increase in drivers traveling east on the McCarthy Road.

Vehicle Incident and Crash Data

Crash data collected early in the PEL process for the 5-year period from 2017 to 2021 indicated three reported crashes. These occurred near MP 8.6, MP 36.9, and MP 59 and no crash patterns were identified. (Refer to **Appendix A, Needs and Opportunities Assessment Report**, Section 4.2.2 – Safety and Crash Data).

Safety-related data for the road corridor is limited but crucial for decision-making, showing rationale and need for improvements, and securing project funding. Community members and visitors are encouraged to report vehicle collisions and crashes to the Alaska State Troopers, as actual data is more valuable than anecdotal reporting.

Based on feedback from the public and stakeholders indicating crash data is underreported, the study team requested data from the Alaska State Troopers within the Alaska Department of Public Safety. They provided vehicle incident reports they received for the McCarthy Road covering January 1, 2019, through June 30, 2024 (Table 1-2). Annually, reported incidents ranged from one to four between 2019 and 2023. The study team was not able to verify the accuracy of the Trooper data or the differences between the datasets.

Table 1-2. Alaska State Troopers Reported Vehicle Incidents on the McCarthy Road, 2019 to 2024

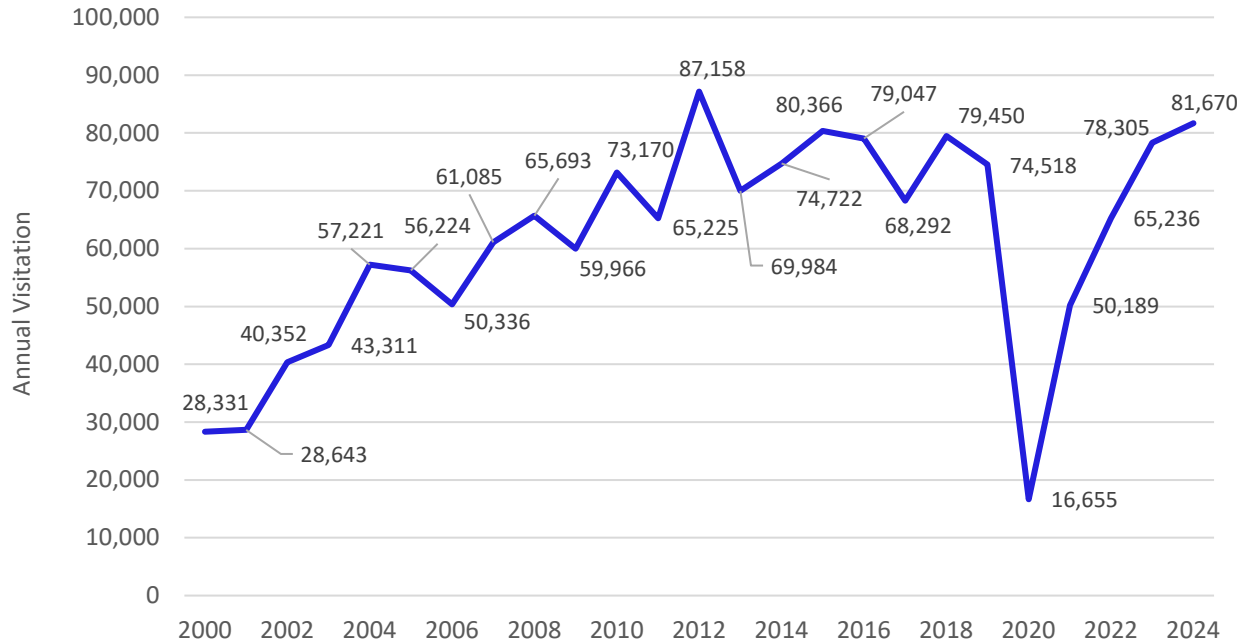
Date, Time	Approximate MP	Location	Number of Vehicles	Reason	Severity	Type
06/30/2019, 18:53	56	Roadway	2	Unknown	Minor	Sideswipe
07/06/2020, 02:26	2	Side of roadway	2	Fell asleep	Minor	Sideswipe
08/05/2020, 12:01	20	Roadway	2	Unknown	Minor	Sideswipe
10/17/2020, 18:16	37	Roadway	1	Animal	Minor	Rollover
08/13/2021, 17:02	Unknown mile marker	Roadway	2	Unknown	Minor	Sideswipe
08/20/2021, 19:55	41	Embankment	1	Soft gravel, avoiding potholes	Minor	Rollover
11/28/2021, 12:55	8.5	Roadway	1	Unknown	Serious	Rollover
08/10/2022, 16:27	41	Roadway	1	Animal	Minor	Collision
08/24/2022, 17:02	49	Unknown	Unknown	Unknown	Minor	Unknown
03/09/2023, 07:43	Unknown mile marker	Roadway	2	Unknown	Minor	Unknown
06/29/2023, 15:29	50	Roadway	Unknown	Unknown	Minor	Collision
07/05/2023, 11:36	27	Roadway	Unknown	Unknown	Minor	Collision
08/05/2023, 13:48	35	Roadway	1	Unknown	Minor	Rollover
06/25/2024, 12:10	57	Roadway	2	Unknown	Minor	Unknown

Source: Lauger 2024

WRST Visitation

WRST can be accessed by road, trail, water route, and air; estimates for visitor use at WRST have historically been a challenge with no mandatory registration or entrance gate. Figure 1-5 shows the trend in the annual recreation visitors to WRST. These counts are relevant to understanding visitation in the corridor, given that the McCarthy Road is one of the key access points into WRST. The decline in 2020 is related to the effects of the COVID-19 pandemic; however, visitation since then has trended back toward pre-COVID counts.

Figure 1-5. WRST Annual Recreation Visitors, 2000 to 2024



Source: NPS 2025

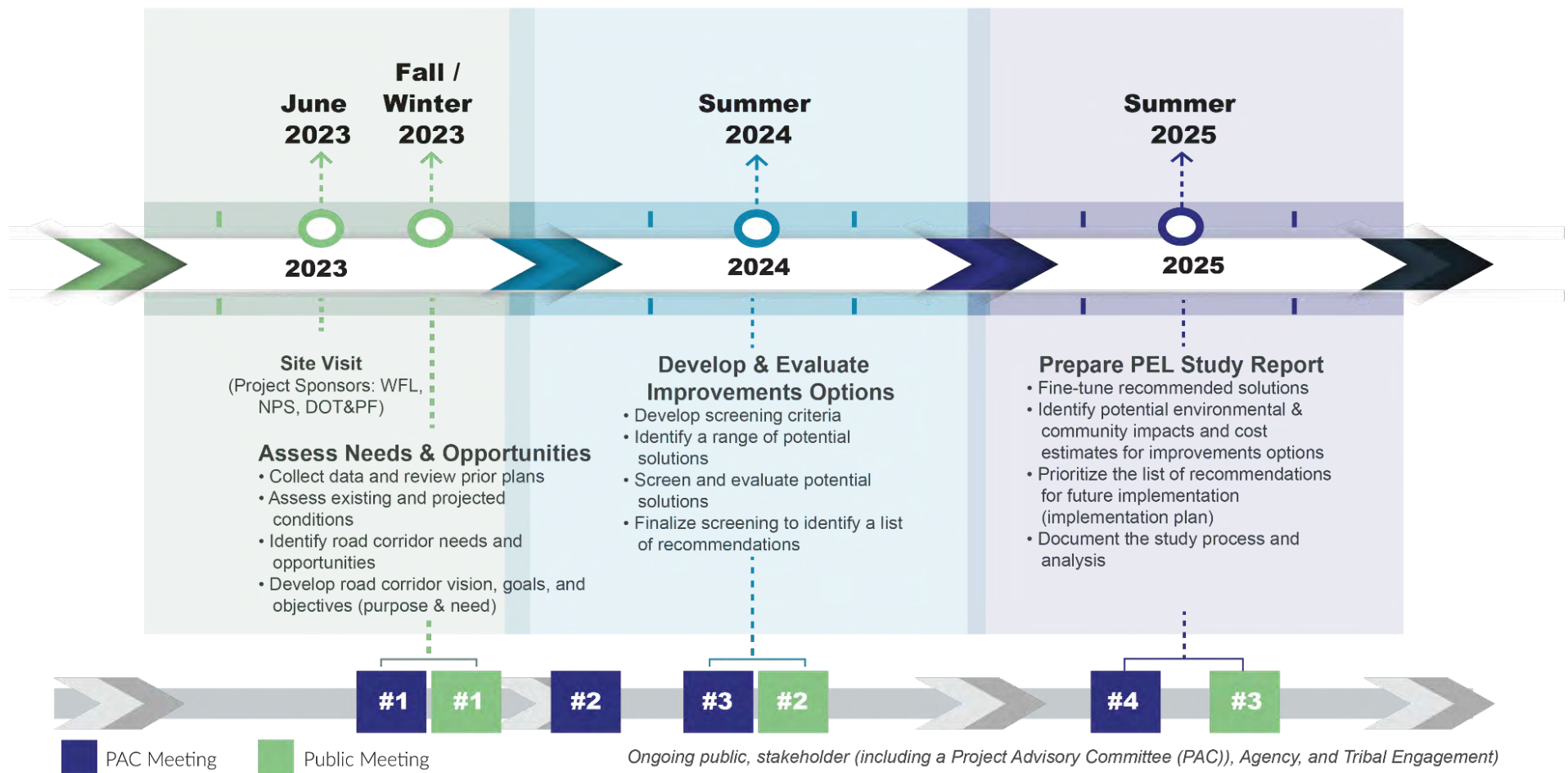
1.4 Study Process Overview

Figure 1-6 depicts the PEL study process, which followed three key phases over an approximate 2-year timeframe:

- Phase 1: Assess needs and opportunities
- Phase 2: Develop and evaluate improvement options (potential solutions)
- Phase 3: Refine and recommend solutions to include an implementation plan in the PEL study report

The study team placed a high priority on seeking input from the public and stakeholders throughout the duration of the PEL study. Early in the PEL study process, a stakeholder project advisory committee (PAC) was formed.

Figure 1-6. PEL Study Process and Key Phases



1.4.1 Phase 1: Assess Needs and Opportunities

The first phase of the PEL study focused on understanding the existing conditions, needs, and opportunities of the McCarthy Road corridor. The study team conducted a site visit in June 2023 and held meet-and-greet gatherings with the public in Chitina and McCarthy. During winter 2023 to 2024, the team hosted the first round of virtual public and stakeholder meetings and engaged with agencies and tribal groups. The *Needs and Opportunities Assessment Report (Appendix A)* summarizes the data and input received, including a comprehensive list of identified road corridor needs and opportunities. This phase involved drafting a corridor vision, goals, and objectives with public and stakeholder input.

1.4.2 Phase 2: Develop and Evaluate Improvement Options

Using information from Phase 1, the study team developed and evaluated potential solutions to address identified needs and opportunities. Goals and objectives guided this process and formed the screening criteria. Potential solutions were categorized into focus areas and potential enhancements. Potential solutions were evaluated through a three-level screening process. In early to mid-2024, potential solutions were presented to the public and stakeholders, hosting two PAC meetings and Public Meeting #2.

1.4.3 Phase 3: Prepare a Draft and Final PEL Study Report that Recommends Future Corridor Improvements

The PEL study report documents the process and results, providing a framework for future transportation improvements. The report presents and evaluates 20 recommended solutions. The final PEL study report reflects feedback from Public Meeting #3, PAC Meeting #4, and outreach to agencies and tribal groups.

1.4.4 Integration of Planning and Environmental Review

Pursuant to 23 U.S.C. 168(c)(1), 23 CFR 450.212 and 450.318, and other applicable³ statutes and regulations, representative planning products, analyses, and decisions from this PEL study may be used and incorporated by reference during subsequent environmental review processes (like NEPA processes). These may include, but are not limited to, the following:

- General travel corridor and/or modal choice, including recommendations to advance different modal solutions as separate projects with independent utility
- Purpose and need (or goals and objectives) statements
- Preliminary screening of alternatives (i.e., solutions) and elimination of unreasonable alternatives
- Basic description of environmental setting
- Decision with respect to methodologies for analysis
- Preliminary identification of environmental impact and environmental mitigation

NEPA established a mandate for federal agencies to consider the potential environmental consequences of their proposed action, documenting analysis of impacts, and making that information available to the public for comment prior to implementation. In addition to the previous bulleted list, other NEPA principles followed for this PEL study included coordinating with regulatory agencies and the public.

³ DOT&PF April 2021 (*Section 1.2 and Section 2.4*, summarizes relevant major provisions in statutes and regulations).

PELs are intended to be flexible tools that provide a basic framework for linking the transportation planning and NEPA phases. The PEL study sponsors opted to use the following terminology in this corridor-level PEL study: “goals and objectives” for the corridor; a draft future “purpose and need” for each recommended solution; and “solutions” rather than “alternatives.” Solutions are also referred to as projects in the PEL study report, because as a solution advances beyond the PEL study, it would be considered a project.

1.4.5 DOT&PF Statewide Environmental Office Engagement

Under the NEPA Assignment Program (23 U.S.C. 327) and through a Memorandum of Understanding between the DOT&PF and FHWA, the DOT&PF has assumed FHWA responsibilities for complying with NEPA when developing federally funded highway projects in Alaska that DOT&PF designs and constructs. The DOT&PF Statewide Environmental Office (SEO) administers the NEPA Assignment Program. The DOT&PF Northern Region and SEO were involved in this PEL process at key milestones. The SEO may adopt components of this PEL into future NEPA processes.

1.5 Identification of Transportation Issues, Needs, and Opportunities

The following represents an overview of the main themes of the initial identified needs and opportunities for the road corridor, as further detailed in the *Needs and Opportunities Assessment Report* (**Appendix A**).

- Improve the safety of the road corridor
Address issues such as narrow road and bridge widths, limited sight distance/road curvature, steep grades and roadbed slopes, and speeding.
- Improve the road/infrastructure conditions and maintenance
Address issues such as dust, overgrown brush, poor road surface, drainage, erosion, poor soils, glaciation over roadway during winter, limited winter road maintenance, and culverts.
- Improve road reliability and protection from natural hazards (resiliency)
Address geohazard locations (such as landslides)
- Reliably maintain and enhance access and support land uses, including visitor experience
Examples: improve signage, improve road junctions, provide adequate pullouts (for both safety and visitor experience), provide adequate trash removal, and expand recreational opportunities (such as trails and access to lakes)
- Consider non-motorized roadway users, such as pedestrians, bicyclists, and horseback riders
- Avoid to the extent possible and minimize environmental impacts and improve environmental conditions when road improvements occur (such as improving salmon habitat and passage)
- Consider the improvements and community interests included in previous plans

The following images provide examples of these issues, needs, and opportunities.

Figure 1-7. Examples of Drainage Issues and Lack of Ditches



Figure 1-8. Examples of Landslide Areas near MP 58 and Kotsina Bluffs



Figure 1-9. Example of Landslide, Road Conditions, and DOT&PF Maintenance



Figure 1-10. Example of Narrow Road Width Near Long Lake



Figure 1-11. Examples of Existing Signage



Figure 1-12. One-lane Bridge and Curve at Gilahina River Crossing



Figure 1-13. Kennicott River and Footbridge



Figure 1-14. Example of Road Located Outside of Road ROW (Swimming Hole Vicinity Near McCarthy)



Figure 1-15. Examples of Road Glaciation in Winter

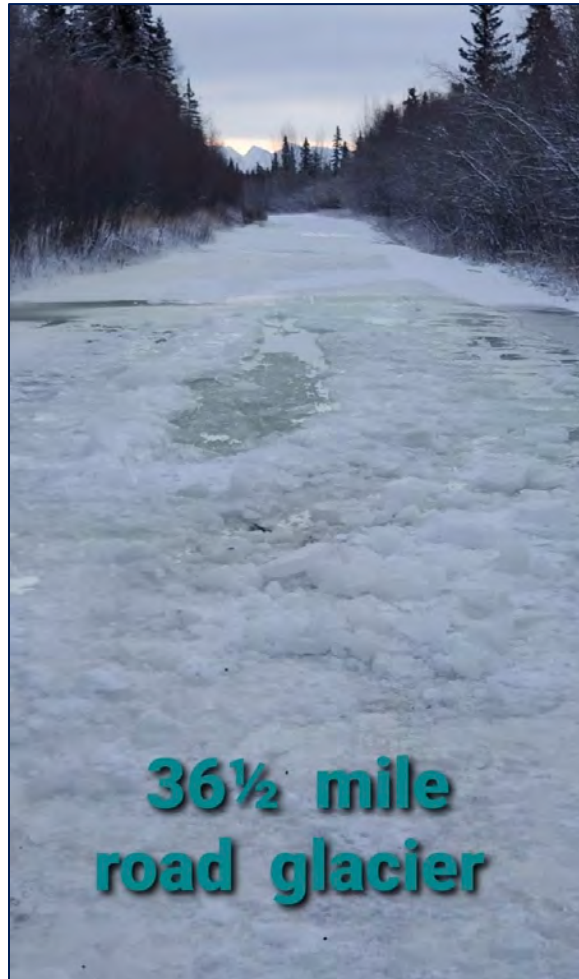
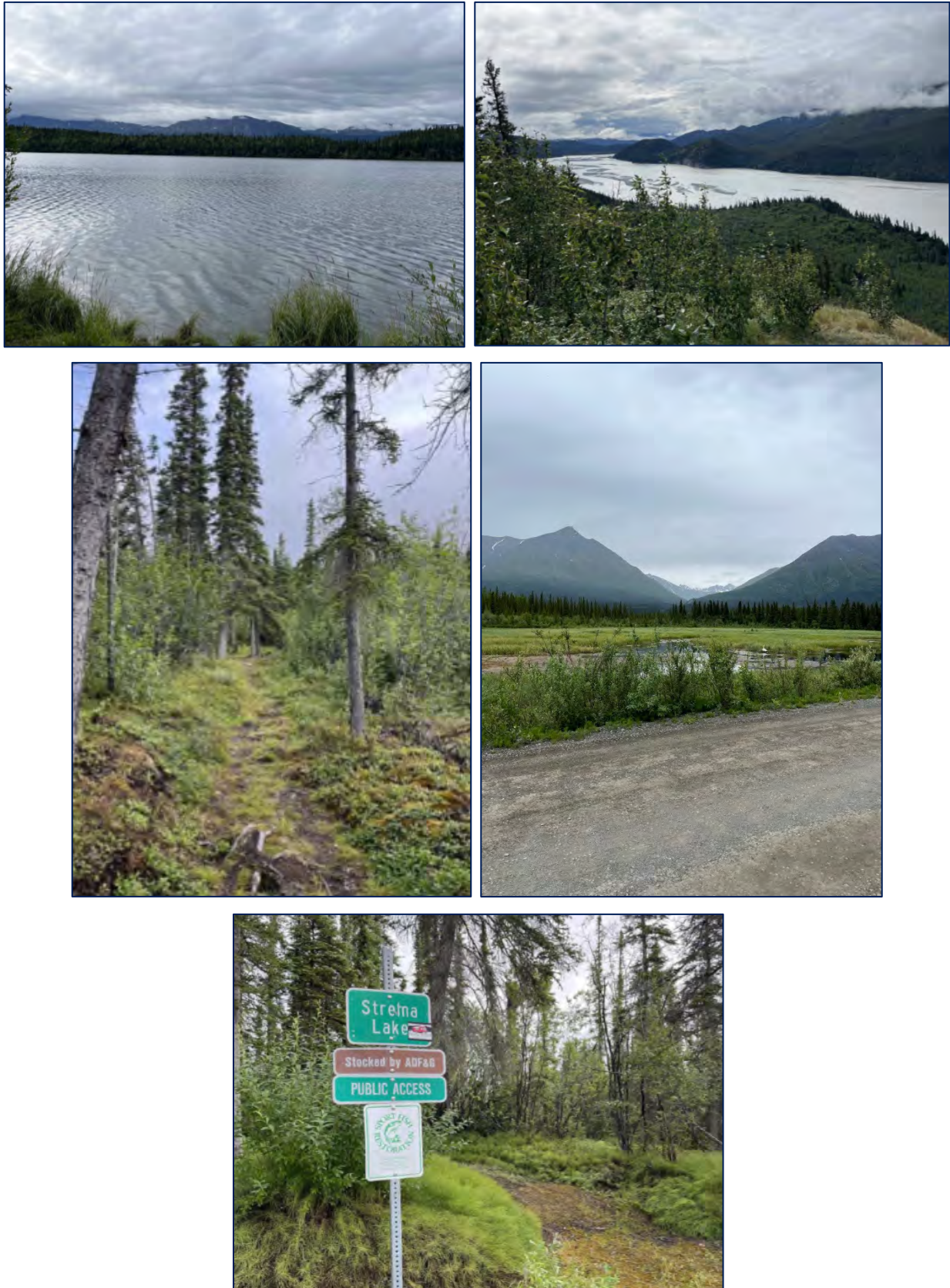


Figure 1-16. Examples of Recreation and Scenic Areas, Considering Suggested Visitor and Recreation Enhancements for the Corridor



2. Corridor Vision, Goals and Objectives (Purpose and Need)

2.1 Corridor Vision Statement

Early in the PEL study process, with input from the public and stakeholders, the study team prepared the following corridor vision statement:

To provide a safe road corridor and reliable access for residents and travelers on the McCarthy Road that embraces the scenic and cultural values of the surrounding environment and communities.

The vision statement reflects the PEL study partner mission statements, input from the public and stakeholders, and past relevant plans and studies for the corridor, as requested by the public to consider.

2.1.1 Project Partner Mission Statements

The corridor vision statement reflects the three project partners' mission statements:

- **DOT&PF's mission** is to "Keep Alaska Moving."
- **FHWA Federal Lands Highway's (WFL) vision and mission**, respectively, is "a safe and reliable transportation system for all those accessing Federal and Tribal Lands" and to "deliver innovative and context sensitive transportation solutions in alignment with our partners missions and values."
- **NPS's mission**: "The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world."

The NPS brings a unique perspective to the transportation corridor planning process because in addition to focusing on improving transportation infrastructure, the NPS closely looks at the visitor experience and how improvements might promote, preserve, or enhance the experience while minimizing impacts to the natural environment.

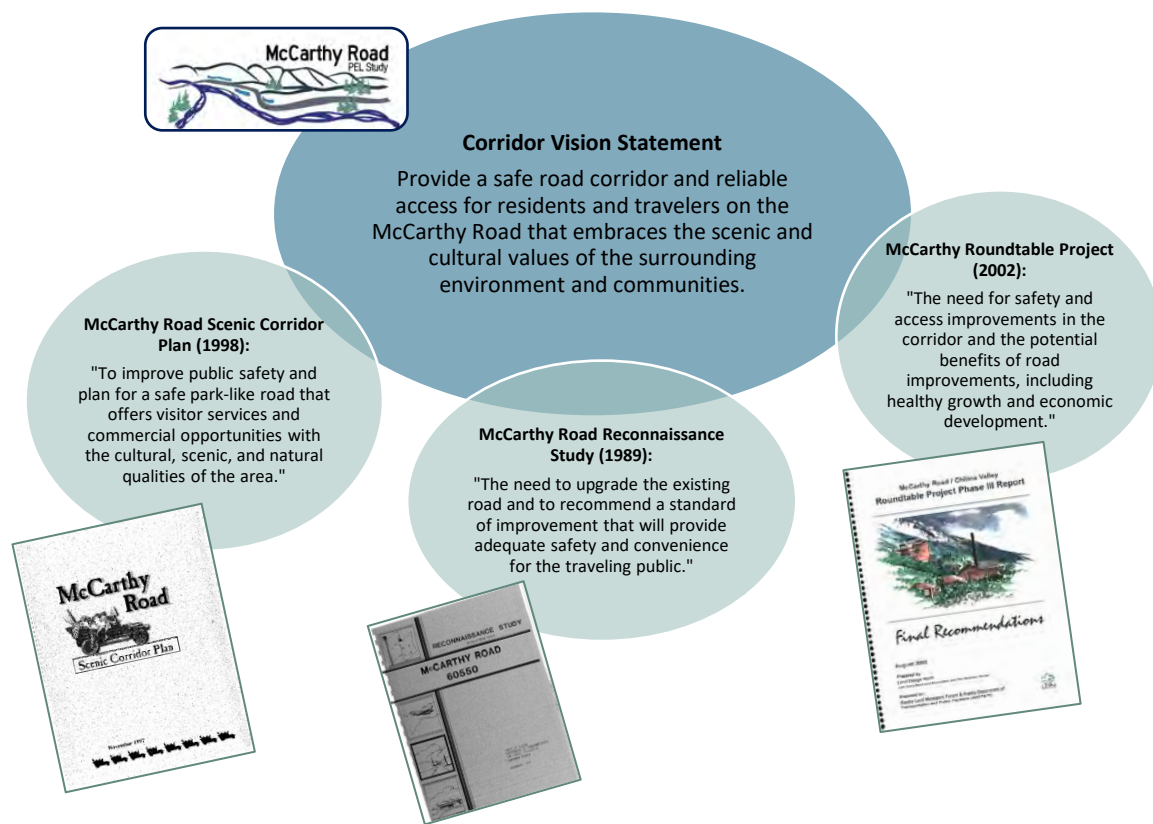
Additionally, the **NPS's specific purpose of WRST** is:

To maintain the natural scenic beauty of the diverse geologic, glacial, and riparian-dominated landscapes, and to protect the attendant wildlife populations and their habitats; to ensure continued access for a wide range of wilderness-based recreational opportunities; and to provide continued opportunities for subsistence use. (NPS 2016)

2.1.2 Previous Vision and Purpose Statements

When the study team conducted its initial site visit in June 2023 and hosted public meet-and-greets in McCarthy and Chitina, the public and stakeholders voiced the importance of building on previous studies and plans for the road corridor. Consequently, the study team reviewed previous corridor vision or purpose statements (Figure 2-1).

Figure 2-1. McCarthy Road Vision and Purpose Statements



Emerging themes from initial outreach and a review of past planning efforts emphasized the need for a safe, reliable roadway that preserves the natural environment and balances improvements with the corridor's historic context and character. The importance the public and stakeholders put on balancing roadway improvements for safe and reliable travel without impairing the surrounding human and natural environment greatly influenced the study team's analysis and decision-making during the PEL study planning process.

Based on feedback from stakeholders during PAC meeting #1, the text "and communities" was added to the statement. For specificity, "on the McCarthy Road" was also included in the version that was made available to the public for comment during the first public meeting for the PEL study. A poll requesting input on the corridor vision statement was available through the online open house (OOH). No additional changes to the statement were made.

2.2 Goals and Objectives (Purpose and Need)

Table 2-1 lists the goals identified early in the PEL study process. These were based on a review of conditions and needs included in the *Needs and Opportunities Assessment Report (Appendix A)* and input from the public and stakeholders.

Goals provide a roadmap to achieving a corridor vision. They are broad statements that reflect a desired end state (such as, what do we want to achieve?). The goals highlight the need for transportation and access improvements. The PEL study process identified both primary and secondary goals.

Goals guide the development and screening of potential solutions that in turn address the identified needs and opportunities. Goals inform purpose and need statements for individual improvement projects. An overarching purpose and need statement is included in Table 2-1, but each recommended solution in the PEL study report may address slightly different needs while having the same aim to provide a safe and reliable traveling environment. Draft purpose and need statements for each recommended solution are described in Section 5.5. If a project advances beyond the PEL phase, the purpose and need statement may be revisited during a future environmental review.

Table 2-1. PEL Study Corridor Vision, Goals, and Needs

Important PEL Study Drivers	Description
Corridor Vision	Provide a safe road corridor and reliable access for residents and travelers on the McCarthy Road that embraces the scenic and cultural values of the surrounding environment and communities.
Primary Goals	Primary goals are related to resolving a transportation need—in particular, the fundamental needs. • Provide a safe road corridor • Maintain reliable access
Secondary Goals	Secondary goals are related to resolving another need that supports the transportation facility or access to public lands. These reflect desirable outcomes but are not considered core. • Maintain intrinsic values of corridor (scenic, visual, natural, rural) • Promote environmental stewardship • Enhance access and support land uses in the corridor, including those related to visitor experience and recreation access • Accommodate motorized and non-motorized users • Promote economic vitality
Overarching Purpose and Need	Purpose: To provide a safe road corridor and reliable access for residents and travelers on the McCarthy Road. Primary Transportation Needs: • To improve safety of the road corridor • To improve deteriorated conditions of the road corridor and allow the road to function efficiently • To improve the resiliency of the road corridor to maintain access

Objectives were also developed and align with goals and reflect how goals are meant to be achieved, as shown in Table 2-2. The corridor vision statement, goals, and objectives shaped the screening criteria by which potential solutions were compared in the later stage of evaluating and screening potential solutions; refer to Section 4.2 for a list of the screening criteria.

Table 2-2. Goals and Objectives

Goals	Objectives
Primary Goal: Provide a safe road corridor	• Address roadway elements that are inadequate and do not meet current design standards – for example, narrow road width, limited sight distance, substandard road geometry such as steep grade and road curves • Improve protection of the road and bridge infrastructure from natural hazards – for example, land and rockslide areas, avalanches, high cutbanks, and steep banks/drop-offs • Reduce safety-related conflicts between user groups – for example, pedestrians/ATVs
Primary Goal: Maintain reliable access	• Improve infrastructure that is in poor condition (like road, bridges, culverts) • Address deteriorated physical conditions of the road resulting from dust; overgrown brush; poor road surface (high-float emulsion surface versus gravel); drainage, erosion, poor soils; and glaciation over roadway during winter • Improve protection of the road and bridge infrastructure from natural hazards
Secondary Goal: Maintain intrinsic values of corridor (scenic, visual, natural, rural)	• Provide road/infrastructure improvements that are context sensitive (for example, support the intrinsic values of the corridor)
Secondary Goal: Promote environmental stewardship	• Avoid or minimize adverse environmental impacts • Enhance the natural, cultural, historical, and built environment (for example, improve fish passage and therefore salmon habitat)
Secondary Goal: Enhance access and support land uses in the corridor, including those related to visitor experience and recreation access	• Enhance access to destinations within the corridor (for example, recreation, businesses, communities) – Provide adequate and visible signage – Provide adequate pullouts (for both safety and visitor experience) – Provide restroom facility/trash bins – Expand recreational opportunities (like trails or access to lakes)
Secondary Goal: Accommodate motorized and non-motorized users	• Consider both motorized and non-motorized users
Secondary Goal: Promote economic vitality	• Maintain or improve traveler movement, including for residential, commercial, tourism, and recreational access • Consider solutions with positive economic benefits for local communities

Refer to **Appendix E, Screening Evaluation & Results Memo**, Table 1-5 – Level 3 Evaluation Screening Criteria and Initially Identified Metrics for more details on the objectives and related evaluation criteria.

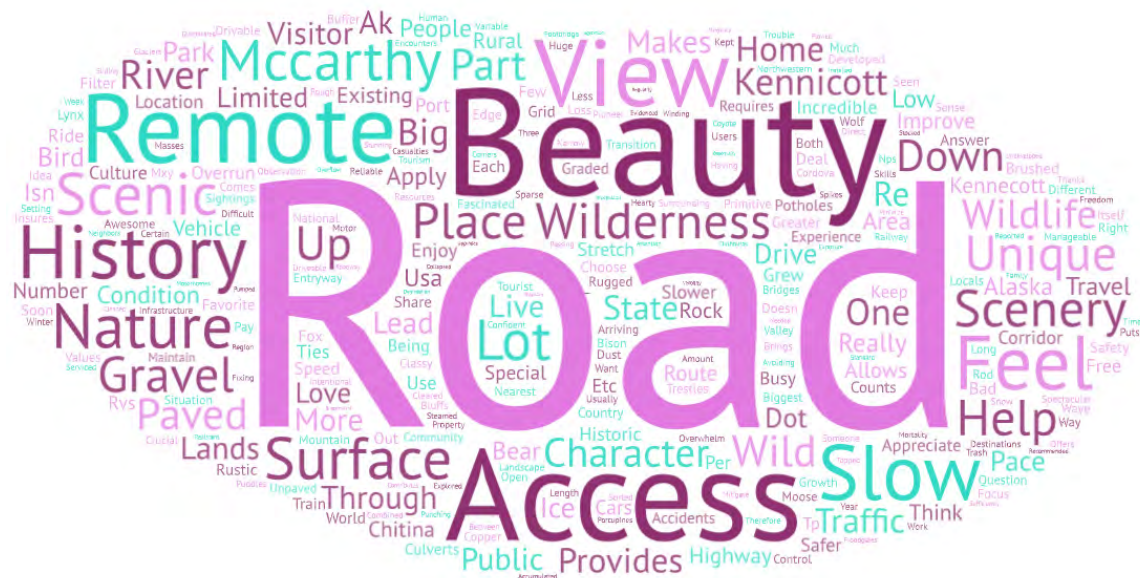
2.3 Public and Stakeholder Input

The study team placed high value on public and stakeholder input throughout the PEL study process. This input significantly shaped the study's direction, in particular the identification of corridor vision, goals, and potential road corridor improvements.

Eight polls included during the OOH for the first public meeting were used to solicit more detailed input and feedback, and 66 people took the polls. Representative poll questions and responses are included in this section (also refer to Public Meeting #1 summary in **Appendix C**).

Poll Question: Think about the McCarthy Road corridor today. What do you love about the McCarthy Road corridor?

The following graphic is a word cloud representing word frequency in the responses.



Responses to this poll question were related to key themes such as the area's beauty, history, remoteness, road character (minimal maintenance and not a superhighway), and that the road provides access to a special part of Alaska within context sensitivity.

These responses helped to understand and identify the values surrounding the users of the road when it comes to identifying the road corridor vision and goals. Similarly, the next poll question also helped to understand existing conditions and users' perception of the road corridor.

Poll Question: What are the three words you use to describe the McCarthy Road corridor?

The following graphic is a cloud representing word frequency in the responses. The top five word choices that respondents used to describe the road included beauty, remote, wild, historic, and adventure.



Examples of these phrases include the following:

- A treasured roadway
- Wild, rural, spectacular
- Historical, unique, dangerous
- Bumpy, dangerous, beautiful
- Beautiful, rugged, wilderness
- Dangerous, painfully long
- Beautiful, raw, dusty
- Pavement long overdue
- Slow, beautiful, tedious
- Gravel, narrow, unique
- Remote wilderness gateway
- Beautiful, rough, long
- Stunning, rough, unreliable
- Longest driveway home
- My back hurts
- I love DOT
- High float sucks
- Our buffer zone
- Stunning history/beauty
- Remote, beautiful, challenging
- Adventure, scenic, storied
- Remote mountain access
- Wild, rough, beautiful
- The road home
- Access into park/preserve
- Unpredictable, beautiful, hazardous at times
- Wild, beautiful, adventurous
- Beautiful, challenging, remote
- Scenic, rustic, historic
- Washboard, unstable, narrow
- Real wild Alaska
- Unique, remote, dirt
- Gorgeous, remote
- Entry to remoteness
- Natural, rural, special
- Beautiful, critical, unpredictable
- Remote, adventure, access
- Needs work done
- Historic, remote, gateway
- Historic
- Beautiful, majestic wilderness
- Filter. history. experience

- Challenging, beautiful, culture
- Community, slow paced
- Special, unpredictable, engaging
- Home, boreal forest, work and recreation
- A gateway and filter to the heart of the Wrangells
- Dangerous road conditions with lots of summer traffic
- History, beauty, recreation
- Awesome wilderness preserve
- Mythical, political, practical
- Variable, dynamic, gateway
- Narrow, road-glacier, beautiful
- Scenery, animals, a pleasant drive
- Transition
- Remote, adventure, self-reliance
- Beautiful desolate wild
- Remote, rustic, laid back
- Rugged, beautiful, filter
- Bumpy, narrow, landslides
- Spectacular Alaskan vistas
- Isolated, challenging, hazardous
- Scenic, adventure, historic

Poll Question: What do you like least about the McCarthy Road corridor?

The following graphic is a word cloud representing word frequency in the responses.



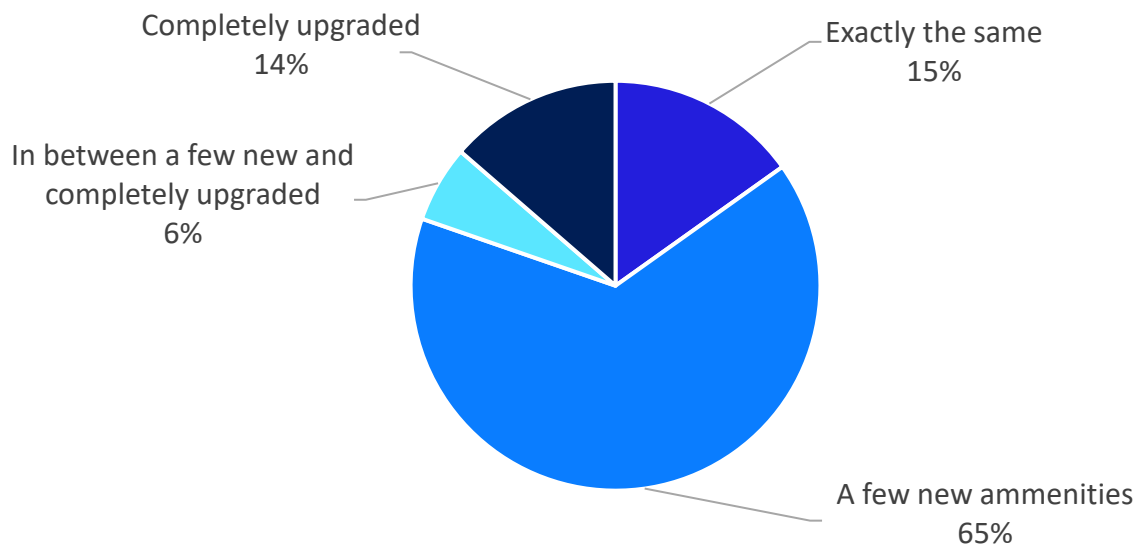
Responses to this poll question were related to key themes such as traffic, speeding, dust, road conditions and maintenance (road surface condition, potholes, chip seal, washboard, drainage), narrow road width, winter travel and conditions (glaciation over roadway), hazards (landslide areas), and lack of facilities (campgrounds, parking, recreation access points).

These responses helped to understand and identify what needs and issues could potentially be addressed in proposed road corridor improvements.

Poll Question: What does the ideal road corridor look like in 20 years?

Most people who responded to this question indicated they would like to see a few new amenities as shown on Figure 2-2.

Figure 2-2. McCarthy Road Corridor in 20 Years



The following are examples of the types of amenities or improvements that respondents identified:

- Road grading more often
- Better drainage and dust control but otherwise as is
- Completely upgraded and usable by all travelers rather than a select few
- More constant and safer, but still slower with lower traffic volumes. Too much would be a nightmare and real problem
- Responsibly upgraded
- The same, but slightly improved maintenance
- Some brushing especially on corners and improving soft shoulders
- Widened and paved
- Improved maintainable roadbed
- A wider, better drained, and more visible/safer gravel road, 35-45 MPH
- Fix slide areas, continue to grade the road
- Consistent maintenance and improvement to be able to travel the road at a constant speed of 30mph year-round
- Raised, crowned, ditched, and brushed
- Work on the safety issues. Give it a few more pull outs but let people experience real Alaskan wilderness
- Continue slow incremental safety upgrades

These responses reiterate the desire for some road corridor improvements but not a substantial change to the road. These responses informed the types of improvements the study team developed and evaluated.

The public and stakeholders were asked to rank the list of emerging themes related to goals for the corridor (Table 2-3).

Table 2-3. Public and PAC Ranking of Emerging Themes/ Draft Goals

Emerging Themes/Draft Goals	Public Ranking	PAC Ranking
Improve Safety	1	1
Improve road/infrastructure condition	2	2 (tie)
Maintain intrinsic values of corridor (scenic, visual, natural, rural)	3	2 (tie)
Improve road reliability (resiliency)	4	2 (tie)
Promote environmental stewardship	5	5
Enhance access and supporting land uses in corridor	6	7
Accommodate multiple modes of travel	7	8
Promote economic vitality	8	6

Polls during the second public meeting confirmed these rankings. The study team used this input to refine the list of the primary and secondary goals, influencing the next phase of the PEL study, which included identifying, evaluating, and screening a list of potential improvement options based on goals-related screening criteria.

3. Public Involvement and Stakeholder Outreach

One of the key desired outcomes of the PEL study was to bring together stakeholders and users of the McCarthy Road to build relationships and to identify transportation and access needs and solutions for the corridor. The study team sought input to identify needs and opportunities and appropriate solutions that balance resource and user impacts with needed improvements.

This section summarizes the public and stakeholder outreach activities and tools used in the PEL study process. **Appendix C** contains supporting public involvement and stakeholder outreach materials that are described in this section.

3.1 Public Involvement Process and Outreach Tools

Meaningful involvement is an important part of the PEL study process and contributes to successful project implementation in the future.

A Public Involvement Plan was prepared in October 2023 to identify potentially affected interests and document the process for engaging the public, stakeholders, and other interested parties in the study. The Public Involvement Plan is provided in **Appendix C**. The study team's approach to outreach was to conduct a proactive, collaborative process that provided and ensured opportunities for affected interests to be involved in key phases throughout the PEL study process.

Outreach efforts followed these relevant planning regulations requirements⁴: (DOT&PF 2021)

- Held early and continuous public involvement opportunities throughout the process, particularly at key phases
- Provided the opportunity for public review and comment at key phases (that is, key decision points) and made public information available in electronically accessible formats and means
- Held online public meetings over month-long durations to allow for reasonable access to information
- Provided timely public notices
- Considered and responded to input received
- Periodically reviewed the effectiveness of procedures and strategies to ensure a full and open participation process
- Considered the opinions, actions, and relevant information from other parties
- Cooperated with and involved parties to work together to achieve a common goal

Key outreach tools consisted of the following:

- **PAC:** A stakeholder advisory committee was created to represent a range of interests and offer diverse insights. The PAC met four key times (both in-person and virtually), as described in Section 3.2.
- **Project Website:** A project website (www.McCarthyRoadPEL.com) was available throughout the duration of the PEL study. The DOT&PF and WFL also hosted simple websites that served as landing pages that linked and directed people to the project website. Website content included background information, study purpose and goals, study schedule and status, links to project information and documents such as the public meeting summaries and key work products such as the Needs and Opportunities Report, links to the online public open houses when they were held, and study team

⁴ 23 CFR 450.210 and 450.316; DOT&PF 2021 (*Section 3.3 Public and Agency Involvement Requirements*).

contact information. The website included a notice that PEL study materials may be adopted or incorporated by reference into a future environmental review process. Public comments were solicited specifically during the public meetings but could be submitted through the project website at any time.

- **Public meet-and-greets:** Before officially starting the PEL study, the study team conducted a 2-day site visit on June 27 and 28, 2023. The team held a public meet-and-greet in McCarthy on the first evening with about 30 attendees, and another in Chitina the next evening with nine attendees representing Chitina, Strelina, and Silver Lake. The WFL project manager provided an informal greeting and overview of the study, encouraging attendees to join the project mailing list.
- **Public Meetings:** The study team hosted three public meetings during the three key phases of the PEL study, as described in Section 3.3. Public Meetings #1 and #3 were virtual via OOHs that ran for at least 1 month each. Public Meeting #2 consisted of both a virtual OOH and a series of in-person public meetings.
- **Agency and Tribal Outreach:** The DOT&PF solicited input from agencies, Native Village of Chitina, and Alaska Native regional corporations at key phases, as described in Section 3.4.
- **Public Notices, News Releases, and Social Media:**
 - State of Alaska Online Public Notices were published at key phases that coincided with the public meetings and key work products. The DOT&PF published online State of Alaska public notices on December 8, 2023, July 29, 2024, and June 6, 2025. These notices invited the public to the open houses, solicited comments, and informed the public about the information being collected that will inform the development of recommendations in the PEL study.
 - News releases on listservs and the *Copper River Country Journal* promoted public meetings and provided public notice. DOT&PF social media posts were also used to inform the public and solicit involvement.
- **Contact/Mailing List and Project Emails:** The study team compiled a contact/ mailing list of interested parties and stakeholders that was continually updated as contact information was received. The mailing list was used to provide public notification of meetings and project updates. The study team sent email updates at key phases, including follow-up email responses to those who submitted public comments.
- **Project Newsletters:** The study team distributed two project newsletters to the mailing list and every post office box in Chitina and McCarthy to coincide with the public meetings.

3.2 Project Advisory Committee

At the onset of the outreach process for this PEL study, a PAC was formed to guide project development and build consensus on corridor needs and opportunities, appropriate solutions, and recommendations. The PAC included representatives from the following stakeholder organizations/ groups:

- Ahtna, Inc.
- Alaska Travel Industry Association
- Copper River Valley Regional Planning Organization
- Chitina Dipnetters Association
- Chitina Resident
- Chitina Native Corporation
- Copper River Watershed Project (CRWP)/Strelina Lake Area Resident
- Copper Valley Development Association
- Copper River Valley Regional Planning Organization
- DOT&PF Northern Region Operations & Maintenance

- McCarthy Area Council (MAC) and MAC Road & Access Committee
- McCarthy Resident
- Native Village of Chitina
- NPS WRST and Alaska Regional Office (*NPS representatives on the PAC are also study team members*)
- State of Alaska Division of Forestry & Fire Protection
- University of Alaska Land Management

The study team hosted four PAC meetings during the PEL study process. **Appendix C** contains meeting summaries and materials provided during these meetings.

3.2.1 PAC Meeting #1: Orientation, Vision, Goals, and Needs and Opportunities

The first PAC meeting was held on November 16, 2023, via teleconference. The meeting included exercises to help PAC organizations understand shared values related to identifying a vision and goals for the road corridor. Attendees learned about their role as a member of the stakeholder committee and what to expect during the study. The study team provided an overview of the PEL study process and schedule, presented desired outcomes, and walked through a charter for the PAC. The PAC members participated in a live polling exercise to score potential goal statements for the PEL study as well as a preliminary corridor vision statement. Each PAC member was encouraged to provide input on the top three needs and/or opportunities of the road corridor.

3.2.2 PAC Meeting #2: Identify Needs and Opportunities, Vision, and Goals Continued

The second PAC meeting was held April 4, 2024, via teleconference. The study team recapped the outreach activities and information obtained during Phase 1 of the study; this included the results from the first public meeting especially as it relates to identifying issues and need and opportunities. The team provided an overview of the results included in the *Needs and Opportunities Assessment Report* (**Appendix A**). Consensus was sought to finalize the corridor vision statement and goals. During the meeting, each PAC member described top priorities to be addressed in the upcoming phase of the study. The study team discussed the next phase (Develop and Evaluate Improvement Options) and how the vision and goals inform that process.

3.2.3 PAC Meeting #3: Develop and Evaluate Solutions

The third PAC meeting was held July 30, 2024, in the Chitina Native Village Community Hall in Chitina. Several PAC members called in who could not attend in-person. The meeting included a brief recap of the results of the first phase of the PEL study. The main intent of the meeting was to introduce Phase 2 of the study, describe the proposed screening process, introduce the range of potential solutions, and solicit input on the potential solutions and priorities. The meeting included a presentation and discussions on the range of potential solutions, which were divided into focus areas and suggested enhancements. PAC members were encouraged to share comments and ask questions related to the focus areas.

3.2.4 PAC Meeting #4: Recommended Solutions in the PEL Study

The fourth and final PAC meeting was held June 5, 2025, via teleconference. The meeting focused on reviewing the recommendations and assigned priorities included in the draft PEL study report. The study team recapped the study process and goals and presented the 20 recommended solutions. PAC members participated in a polling exercise and discussed the recommended solutions and assigned priorities, assuming both financial constraints and limitless funding.

3.3 Public Meetings

Three public meetings occurred during the PEL study process; each consisting of at least a 1-month-long OOH. Public Meeting #2 also included a round of in-person public meetings. OOHs were set up using ESRI StoryMaps software, which weaves project narrative with multimedia content that includes maps, photos, and comment/survey fields; this format was used so that public comments could be solicited in multiple ways.

Table 3-1 provides a high-level summary of the three public meetings, including the number of attendees and comment submission information. **Appendix C** contains meeting summaries and materials provided during these meetings.

Table 3-1. Overview of Public Engagement during Public Meetings

Event	Dates	Number of Attendees	Submitted Comments
Public Meeting #1 OOH	November 29, 2023, to January 10, 2024	• 770 unique visitors to project website • 325 views of the OOH	• 156 comments from online mapping tool • 66 people took OOH polls • 39 people submitted OOH comment forms • 21 people submitted comments via project website • 10 emails/ letters submitted directly
Public Meeting #2 OOH	July 25 to August 25, 2024	• 828 unique visitors to project website • 295 views of the OOH	Comments were submitted through: • Focus Area and Enhancement Polls (35 people took at least one poll) • “Get Engaged” general online comment submission section • Emails submitted directly
Public Meeting #2 Glennallen	July 30, 2024	10 people	Comments were submitted through: • Verbal comments • Hard copy version comment forms • Sticky notes on large maps
Public Meeting #2 Chitina	July 30, 2024	22 people	Same as Glennallen public meeting
Public Meeting #2 McCarthy	July 31, 2024	More than 50 people	Same as Glennallen public meeting
Public Meeting #3 OOH	June 6 to July 25, 2025	• 533 unique visitors to project website • 244 unique visitors to the OOH	Comments were submitted through: • OOH prioritization polls (31 responses) • Comment section of the OOH (9 people) • Emails/letters submitted directly (25) • Several phone calls to the study team

Figure 3-1 shows photos taken during the open houses as part of Public Meeting #2 held in July 2024.

Figure 3-1. Public Meeting #2 Open Houses Photos, July 2024



Left photo: Chitina Public Meeting, July 30, 2024; right photo: McCarthy Public Meeting, July 31, 2024.

3.3.1 Public Meeting #1

The first public meeting was held as an OOH and ran between November 29, 2023, and January 10, 2024. The purpose of the open house was to inform the public about the scope and purpose of the PEL study and to seek input on existing corridor conditions, needs, opportunities, and a draft corridor vision and purpose statement and goals. The meeting extended beyond a common month-long duration to accommodate additional time through the holidays.

Public Meeting #1 included an interactive mapping tool that allowed visitors to explore geospatial data and attribute comments to specific locations along the study corridor. The OOH also contained a link to a poll containing eight questions intended to solicit input on a draft corridor vision and purpose statement.

There were 770 unique visitors to the project website and 325 views of the OOH (by 203 unique visitors). The quantity of public comments submitted during the OOH was high considering the remoteness of the study corridor, low number of year-round residents, and low road traffic volume. Several hundred comment submissions were received during the 1.5-month-long advertised window. The public submitted 156 comments using the online mapping tool; 66 people took an additional poll from the OOH, 39 people submitted comments via the OOH comment form, 21 people submitted substantive comments via the project website, and a handful of emails or letters were sent directly to the PEL study team.

Popular comment themes included the following:

- Access (road reliability, parking, Kennicott River crossing bridge access)
- Road design and road character
- Bridge condition
- Road condition/maintenance (drainage, culverts, chip seal, glaciation, brush clearing, sight distance, potholes, erosion, winter maintenance)
- Hazards (landslide, avalanche, bluffs)
- Safety (speeding, emergency services)
- Community considerations and economic development
- PEL process
- Visitor experience (scenic pullouts, waysides, signage)

- Recreation opportunities (trails, lake access, boat ramp)
- Multimodal accommodations (bicyclists pedestrians)

3.3.2 Public Meeting #2

The second round of public engagement occurred in person and virtually in summer 2024. The purpose of the meetings was to present initial solutions for road corridor improvements that were under consideration, seek input on focus areas and suggested enhancements, and identify public priorities.

The in-person open houses were held in Glennallen and Chitina on July 30, 2024, and in McCarthy on July 31, 2024. (The Glennallen venue was added based on feedback from the PAC after Public Meeting #1). The 2-hour open house format included a brief presentation, which included an overview of the eight poster boards that were scattered throughout the room. Poster boards included the following content: welcome/overview; PEL process overview and schedule; recap of Phase 1, including screening; potential solutions: focus area locations; focus area detailed maps; and suggested enhancements (visitor, recreation, environmental). The number of people who signed in were more than 50 in McCarthy, and 10 and 22 people respectively in Glennallen and Chitina.

The OOH ran between July 25 and August 25, 2024. The content of the OOH contained an introduction; overview of the PEL study process and planned screening process (including a link to the initial screening process memo); a synopsis of the potential solutions proposed for the key focus areas and suggested enhancements; polls requesting input on the corridor vision and goals and ranking of the focus areas by priority; and study team contact information.

The public submitted comments via several methods during Public Meeting #2. This included through the OOH, emails sent directly to the study team, and at the in-person open houses either verbally or in writing via hard copy comment forms or sticky notes on a large map.

A total of 1,800 unique users visited the project website from inception, in November 2023, through the launch of the second OOH. There were 828 unique visitors to the project website from July 25 to August 25, 2024. During this period, there were 295 views of the open house website by 203 unique visitors.

Topics receiving the most comments included the following:

- Kennicott River Bridge: Many commentors strongly opposed the potential option to construct a public vehicle bridge over the Kennicott River. Related top concerns included increased traffic, lack of infrastructure (such as parking) to accommodate the influx of vehicles to the east of the river, and the impacts to the area's unique character. Other commentors favored retaining the existing bridge crossing setup (pedestrian/ATV bridge and a private bridge) and improving the pedestrian/ATV bridge condition.
- Long Lake: Many commentors favored a reroute of the road near Long Lake for numerous reasons, including safety, ease of maintenance, and recreational opportunities that a reroute would facilitate.
- Drainage and roadway cross sections: Public comments suggested strong support for improving drainage and roadway cross sections. Landslides as well as road glaciers were common concerns mentioned to address.
- Need for safety improvements: Comments included the need for better signage, addressing narrow road widths, and regular road maintenance. Some commentors suggested increasing year-round maintenance to include winter rather than prioritizing new improvements. Others recognized the financial constraint of DOT&PF's maintenance budget. The trade-offs between improved road condition and a tendency to increase vehicle speeds was also a concern.

- Fish passage: Comments highlighted the desire to ensure new culverts to allow for fish passage.
- Visitor enhancements: Public comments suggested general support for these types of enhancements, but in the context of balancing those improvements and preserving the area's natural and cultural values. Others commented on the desire to first focus on safety-related issues rather than making additional enhancements.

3.3.3 Public Meeting #3

The third public meeting was held as an OOH and ran between June 6 and July 25, 2025. The purpose of the OOH was to seek input from the public on the recommended solutions and assigned prioritization contained in the draft PEL study report.

The content of the OOH contained a welcome page, overview of the PEL study and screening evaluation process and results, a synopsis of the 20 recommended solutions and assigned prioritization, an interactive mapper for submitting comments geospatially, links to the draft PEL study report and appendices, polls requesting input on project prioritization, study team contact information, and the ability to submit comments directly through an embedded comment form.

The team used several methods to solicit feedback from the public. Most comments were submitted through the OOH and emails sent directly to the study team. Comment themes included the following:

- Importance of improvements being context sensitive (though one commentor wanted the road redesigned for a 60-mph speed limit)
- Safety, and especially related to brush clearing, narrow road, dust, and concern for speeding
- Consideration of reduced speed limits in populated road sections (e.g., 20 to 25 mph)
- Road condition improvements
- Drainage improvements, especially locations where glaciation is occurring and near Crystalline Hills
- Kotsina Bluffs reroute and its location, particularly related to affected land ownership
- Long Lake reroute option, specifically support for the reroute, request for additional information to be included in the PEL study report, comments on the screening results, and consideration of the proposed fiber optic cable project in the reroute location
- Gilahina River bridge: repairing not replacing it
- MP 58 slide area improvements
- Kennicott River erosion control project: Support for the project, with a request to explore alternative designs and footprints to what is shown in the draft PEL study. Emphasis on early public and waterway user engagement during a future preliminary design phase.
- Non-motorized accommodation, specifically between MP 57 and the beginning of the wagon road
- Suggestion to combine the swimming hole area project (MP 59.5 to 59.7 Reconstruction) and Clear Creek culvert project
- Environmental enhancements (fish passage and habitat protection)
- Enhancing recreational and tourism opportunities, including trailhead parking development, signage, adequate parking, and toilet facilities
- Consider changing assigned prioritization and/or timelines, for the following recommended solutions: MP 15 to 27 Rehabilitation, Long Lake MP 44 to 48.5 Reconstruction, pullouts between McCarthy and Kennicott Subdivision, and Long Lake Creek/ Tributary Culvert Replacement
- Input on the PEL study process
- Underreported vehicle incident and crash data

- Land ownership concerns, including illegal camping along the road and on native allotments
- Signage installation for identifying land ownership
- Need for invasive plant species management
- Request for a proposed material site plan within the PEL study
- Future project coordination with the public, agencies, tribal governments, and landowners

There was a concerted effort by Long Lake resident Bob Behrends to solicit and submit letters from a broad range of supporters for the Long Lake reroute option, one of the potential solutions that was screened out.

3.4 Tribal Engagement

WFL and the study team engaged Native Tribes and Corporations multiple times throughout the planning process. Engagement activities included the following:

- WFL transmitted letters via email to Native Village of Chitina, Chitina Native Corporation, and Ahtna, Inc. on October 19, 2023, to solicit input and consult on the McCarthy Road PEL study.
- The PEL study team met with representatives from the Native Village of Chitina and Chitina Native Corporation on January 23, 2024, to discuss the PEL process and methods to notify Native allotment owners within the corridor. The Native Village of Chitina expressed concern whether there would be sufficient due diligence for cultural resource identification for proposed alignment changes. Other concerns included the increases in dust in the community due to the drier seasons. The Chitina Native Corporation indicated concern about any ROW changes and the broader issue of DOT&PF's claims for ROW within the Ahtna lands region; they also commented on wanting to advocate for more maintenance, preservation of subsistence practices, and issues that arise during the dipnetting season that result in some trespassing.
- The Native Village of Chitina hosted PAC Meeting #3 and Public Meeting #2 in Chitina in July 2024.
- WFL emailed a second letter to the Native Village of Chitina, Chitina Native Corporation, and Ahtna, Inc. on May 28, 2025, requesting input on the recommended solutions included in the draft PEL study report. Chitina Native Corporation acknowledged receipt of WFL's email and letter.
- The PEL study team met with the Native Village of Chitina and Ahtna Intertribal Resource Commission on July 2, 2025.
- The Native Village of Chitina and Ahtna Intertribal Resource Commission submitted a response letter dated July 24, 2025, commenting on the following topics, as discussed during the July 2, 2025, meeting:
 - concerns related to fish spawning streams and known gravesite areas;
 - the limited number of cultural resource surveys and archaeological assessments in the corridor and the need for more consultation should projects advance; environmental degradation, particularly to streams;
 - request for all impacted streams to be surveyed for fish diversity and inclusion of the Ahtna Intertribal Resources Commission to add capacity and assist with the survey;
 - inclusion of tribal governments and landowners in the earliest stages of project planning if any projects advance; and
 - protection and respectful treatment of ancestral remains and sacred sites.
- Ahtna, Inc. submitted comments on July 25, 2025, requesting a revision to the draft PEL study report map that shows the road reroute location near Kotsina Buffs.
- Attendance as stakeholders at the four PAC meetings.

3.5 Agency Involvement

WFL transmitted agency scoping letters via email on November 22, 2023, requesting early agency coordination. WFL sent letters to the following agencies: Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Bureau of Land Management, Department of Natural Resources (DNR), National Oceanic and Atmospheric Administration (NOAA), U.S. Army Corps of Engineers (USACE), U.S. Coast Guard (USCG), U.S. Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (USFWS). Several agencies expressed interest in staying involved in the study process and offered data regarding baseline conditions in the study area.

WFL distributed a second round of agency letters on May 29, 2025, requesting additional feedback on the proposed improvements and environmental considerations included in the draft PEL study report.

A synopsis of relevant agency information, especially as it pertains to potential environmental mitigation measures and approvals and permit considerations, is included in Section 6.2. Agency correspondence is included in **Appendix C**.

4. Solution Options Development and Evaluation

The information collected during the first phase of the PEL study (Needs and Opportunities Assessment) helped to shape the identification of potential solution options and the development of a screening process. Early input from the public, agencies, and stakeholders significantly influenced the identification and evaluation of potential solutions. Due to the corridor's length, the study team initially identified focus areas for locations of key improvements and presented them for input during the second phase of the study (Develop and Evaluation Improvement Options).

This section summarizes the process of identifying and evaluating potential solution options.

4.1 Screening Process Overview

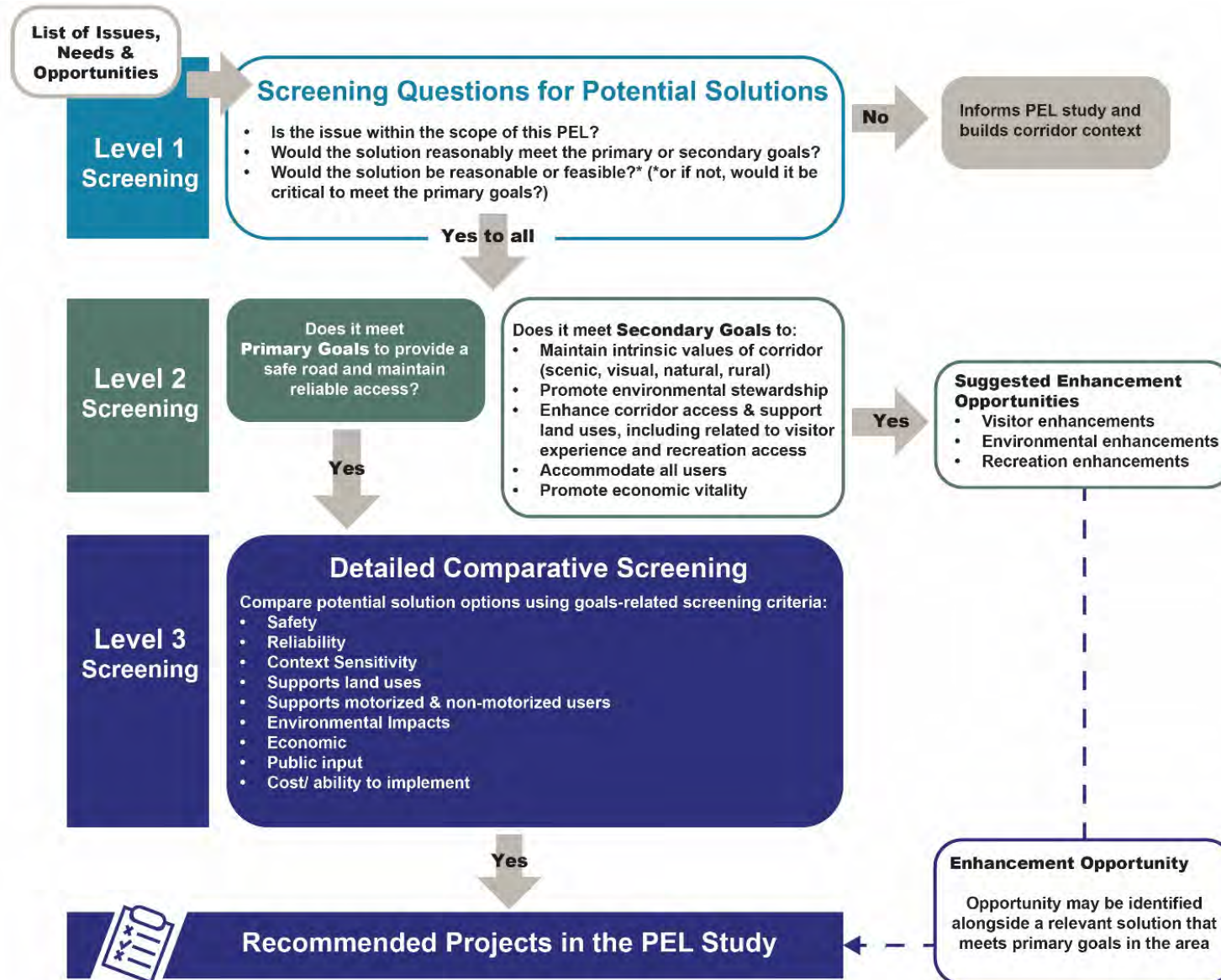
Identifying potential solution options followed the Needs and Opportunities Assessment phase of the PEL study, which ran from summer of 2023 to early 2024. Drawing from that work, the PEL study team developed a screening evaluation process; this was made available and presented to the public and stakeholders during the second outreach phase conducted during July and August 2024.

Figure 4-1 shows the three-level screening process developed for the PEL study. The overarching process can be summarized as follows:

- Identify a range of potential solutions
- Develop an evaluation process to screen potential solutions
- Identify screening criteria and associated screening metrics
- Apply the screening process
- Finalize screening to identify a list of recommended solutions for future implementation

The purpose of screening is to determine if an option should proceed to detailed evaluation and be included as a recommended solution in the PEL study. Screening involved evaluating and narrowing the range of potential solutions based on established criteria and metrics. The goals set early in the PEL process served as the foundation for these criteria. Despite recognizing many needs and opportunities for the road corridor, the PEL study focused on identifying and refining 20 recommended solutions (projects). The study team deemed this number reasonable and sufficient to conduct analysis and concept design for and still ensure that the key identified needs for the road corridor are covered.

Figure 4-1. Screening Process Flowchart



4.1.1 Level 1 Screening

The screening process began with the baseline understanding of existing conditions, issues, needs and opportunities, previous studies and plans, and input from the public, stakeholders, and agencies; this is reflected as the starting point in the flowchart, as “List of Issues, Needs & Opportunities.”

Refer to **Appendix A, Needs and Opportunities Assessment Report, Attachment A – Comprehensive List of Identified Needs, Opportunities, and Issues in the Study Corridor**, for a thorough list of verbatim comments submitted by the public, stakeholders, and agencies during the first outreach phase.

The study team received hundreds of distinct comments during the first outreach phase. Comments not lending themselves to evaluating specific solutions or that were not relevant within the scope of the study were screened out in Level 1 screening, as described in the *Solutions Development & Evaluation: Screening Process Overview Memo (Appendix D)*.

The study team posed the following questions during this phase:

- Is the issue within the scope of the PEL?
- Would the solution reasonably meet the primary or secondary goals?
- Would the solution be reasonable or feasible? If not, would it be critical to meet the primary goals?

A “yes” to these questions moved a concept forward to Level 2 screening for additional consideration.

4.1.2 Level 2 Screening

In Level 2 screening, the team assessed whether the options substantially met primary or secondary goals.

- **Primary goals** are related to resolving a fundamental transportation need. Options substantially meeting primary goals advanced into Level 3 for additional evaluation.
- **Secondary goals** are related to resolving another need that supports the transportation facility or access to public lands. These reflect desirable outcomes but are not the considered core. Solution options largely addressing secondary goals were categorized as one of the following enhancement opportunities: visitor experience, recreation, or environmental.
 - Suggested visitor or recreation enhancement opportunities or issues were not evaluated in-depth because they are not solutions to resolving fundamental transportation needs.
 - Suggested environmental enhancements were related to improving fish passage, mostly related to culverts. Consideration of culverts was retained, because improving them could be considered a dual function of resolving infrastructure needs as well as enhancing the environment.

4.1.3 Level 3 Screening

Level 3 screening involved evaluating and comparing related solutions for identified focus areas using mostly goals-related screening criteria. The intent was to identify the best option for recommendation to move forward.

The range of preliminary solutions for focus areas was the focus of the second public meeting series held in July and August 2024. The study team hosted three in-person open houses and a 1-month-long OOH to solicit input on the solutions under consideration. The study team sought input on what solutions and focus areas should be prioritized. Based on public and stakeholder comments, the study team then conducted the Level 3 screening, the results of which are summarized in this PEL study report.

Refer to the *Screening Evaluation & Results Memo* in **Appendix E** for more information on the screening.

4.2 Screening Criteria

The corridor vision statement and goals shaped the screening criteria by which potential solutions were compared, particularly in the Level 3 screening. These included the following criteria:

- Safety
- Reliability
- Context sensitivity
- Environmental impacts
- Support land uses, including visitor experience and recreation enhancements
- Motorized and non-motorized user accommodation
- Economic
- Public and stakeholder input and priorities
- Cost/financial feasibility and implementation

These screening criteria were used to screen and evaluate solution options during Level 3 screening to identify the best solutions to recommend.

Weighting: Weighting is a method used to assign different levels of importance, or weights, to different criteria when calculating a total score. Each screening criterion was assigned a percentage that enables a weighting among the criteria. The study team assigned the weighting based on comments from the public and stakeholders on the ranking of the corridor goals, on which the criteria were largely based. The higher the percentage assigned to the safety and reliability criteria reflect that those are the two primary goals identified for the road corridor. As those are the two primary goals for the corridor, they have the most weight. The cost and ability to implement criteria also had a higher weighting. Criteria that received a smaller percentage distribution of the weighting reflect goals that are secondary and were identified as not as important compared to other goals; several of those criteria are combined as shown in Table 4-1.

Table 4-1. Screening Criteria and Assigned Weight Distribution

Screening Criteria	Assigned Weighting
Safety	30%
Reliability	30%
Cost/ financial feasibility and implementation	15%
Environmental impacts	10%
Public and stakeholder input and priorities	9%
Context sensitivity; Support land uses; Motorized/ non-motorized user accommodation; Economic	6%

4.3 Solutions Identification, Screening and Evaluation

4.3.1 Range of Potential Solutions

The identification of needs, opportunities, corridor vision, goals, and objectives based on input from the public and stakeholders led to the development of the range of potential solutions for improving the road corridor. Potential solutions were categorized into two main categories: focus areas and suggested enhancements (Table 4-2).

Due to the length of the corridor, the study team identified initial geographic focus areas to home in on key areas to recommend for improvements.

Table 4-2. Range of Potential Solutions Overview

Type of Solution	Description	Examples
 Focus Areas	Select geographic spots along the McCarthy Road corridor that have key needs related to safety and keeping the road open and reliable (primary goals)	Improvements related to: • Drainage • Narrow road width • Bridges • Addressing hazards, such as slide areas • Potential road realignments
 Suggested Enhancements ^[a]	• Potential opportunities to enhance visitor experience, recreation access, and the environment • These solutions support the roadway but are not must haves	Improvements related to: • Pullouts • New parking • Signage • Recreation access, including trails, lake access, and trailheads • Fish passage improvements at culverts

^[a] Suggested enhancements came directly from the public and stakeholder input during the first phase of the PEL study.

4.3.2 Potential Solutions: Focus Areas

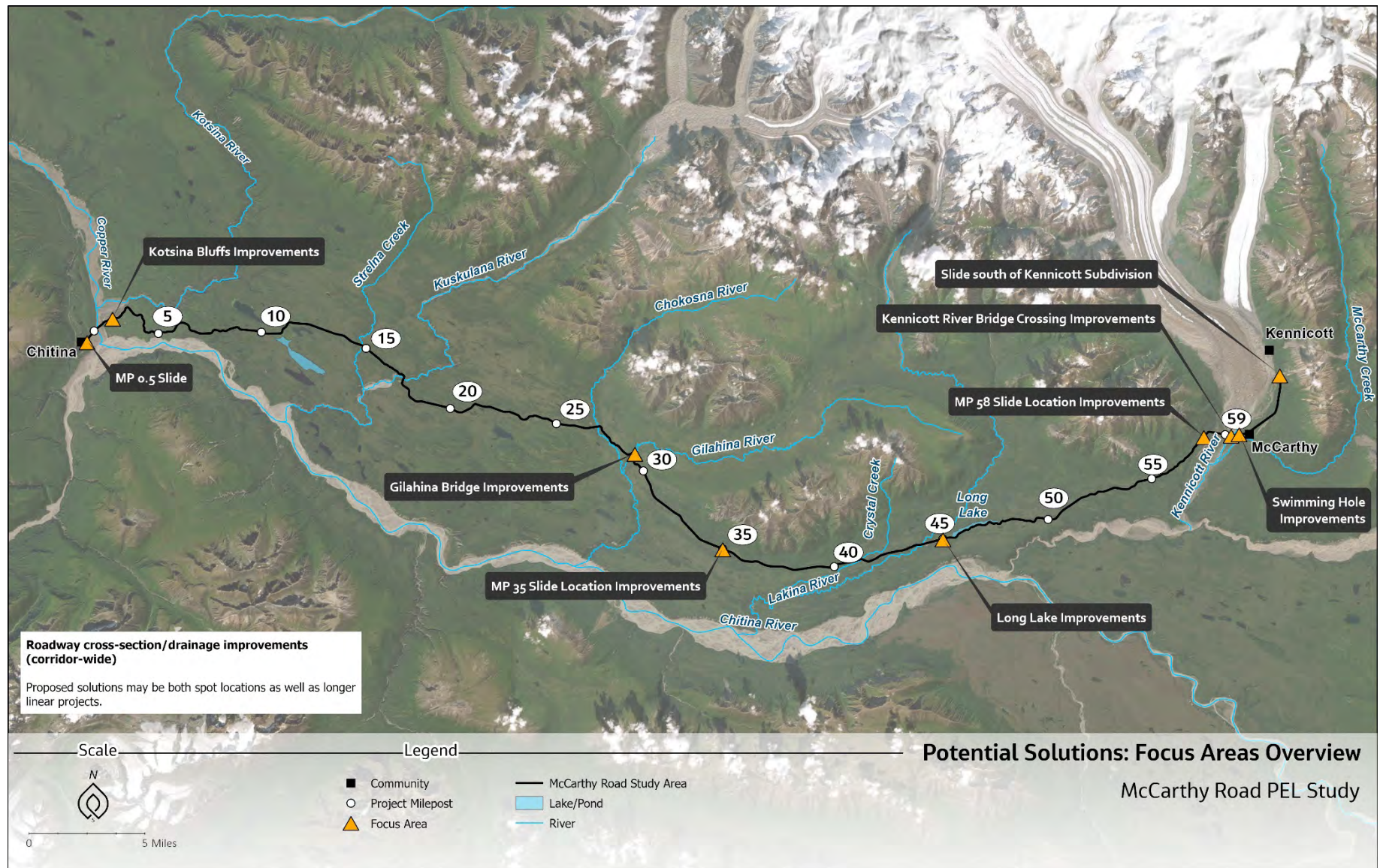
The study team identified an initial list of 10 focus areas as locations warranting consideration for improvements based on identified needs by the public and stakeholders (Figure 4-2). The 10 focus areas identified include the following:

- Drainage and roadway cross-section improvements throughout the corridor (specific locations to be determined)
- MP 0.5 slide area
- Kotsina Bluffs (MP 1.5 to 3)
- Gilahina Bridge (MP 29)
- MP 35 slide area
- Long Lake (MP 44 to 48.5)
- MP 58 slide area
- Kennicott River bridge crossing (MP 59.3)
- Swimming hole vicinity (MP 59.5)
- Slide area south of the Kennicott subdivision

These focus areas were presented to the public and stakeholders for input during the second outreach phase, particularly during Public Meeting #2 (in-person and OOH) and PAC Meeting #3.

Seven focus areas were advanced for additional evaluation. Three focus areas were dismissed and did not advance.

Figure 4-2. Potential Solutions: Ten Initial Focus Areas



Focus Areas Dismissed

The study team determined three of the focus areas would not proceed for additional analysis and screening. This included the three locations experiencing historic or recent slides near MP 0.5, MP 35, and south of the Kennicott subdivision. The DOT&PF determined these locations would continue to be monitored and addressed during routine road maintenance should future conditions require it, but no additional solution options would be explored within the PEL study.

The following information was included in the second OOH materials for these areas.

- **Near MP 0.5 settlement area:** In June 2024, the road settled about 10 to 15 feet over 2 days, temporarily closing the road. The DOT&PF maintenance and operations (M&O) crews quickly restored the road and opened it. The study team and DOT&PF decided the approach for this area would be to continue to monitor it over time instead of identifying a specific improvement to analyze within in the PEL study, allowing the team to focus on addressing other needs and locations in the road corridor.
 - Issues highlighted in this location include settlement and road failure (Figure 4-3).
 - Potential solutions considered included geo-technical monitoring and geo-textile embankment work and drainage improvements.

Figure 4-3. Road Settlement Issues near MP 0.5



Photo credit: DOT&PF

- **Near MP 35 slide area south of Crystalline Hills:** A recent debris flow/ landslide covered the road in this section by approximately 10 feet of material. Figure 4-4 shows a berm that the DOT&PF constructed, which helped to block another landslide that occurred the following year. Water coming down with the landslide was also an issue. The DOT&PF has remedied similar issues elsewhere with a combination of berms, culverts, and drainage ditches. The study team determined this focus area could be addressed through the broader linear drainage and/or rehabilitation solutions, rather than focusing on this localized spot.
 - Issues highlighted in this location include landslide hazard and recent landslide and water over road that caused road closure.
 - Potential solutions included constructing improvements in the existing road alignment (e.g., construct berm, ditching/excavation).

Figure 4-4. Slide Area near MP 35



- **Slide area south of the Kennicott Subdivision:** This slide happened several decades ago. Feedback from the public indicated there were other priorities to focus on. The study team determined that the drainage issues and road conditions could be addressed in other recommended solutions, such as the linear drainage and/or rehabilitation projects. Figure 4-5 shows remnants from the old slide to the left of the roadway.
 - Issues highlighted in this location include substantial slide in 2002; continuous drainage issues, including standing water; road base failure due to excess water; and avalanche concerns.
 - Potential solutions included raising the road or constructing additional improvements in the existing road alignment.

Figure 4-5. Remnants of Slide South of Kennicott Subdivision



Focus Areas Advanced for Evaluation

The focus areas for drainage and roadway cross-section improvements advanced for additional evaluation by the study team. During solutions refinement after the Level 3 screening occurred, the study team identified three linear drainage improvement projects that cover the entire corridor as well as five linear rehabilitation projects that cover the entire corridor. These did not undergo any comparative screening; therefore, these eight projects directly advanced to be refined and included in the list of 20 recommended solutions, as discussed in Section 5.

Six focus areas advanced into Level 3 screening because they had more than one improvement option under consideration and needed to be further screened and evaluated to select the best option to be recommended. The six focus areas for which comparative screening analysis was conducted occurred for the following focus areas:

- Kotsina Bluffs (MP 1.5 to 3)
- Gilahina bridge (MP 29)
- Long Lake (MP 44 to 48.5)
- MP 58 slide area
- Kennicott River bridge crossing (MP 59.3)
- Swimming hole vicinity (MP 59.5)

For these six focus areas, options that were screened and selected were then advanced for some additional conceptual-level design refinement. Those additional refinements are encapsulated in the recommended solutions described in Section 5. The highest scoring option from each of the six focus areas are included in the list of 20 recommended solutions; these are combined with the eight drainage and rehabilitation projects, four culvert/road projects, an erosion control project at Kennicott River, and a pullouts project between McCarthy and Kennicott to comprise the full list of recommended solutions.

4.3.3 Potential Solutions: Suggested Enhancements

Suggested enhancements came directly from the public and stakeholder input during the first phase of the PEL study. Potential enhancements within the road corridor would not necessarily make the road safer and more reliable, but they may contribute to the scenic and cultural values of the surrounding environment and communities. The suggested enhancements were placed into three categories: visitor experience, recreational, and environmental. No additional analysis was conducted on these during the PEL study. However, enhancement projects could be advanced by a project sponsor in the future as a standalone project or in conjunction with one of the recommended solutions. Suggested enhancements are listed in Section 5.6.

4.3.4 Potential Solutions: Other Improvement Needs

Other potential solutions and related needs or activities were brought up during outreach early in the PEL process. These did not undergo an extensive analysis or comparative screening evaluation. These are important topics identified by the public and stakeholders but did not necessarily lend themselves to being included as a capital improvement project or standalone recommended solution included in the PEL study. These include the following:

- **Year-round maintenance.** The public commented on numerous issues and concerns related to travel in the winter, when the road is not formally and routinely maintained. The DOT&PF seasonally maintains the road. For the DOT&PF to provide winter road maintenance, the State of Alaska would need to recharacterize the McCarthy Road to an all-weather road. With limited winter travel and competing maintenance needs (such as landslides and road grading), it is unlikely the State of Alaska would agree to add this additional maintenance effort. Several recommended solutions included in the PEL study are for drainage improvements, which may help to address some of the drainage-related winter issues related to road glaciation.
- **Corridor-wide vegetation brush clearing.** The public commented on the need for more frequent brush clearing, citing vegetation and brush along the roadside as a safety concern. The DOT&PF considers vegetation clearing (as well as snow removal and grading activities) a routine maintenance activity (rather than to be conducted in a separate standalone capital improvement project). Routine maintenance activities do not qualify for federal funding (e.g., the FHWA-funded Preventive Maintenance program). Routine maintenance relies on State general funds (and could be put out to

contract if State funding was available). The reality is that the DOT&PF M&O has been understaffed for some time, and as of 2024, is only two-thirds fully staffed. Lack of staffing and funding contributes to the infrequency of brush clearing.

The entire McCarthy Road corridor was last cleared in 2005. Since then, the DOT&PF clears select portions alongside smaller projects or when DOT&PF M&O has opportunity to clear it when not focused on other needs. DOT&PF has used Hydro axes to clear brush, but they are expensive to run and break frequently. Brush clearing is also labor intensive.

As part of public comments submitted during Public Meeting #2, a retired DOT&PF foreman wrote in that brush clearing makes travel safer for the public, helps to eliminate blind spots, keeps the road from getting narrower, and improves visibility for scenic views; lack of brush clearing leads to interference with ditching, uncontrolled drainage, and roadbed material being lost on the road edges. Numerous comments were submitted on this topic, ranging from requesting the corridor to be brush cleared twice a year to having a brushing plan to be implemented every 5 years.

A standalone brush clearing project is not included in this PEL study, given the uncertainty of a funding source. Brush clearing at time of construction is included within the scope of work for many of the recommended solutions, as applicable; this is currently how road corridor segments typically have brush clearing included as part of a construction project.

- **Dust mitigation.** Dust is another issue identified by the public. The DOT&PF considers dust mitigation a maintenance activity. Like brush clearing, this routine maintenance activity does not qualify for the FHWA-funded Preventive Maintenance program. DOT&PF M&O staff uses dust palliatives on the road during the summer months when the need arises, and as staff availability allows. There are many dust palliatives available, but M&O typically uses Durasoil or Calcium Chloride. As there are drinking water sources in the corridor, the public has also voiced concern as to whether it should be applied in certain areas, such as Clear Creek and the swimming hole vicinity.
- **Signage and speeding.** Speeding was an issue identified during outreach. Speed limit sign installation is included within the scope of work for many of the recommended solutions. However, public comments have also indicated the need to balance the addition of speed limit signs with not detracting from the roadway character.
- **Signage and mile markers.** Public comment indicated the need to replace missing and damaged mile markers. Similar to speeding signs, care should be taken when choosing the placement of these markers so as not to detract from the roadway character.

4.4 Level 3 Screening and Evaluation Results

Level 1 and Level 2 screening results are discussed in Sections 1.1.1 and 4.1.2 and included in the *Solutions Development & Evaluation: Screening Process Overview Memo (Appendix D)* and *Screening Evaluation & Results Memo (Appendix E)*. Level 3 screening was applied to six focus areas, because each focus area had more than one potential solution option under consideration, and so a comparative screening analysis was required.

For the six focus areas that underwent comparative screening, refer to **Appendix E, Screening Evaluation & Results Memo**, Section 2 – Level 3 Screening Results, for more details about the key issues and conditions in each focus area, notable existing conditions, a summary of the solution options considered, screening evaluation, and scores.

The following provides a summary of the comparative screening results of the six focus areas. Section 5.5 discusses the selected recommended solutions. Section 6.4 includes a preliminary evaluation of potential impacts.

For each focus area, a no action option was considered, which is also sometimes referred to as a “no build” option. This represents a benchmark against which the impacts of the other potential solutions could be compared. A no action option does assume routine M&O would still occur.

4.4.1 Focus Area: Kotsina Bluffs (MP 1.5 to MP 3)

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: Improvements on existing road alignment
- Option 2: Realignment option: reroute the road off the existing alignment to the north along the Kotsina riverbed **
- Option 3: Realignment option: reroute the road off the existing alignment to the south and away from the bluff

** Option 2, the realignment option, scored the highest and advanced as the recommended solution for this focus area. Section 5.5. discusses this reconstruction project that would reroute a portion of the road onto the Kotsina riverbed.

An initial, conceptual-level reroute alignment was identified and evaluated, as included in the Screening memo and in the draft PEL study report. This alignment stayed closer to the bluff rather than extending farther into the floodplain area.

Ahtna, Inc. is the primary landowner affected by the reroute and requested that the reroute shown in the PEL study report be revised to better locate the proposed road within existing easements and to co-locate it, where possible, with other Ahtna-led unrelated road projects. This request is in reference to a 2017 Settlement Agreement between Ahtna, Inc. and the State of Alaska (3PA-08-1600 Civil), under which Ahtna holds fee title to about 165 acres of land near the Kotsina River delta. That land includes several easements and material site ROWs held by the State, while adjacent delta land that is owned by the State of Alaska contains an Ahtna-owned road easement.

Additional analysis and coordination with the landowner, agencies, and others will be necessary to inform the future design of the realignment option and to identify a technically feasible and permissible solution.

4.4.2 Focus Area: Gilahina River Bridge (MP 29)

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: Construct new bridge with higher clearance on existing road alignment **
- Option 2: Construct new bridge in new road realignment

** Option 1, constructing a new bridge with higher clearance on the existing road alignment, scored the highest and advanced as the recommended solution for this focus area. Section 5.5. discusses this new bridge reconstruction project.

4.4.3 Focus Area: Long Lake (MP 44 to 48.5)

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: Improve the road on existing road alignment **
- Option 2: Realignment option: reroute the road off the existing alignment to the south

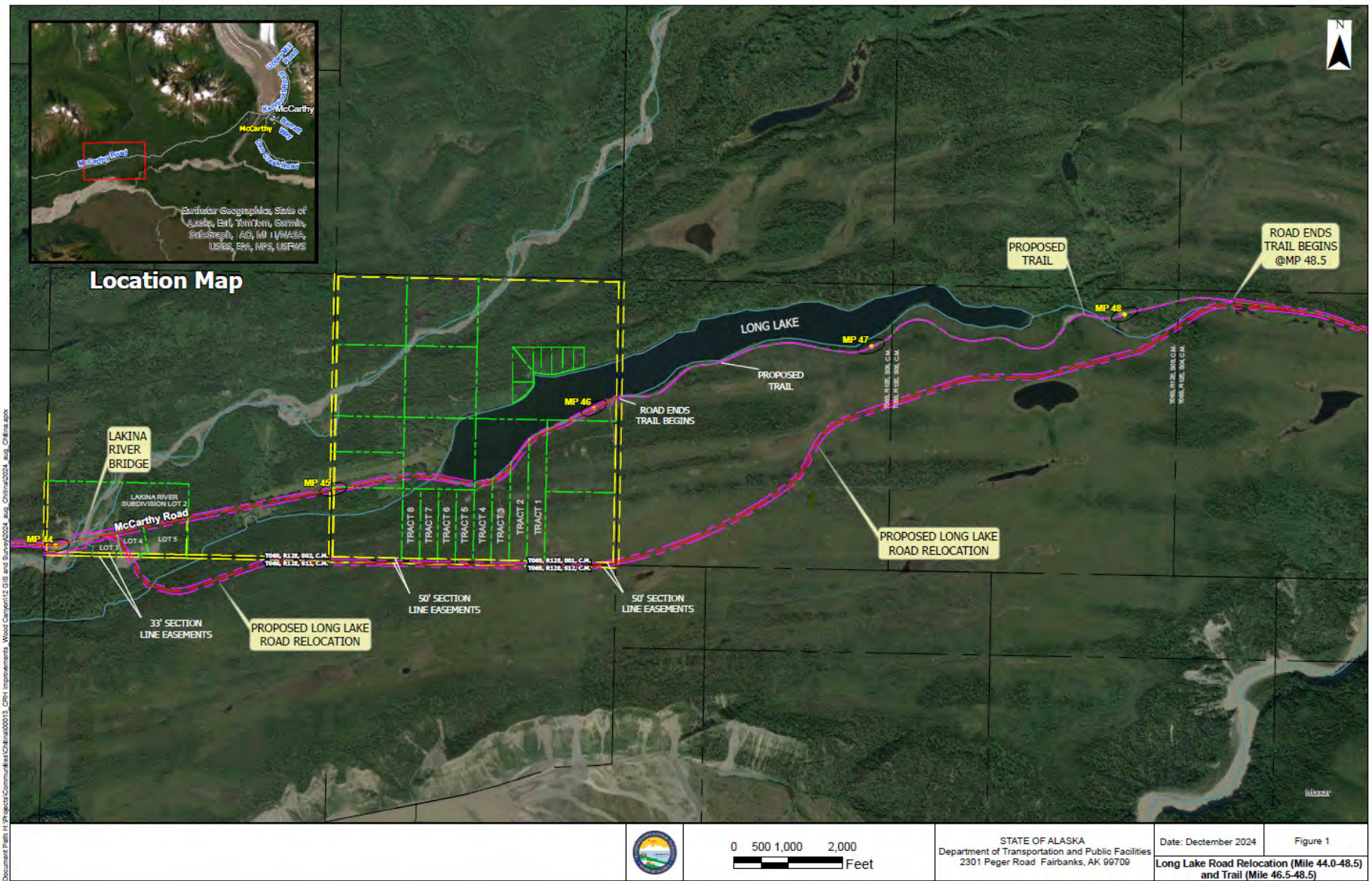
** Option 1, improving the road on the existing road alignment, scored the highest and advanced as the recommended solution for this focus area. Section 5.5. discusses this existing road alignment reconstruction project.

The study team recognizes there was substantial public support for the option to reroute the road in a new alignment south of Long Lake. Public and stakeholder advocacy for the reroute option has persisted for decades. **Appendix C** contains eleven support letters submitted by various groups and individuals in support of the realignment option to the south; letters are from ADF&G, DNR, Alaska Travel Industry Association, McCarthy Infrastructure Council, Ahtna, Copper River Watershed Project, and several corridor residents. During the PEL process, community members referred to this reroute option as the *Long Lake Road Relocation and Trail Project*.

Outside of the PEL study, in January 2025, the DOT&PF applied for grant funding that, if received, would enable additional exploration of the southern reroute option; the DOT&PF was not selected for this grant award. More data need to be collected on the conditions in the proposed reroute location; this includes collecting geotechnical and survey data to determine the best road realignment and overall feasibility.

A map depicting the southern reroute, as identified by the community, is included in **Appendix E**, in the *Screening Evaluation & Results Memo*, Figure 2-4. Per comment and request by the public, the map has also been included in the main body of the report, as shown on Figure 4-6.

Figure 4-6. Community-Driven Alignment Map Depicting Long Lake Road Relocation (Mile 44.0 – 48.5) and Trail (Mile 46.5 – 48.5)



4.4.4 Focus Area: MP 58

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: Improvements on existing road alignment **
- Option 2: Realignment to south
- Option 3: Realignment to south following section line easements

** Option 1, improving the road in the existing road alignment, scored the highest during Level 3 screening and initially advanced as the recommended solution for this focus area. However, subsequent data led to a revision in the recommended solution. A large portion of this recommended solution would include uphill slope stabilization measures, as described in Section 5.5.

During Level 3 screening, three different improvement options were considered near MP 58 based on historic landslides and sloughing and concerns of a failure plane uphill of the existing road. Two proposed options rerouted the road downhill and to the south. The third option improved the existing road to help minimize ongoing maintenance issues with the potential for ground improvements to mitigate a failure plane. Based on preliminary results from DOT&PF's geotechnical field investigation (2024) that occurred in fall 2024, it was determined there was no obvious indication of a potential large failure plane. The likely cause of the ongoing slope failures is material being shed from the head and lateral scarps (that is, steep slopes). Based on the preliminary geotechnical investigation data, the study team developed a refined option to help mitigate and resolve this issue. As reflected in Section 5.5, the recommended solution includes laying back a flat slope and adding stabilization measures (such as geogrid, revegetation, or ditching) through the landslide area and uphill of the road.

4.4.5 Focus Area: Kennicott River Crossing (MP 59.3)

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: improve existing pedestrian bridge **
- Option 2: Construct a new vehicle bridge south of the existing pedestrian bridge

** Option 1, improving the existing pedestrian bridge over the Kennicott River, scored the highest and advanced as the recommended solution for this focus area. Section 5.5. discusses the pedestrian bridge rehabilitation project.

The PEL study is currently not recommending the construction of a public vehicle bridge over the Kennicott River (Option 2). This topic has been contentious for decades. During the PEL study, public input was strongly (but not unanimously) against building a new vehicle bridge. Some stakeholders and the public suggested future discussions are warranted, especially should conditions change such as the pedestrian or private vehicle bridge becoming unusable. Concerns brought up included the lack of infrastructure east of the river (such as roadways and parking areas) to handle increased traffic and potential impacts on quality of life for residents as well as on visitor experience.

4.4.6 Focus Area: Swimming Hole Vicinity (MP 59.5 to 59.7)

The following solutions were evaluated and screened in this focus area:

- No Action
- Option 1: Improvements on Existing Road Alignment, with revised road ROW boundary **
- Option 2: Realignment option: reroute the road to the existing road ROW and construct a vehicle bridge

** Option 1, improving the road on the existing alignment, scored the highest and advanced as the recommended solution for this focus area. Section 5.5. discusses this road reconstruction project.

5. Recommended Solutions

5.1 Project Details Overview

Through the PEL process, the study team identified 20 potential projects, termed “recommended solutions” for future advancement. These solutions aim to address transportation and access needs in the corridor, helping to achieve the corridor goals and objectives as outlined in Section 2.2. Recommended solutions reflect input from the public and stakeholders.

This section presents an overview of the recommended solutions and summarizes the following project details developed for each recommended solution:

- Project name
- Priority (and rationale)
- Timeline (and rationale)
- Scope and description
- Potential funding sources
- Potential lead sponsors and project partner(s)
- Planning-level cost estimates
- Potential future draft Purpose and Need statements

For more information on each recommended solution, refer to Section 6, which describes environmental resources and preliminary environmental impacts, anticipated environmental documents and permits, and other environmental considerations. Section 7 lists and describes the funding sources and programs mentioned in this section.

Appendix B contains detailed project data sheets for each recommended solution. These sheets include additional notes and assumptions related to ROW, utilities, design, potential bridge work, and maintenance. These details may inform the sequencing or implementation of a solution by a future project sponsor, such as the DOT&PF.

Recommended solutions included in this report

This PEL study report focuses on 20 potential future projects that could be advanced. However, due to the corridor's length, many more needs and opportunities exist beyond these 20 recommended transportation-centric projects. Being included or excluded in the PEL study does not prevent future consideration of other projects or solutions if new needs arise, priorities shift, or new funding sources become available.

5.2 Recommended Solutions by Project Type

About half of the 20 recommended solutions fall into one of the following three main types of projects:

- Drainage improvements
- Road rehabilitation
- Road reconstruction

Other project types include the following:

- Localized culvert improvements associated with an adjacent short roadway improvement
- Bridge improvements
- Pullouts
- Erosion control

Enhancements are secondary potential improvements identified during PEL outreach that could be constructed alongside one of the recommended solutions, though they are not considered part of a recommended solution in this PEL.

5.2.1 Drainage Improvement Projects



These projects are focused on improving safety by enhancing drainage to prevent flooding/ponding and water damage, ensure proper water flow, and protect the roadway. These projects include a combination of constructing or re-establishing ditching, adding cross culverts, and raising the road to provide enough clearance to add culvert to improve drainage where necessary. Alongside ditch improvements, roadside brush and vegetation would be cleared.

Figure 5-1 displays the road cross sections for two representative types of proposed drainage improvements, depending upon the drainage issues on a particular stretch of the road. Option #1 depicts a section of roadway with drainage improvements that include clearing brush, constructing ditches, and adding or replacing culverts (if needed). Whereas Option #2 shows generally the same improvements except the road would need to be raised to accommodate adding a culvert; the increased slope would function similar as a ditched area would. The intent is for drainage projects to draw the water away from the roadway.

The PEL study team has identified three approximately 20-mile-long drainage projects that cover the entire corridor. Although these drainage improvements would not address existing narrow road widths, they would address the need to improve safety and road conditions.

PEL Process Note: The study team initially combined drainage improvements with other improvement types early in the solutions identification process. Standalone drainage projects were included instead (rather than combined within a rehabilitation or reconstruction project) because they are generally less costly (compared to rehabilitation or reconstruction projects) and therefore more likely to be funded and advanced in a constrained budget environment.

The limited number of material sources and the long distance to transport by truck, greatly increases the cost of gravel for road construction. Rehabilitation and reconstruction projects require large amounts of high-quality gravel materials to construct a new or improved roadbed (whereas drainage improvements typically would not). When evaluating projects, because of the high material cost, the projects that focused on drainage and not road improvements, were lower cost. While adding or improving drainage features does not directly improve the road, many of the road issues (e.g., potholes, uneven surface, ruts) can be attributed to lack of quality drainage.

5.2.2 Rehabilitation Projects



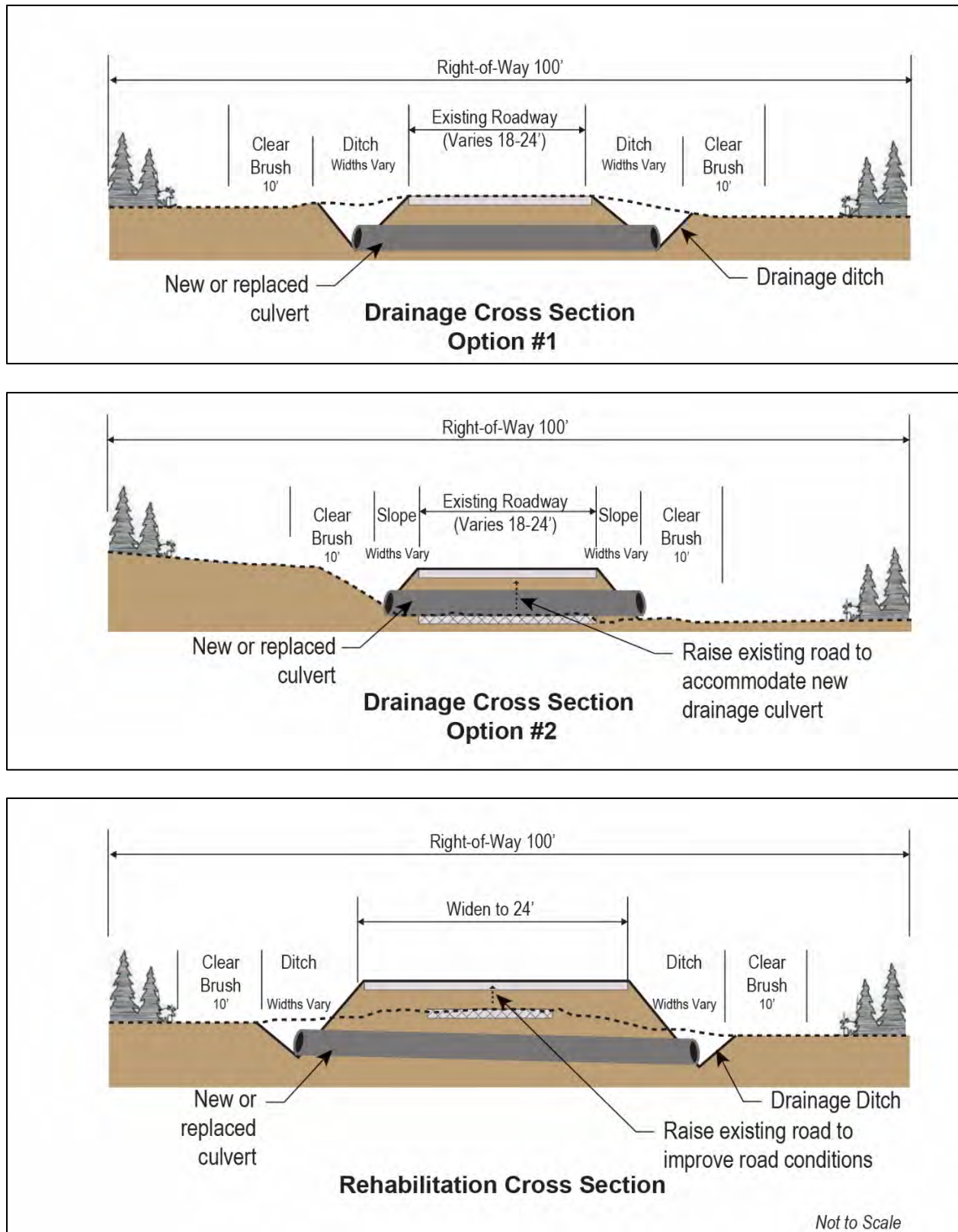
These projects are focused on restoring and upgrading the existing roadway to extend its service life and improve safety. Improvements include resurfacing and widening the road to meet current standards without completely replacing it. These projects would also include drainage improvements (as necessary), brush and vegetation clearing alongside constructing or re-establishing ditching, and adding signage.

Figure 5-1 depicts the road cross section of a rehabilitation project where the road would be widened to the design standard of 24 feet (two 10-foot lanes with two 2-foot shoulders).

The PEL study team has identified five rehabilitation projects, ranging in length from 4 miles to 17 miles. Within each project, rehabilitation improvements would occur along the corridor where needed, because not every section of the roadway needs to be rehabilitated.

Rehabilitation projects are more expensive, so they are not likely to advance sooner than standalone drainage improvement projects, though a future sponsor could decrease the rehabilitation project's length to align costs with available funding. One factor contributing to the higher cost of rehabilitation projects is the need to truck in fill material to raise the road.

Figure 5-1. Sample Cross Sections for Drainage Improvement and Rehabilitation Projects



5.2.3 Reconstruction Projects



These projects involve extensive rebuilding of the road to address deterioration, deficiencies, or hazards, such as completely rebuilding the road or substantially realigning it. The PEL study team has identified four reconstruction projects at the following locations: Kotsina Bluffs, Long Lake, near MP 58, and the swimming hole vicinity (MP 59.5 to 59.7).

5.2.4 Culvert Replacements in Association with Adjacent Roadway Improvements



These projects address several issues at a localized area, such as replacing a deteriorating stream-conveying culvert, rehabilitating the adjacent roadway, and improving fish passage. Combining road improvements with a culvert replacement to improve fish passage may allow future project sponsors to seek funding from additional sources.

The PEL study has identified four locations for culvert replacements to improve fish passage in conjunction with road improvements. These culverts are located at Ruth Creek (MP 40.2), Long Lake Creek/Tributary (MP 47.9), Swift Creek (MP 56.1), and Clear Creek (MP 59.8). The passage culverts assume a 13-foot width and a 9-foot height, similar to the recent culvert project at Crystal Creek near MP 41.

5.2.5 Other Types of Projects



Other recommended projects are associated with the following:

- Bridge rehabilitation (pedestrian bridge over the Kennicott River) or replacement (Gilahina River bridge)
- Construction of erosion control measures at Kennicott River
- Construction of pullouts between McCarthy and the Kennicott subdivision

5.2.6 Enhancements



Based on public and stakeholder input, the PEL study team also considered suggested improvements for visitor experience, recreation, and the environment (e.g., fish passage improvement). These are not typical standalone DOT&PF transportation projects but could be included as improvements in conjunction with a recommended solution. All enhancements are suggestions made by the public or stakeholders during the PEL process. There are more types of enhancements listed in previous planning efforts, such as the *McCarthy Road Scenic Corridor Plan* (NPS, DNR, and DOT&PF 1997). Potential enhancements are listed at the end of this section in Table 5-22.

5.3 Project Implementation: Prioritization and Timeline Overview

Implementing any of these recommended solutions depends on several factors such as securing funding, having a project sponsor, resolving ROW acquisition, and obtaining environmental approvals. This PEL study report provides a framework to understand and prioritize recommended solutions by identifying potential funding sources, sponsors, partnerships, and anticipated future regulatory environmental requirements for each of the 20 recommended solutions.

Proposed Priorities: Each recommended solution was assigned a rating of low, medium, or high priority based on how well the solution addressed the purpose and needs within the corridor. Assigning a rating helps provide a goal-oriented roadmap for decisionmakers on when and how to advance the recommendations to address the most pressing corridor needs. Higher priority was generally given to

road sections where road failure could result in long-term closures (such as at Kotsina Bluffs), for projects that might be easier to implement sooner and resolve needs sooner, and based on input provided by the public during all three public meeting series.

Proposed Timeline: Each recommended solution was assigned a proposed implementation timeline, which represents when funding would be needed to start the preconstruction phase (e.g., preliminary design). Factors influencing timelines include project complexity and the ability to obtain funding and environmental approvals. The proposed implementation timelines are:

- **Short-term:** within the next 5 years
- **Medium-term:** between 5 and 10 years
- **Long-term:** beyond 10 years

Logical Termini and Independent Utility: Logical termini refer to the rational end points for a transportation project and its environmental review. Independent utility focuses on whether a recommended solution can be implemented as “stand alone,” which means that assuming no other projects are implemented, the project serves a distinct purpose or function.

Although tentative road milepost locations are provided for each of the 20 recommended solutions, the actual limits and logical termini of future projects will be confirmed once a sponsor obtains funding and advances a project. Additionally, project limits may be modified to increase or decrease the scope or length of a project to align with available funding.

Because the recommended solutions are intended to address both short-term and long-term needs while also recognizing funding limitations, several recommended solutions cover the same location(s) in the corridor. For instance, near Kotsina Bluffs, three standalone projects are recommended over varying timelines: a linear rehabilitation project, a longer linear drainage project, and a much shorter reconstruction project (rerouting the road off the Kotsina Bluffs). These projects represent an array of shorter-term fixes and longer-term solutions. It is possible in the near-term that only a drainage project might be funded, while the rehabilitation or reconstruction project may advance in the future.

All 20 recommended solutions are considered standalone projects with logical termini and independent utility and therefore are not dependent on the advancement of another project. Any project that does advance will consider existing conditions at that time, including any prior improvements.

5.4 Recommended Solutions List and Implementation Timelines

Table 5-1 lists the solutions recommended and examined in this PEL study report. This list is in order generally by main project type and from west to east (MP 0 to MP 63).⁵ The table includes the assigned priority and timing of project implementation and planning-level project cost estimates.

This list reflects revisions based on public and stakeholder input received on the draft PEL study report. As a result of the input, the study team revised the priority and timeline assigned to the pullouts project (between McCarthy and the Kennicott subdivision) from a low to medium priority and a long-term to medium-term timeline. Refer to Section 5.5.16 for the rationale. Other public and stakeholder input on timelines and prioritization include the following:

- Of the three drainage projects, both the PAC and public indicated their top drainage project is the middle portion of the study corridor, between MP 21 and MP 43.
- Of the four culvert projects, the PAC and public indicated the Long Lake Creek/ Tributary Culvert was the greatest priority, followed by the Swift Creek culvert. The ADF&G also identified the culvert at Long Lake Creek as a high priority for replacement.

None of the recommended solutions will advance without future funding. However, this section provides relevant details for future sponsors to consider when determining what improvements to move forward, when to advance, and what funding sources to consider.

Figure 5-2 and Figure 5-3 depict the recommended solutions on the western and eastern ends of the study corridor, respectively.

⁵ Project numbering #1 through #20 is used merely to help identify projects and does not represent any assigned priority.

Table 5-1. List of Recommended Solutions: Priorities and Implementation Timelines

ID #	Name (generally listed in order by project type and milepost [MP] from west to east)	Project Type	Priority ^[a]	Timeline ^[b]	Total Cost Estimated (millions) (2025)
①	McCarthy Road MP 0 to 21 Drainage Improvements	Drainage	High	Short-term	\$7.0
②	McCarthy Road MP 21 to 43 Drainage Improvements	Drainage	High	Short-term	\$6.6
③	McCarthy Road MP 43 to 63 Drainage Improvements	Drainage	High	Short-term	\$8.6
④	McCarthy Road MP 0 to 15 Rehabilitation (<i>from rock cut near Chitina to Strelina Creek</i>)	Rehabilitation	High	Medium-term	\$16.1
⑤	McCarthy Road MP 15 to 27 Rehabilitation (<i>between Strelina Creek and Chokosna River</i>)	Rehabilitation	High	Medium-term	\$17.0
⑥	McCarthy Road MP 27 to 44 Rehabilitation (<i>between Chokosna River and Lakina River</i>)	Rehabilitation	High	Medium-term	\$24.0
⑦	McCarthy Road MP 44 to 59 Rehabilitation (<i>between Lakina River and Kennicott River</i>)	Rehabilitation	High	Medium-term	\$25.9
⑧	McCarthy Road MP 59 to 63 Rehabilitation (<i>between Kennicott River and southern boundary of Kennicott subdivision</i>)	Rehabilitation	Medium	Medium-term	\$8.9
⑨	McCarthy Road MP 1.5 to 3 Reconstruction (<i>reroute near Kotsina Bluffs</i>)	Reconstruction	High	Long-term	\$72.1
⑩	McCarthy Road MP 29 Gilahina River Bridge (#1194) Replacement	Bridge	Medium	Short-term	\$6.4
⑪	McCarthy Road MP 44 to 48.5 Reconstruction (<i>existing alignment improvements near Long Lake</i>)	Reconstruction	High	Medium-term	\$14.9
⑫	McCarthy Road MP 58 Reconstruction (<i>existing alignment improvements</i>)	Reconstruction	Medium	Medium-term	\$5.0
⑬	McCarthy Road Kennicott River Footbridge (#6004) Rehabilitation	Bridge	Medium	Medium-term	\$2.0
⑭	McCarthy Road Kennicott River Erosion Control (MP 59.3)	Erosion control	High	Short-term	\$11.5
⑮	McCarthy Road MP 59.5 to 59.7 Reconstruction (<i>existing alignment improvements near the swimming hole</i>)	Reconstruction	Medium	Medium-term	\$1.9
⑯	McCarthy Road Pullouts between McCarthy and Kennicott	Other	Medium	Medium-term	\$1.2
⑰	McCarthy Road MP 40.2 Ruth Creek Culvert Replacement	Culvert	Low	Medium-term	\$2.3
⑱	McCarthy Road MP 47.9 Long Lake Creek/Tributary Culvert Replacement	Culvert	Low	Medium-term	\$3.5
⑲	McCarthy Road MP 56.1 Swift Creek Culvert Replacement	Culvert	Low	Medium-term	\$3.0
⑳	McCarthy Road MP 59.8 Clear Creek Culvert Replacement	Culvert	Low	Medium-term	\$2.5

^[a] Project priority: low, medium, or high.

^[b] Project timeline is when funding would be needed to start the project in the preconstruction phase. Timeline represents within the next 5 years (short-term), between 5 and 10 years (medium-term), or beyond 10 years (long-term).

Figure 5-2. Recommended Solutions, West End of Study Corridor (McCarthy Road MP 0 to MP 40)

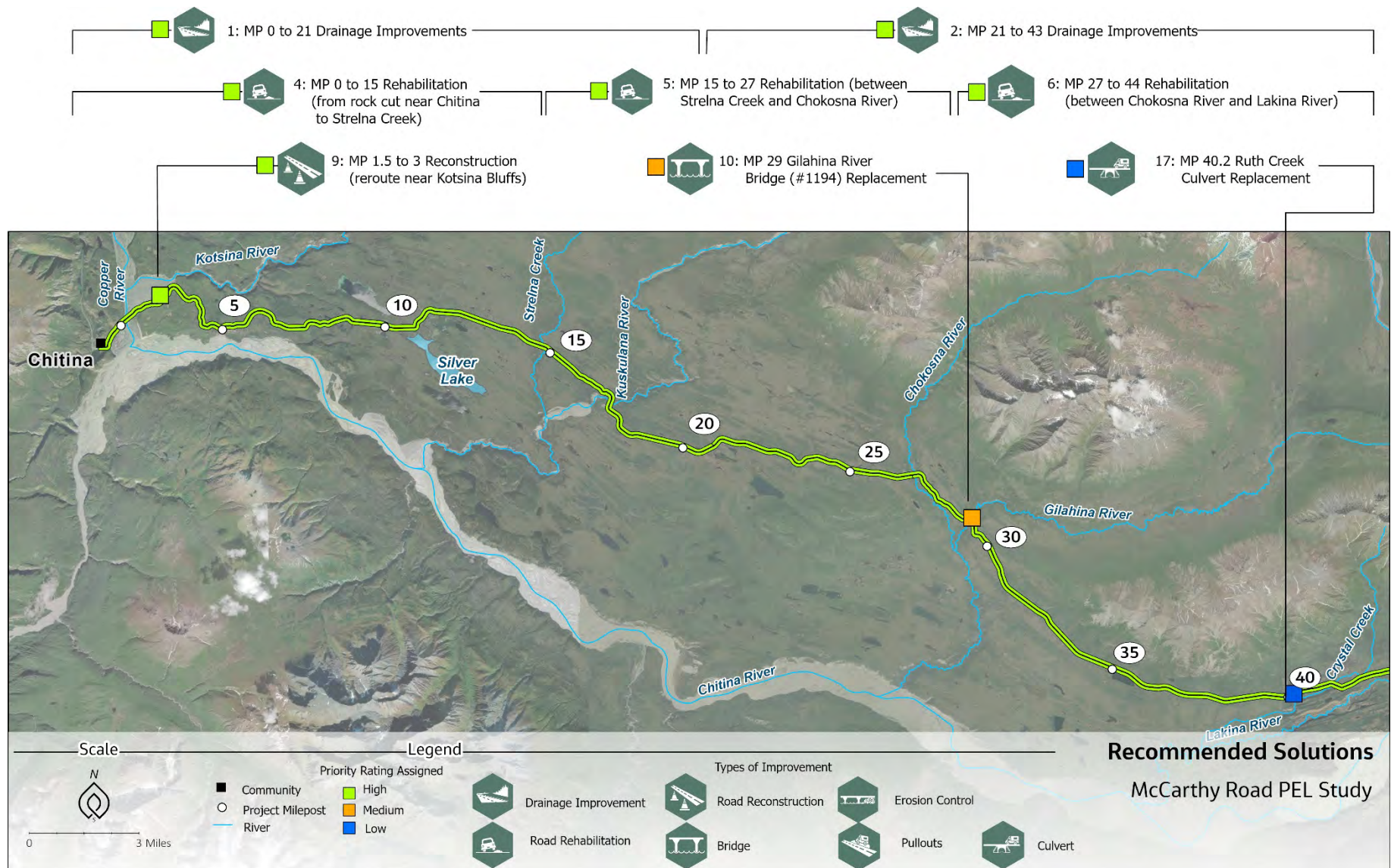
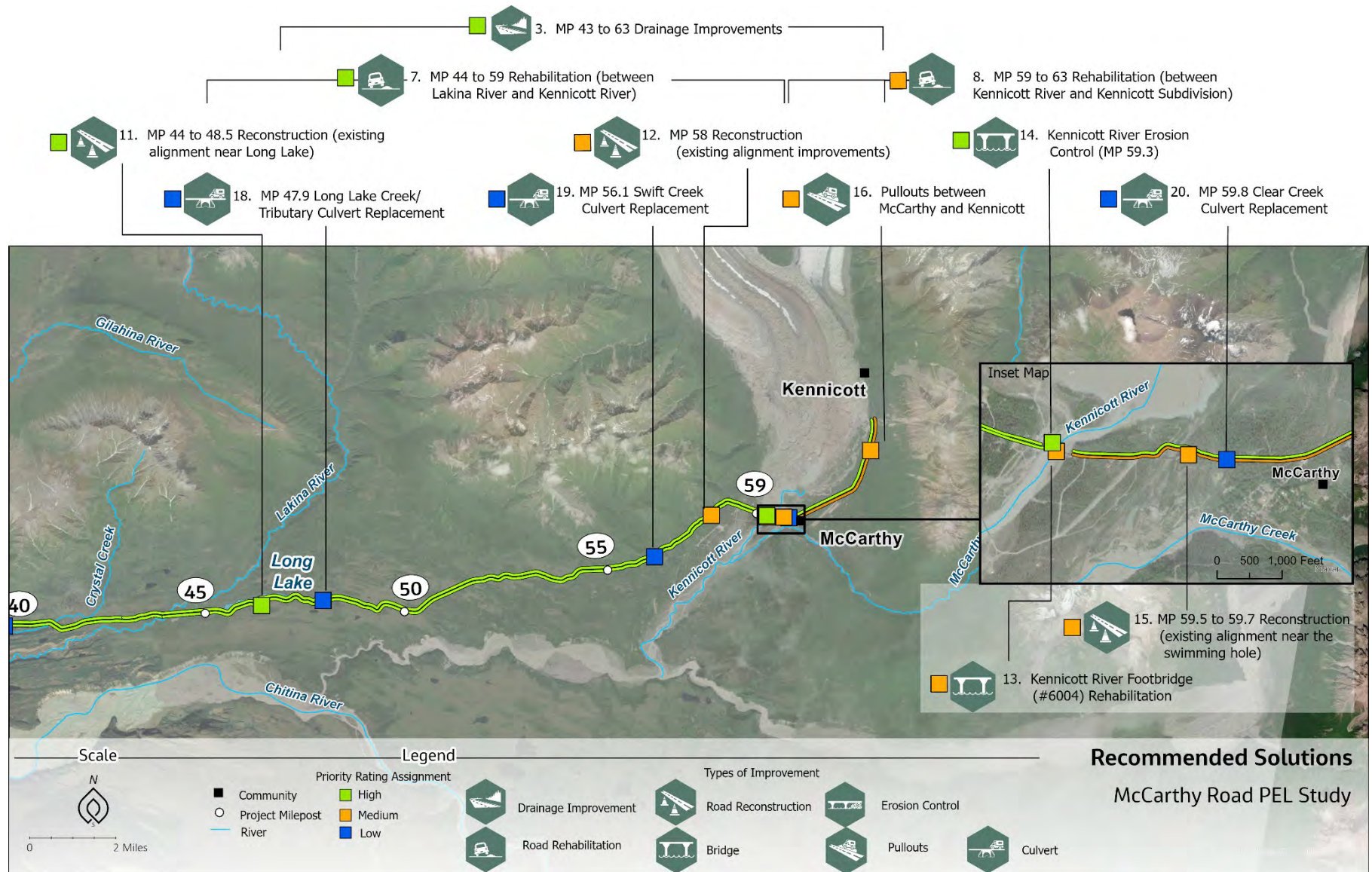


Figure 5-3. Recommended Solutions, East End of Study Corridor (McCarthy Road MP 40 to MP 63)



5.5 Recommended Solutions Summary Sheets

The PEL study report is the culmination of a thorough and systematic transportation planning process. Data was collected and analyzed along with numerous comments gathered from the public and stakeholders to inform the list of recommended solutions. This section contains brief summary sheets for each recommended solution. The linework shown on the maps in this section reflects a planning-level conceptual design. Future design and coordination would determine the actual locations and project footprints.

Refer to **Appendix B** for more detailed project data sheets.

Funding programs listed in the summary sheets in this section are defined and explained in Section 7.

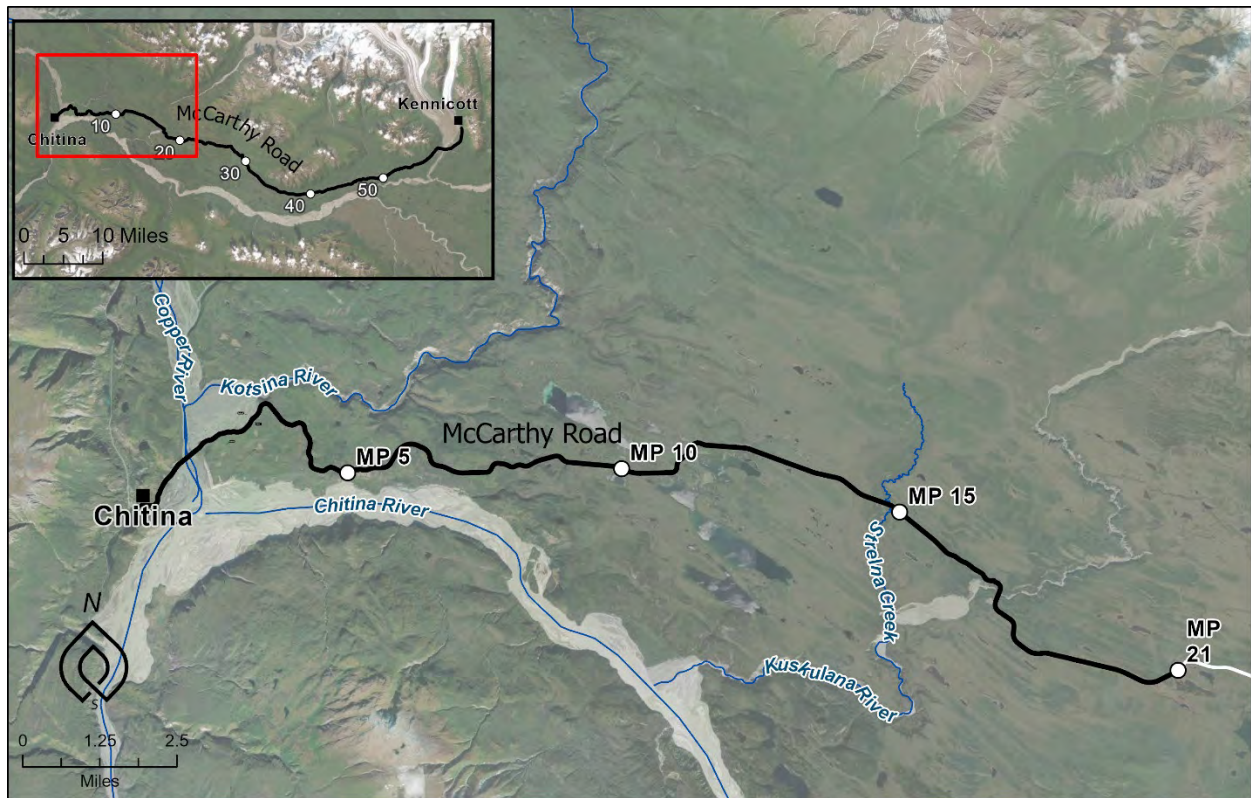
5.5.1 (#1) MP 0 to 21 Drainage Improvements

The following table and figure highlight the proposed drainage improvements between MP 0 and 21.

Table 5-2. McCarthy Road MP 0 to 21 Drainage Improvements Project Details

Project Feature	Description
Name	McCarthy Road MP 0 to 21 Drainage Improvements
Scope	Construct or re-establish ditches along the McCarthy Road. Add cross culverts. Raise the road in select areas where necessary to improve drainage. Clear roadside brush and vegetation.
Description	Construct drainage improvements along the McCarthy Road from the rock cut east of Chitina to approximately 4 miles east of the Kuskulana River crossing (MP 0 to 21). Where necessary, work would include clearing or adding ditches along the road, adding or fixing cross culverts, raising the road as needed to accommodate new culverts, and clearing roadside brush and vegetation.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Short-term
Timeline Rationale	Drainage improvements generally cost less than rehabilitation or reconstruction projects, which may make it easier to fund and implement sooner.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by improving drainage along the McCarthy Road. Identified drainage needs (issues) include lack of ditches or blocked ditches through most of this stretch of the corridor, lacking or damaged culverts, water on road and/or nowhere for water to go, and insufficient room for snow removal. Thawing permafrost exists uphill of the road at Kotsina Bluffs. Drainage issues have resulted in deterioration of the road, safety concerns for drivers, and increased maintenance costs. Improving and constructing new drainage features and adding material to raise the roadway in select areas would improve reliability of the road and safety for travelers and reduce maintenance costs.
Estimated Total Cost	\$7.0 million
Potential Funding Sources	PROTECT formula funds, STBG, NHPP (only for protective features such as adding drainage structures), PROTECT discretionary grant, FLAP
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

Figure 5-4. McCarthy Road MP 0 to 21 Drainage Improvements



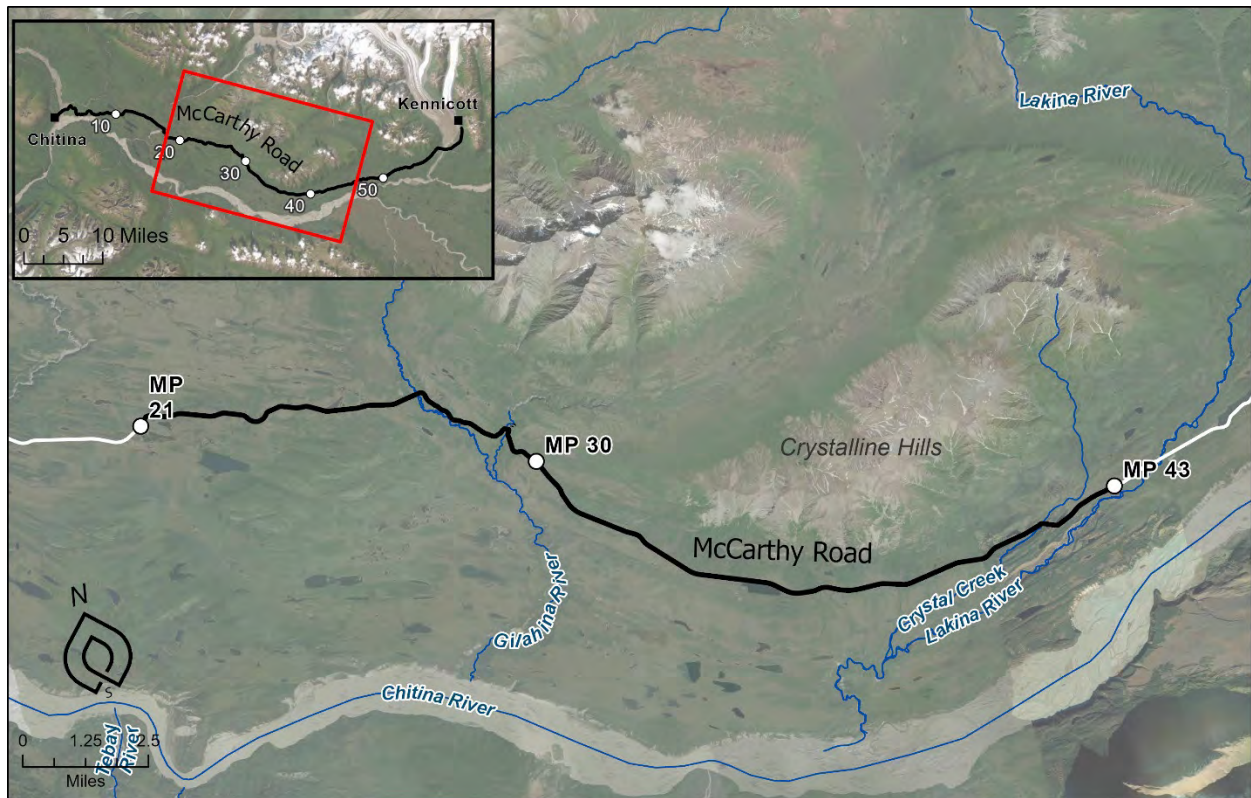
5.5.2 (#2) MP 21 to 43 Drainage Improvements

The following table and figure highlight the proposed drainage improvements between MP 21 and 43.

Table 5-3. McCarthy Road MP 21 to 43 Drainage Improvements Project Details

Project Feature	Description
Name	McCarthy Road MP 21 to 43 Drainage Improvements
Scope	Construct or re-establish ditches along the McCarthy Road. Add cross culverts. Raise the road in select areas where necessary to improve drainage. Clear roadside brush and vegetation.
Description	Construct drainage improvements along the McCarthy Road from approximately 4 miles east of the Kuskulana River crossing to east of Lakina River (MP 21 to 43). Where necessary, work would include clearing or adding ditches along road, adding or fixing cross culverts, raising the road as needed to accommodate new culverts, and clearing brush and vegetation.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address. This project could be the highest priority among the three drainage projects due to the numerous locations identified as frequently experiencing glaciation issues.
Timeline	Short-term
Timeline Rationale	Drainage improvements generally cost less than rehabilitation or reconstruction projects, which may make it easier to fund and implement sooner.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by improving drainage along the McCarthy Road. Identified drainage needs (issues) include lack of ditches or blocked ditches, lacking or damaged culverts, and water on road and/or nowhere for water to go. Several locations experience glaciation over the roadway during the winter, such as near MPs 27, 34, 36, and 38. Drainage issues have resulted in deterioration of the road, safety concerns by drivers, and increased maintenance costs. Improving and constructing new drainage features and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs.
Estimated Total Cost	\$6.6 million
Potential Funding Sources	PROTECT formula funds, STBG, NHPP (only for protective features), PROTECT discretionary grant, FLAP
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

Figure 5-5. McCarthy Road MP 21 to 43 Drainage Improvements



5.5.3 (#3) MP 43 to 63 Drainage Improvements

The following table and figure highlight the proposed drainage improvements between MP 43 and 63.

Table 5-4. McCarthy Road MP 43 to 63 Drainage Improvements Project Details

Project Feature	Description
Name	McCarthy Road MP 43 to 63 Drainage Improvements
Scope	Construct or re-establish ditches along the McCarthy Road. Add cross culverts. Raise the road in select areas where necessary to improve drainage. Clear roadside brush and vegetation.
Description	Construct drainage improvements along the McCarthy Road from east of Lakina River to south of the Kennicott subdivision (MP 43 to 63). Where necessary, work would include clearing or adding ditches along the road, adding or fixing cross culverts, raising the road as needed to accommodate new culverts, and clearing brush and vegetation.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Short-term
Timeline Rationale	Drainage improvements generally cost less than rehabilitation or reconstruction projects, which may make it easier to fund and implement sooner.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by improving drainage along the McCarthy Road. Identified drainage needs (issues) include lack of ditches/blocked ditches, lacking or damaged culverts, and water on road and/or nowhere for water to go. There are a couple of locations that experience glaciation over the roadway during the winter. Thawing permafrost near approximate MP 57.5 is a concern. Drainage issues have resulted in deterioration of the road and safety concerns for drivers. Improving and constructing new drainage features and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs.
Estimated Total Cost	\$8.6 million
Potential Funding Sources	PROTECT formula funds, PROTECT discretionary grant, FLAP, STBG, NHPP (only for protective features)
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

Figure 5-6. McCarthy Road MP 43 to 63 Drainage Improvements



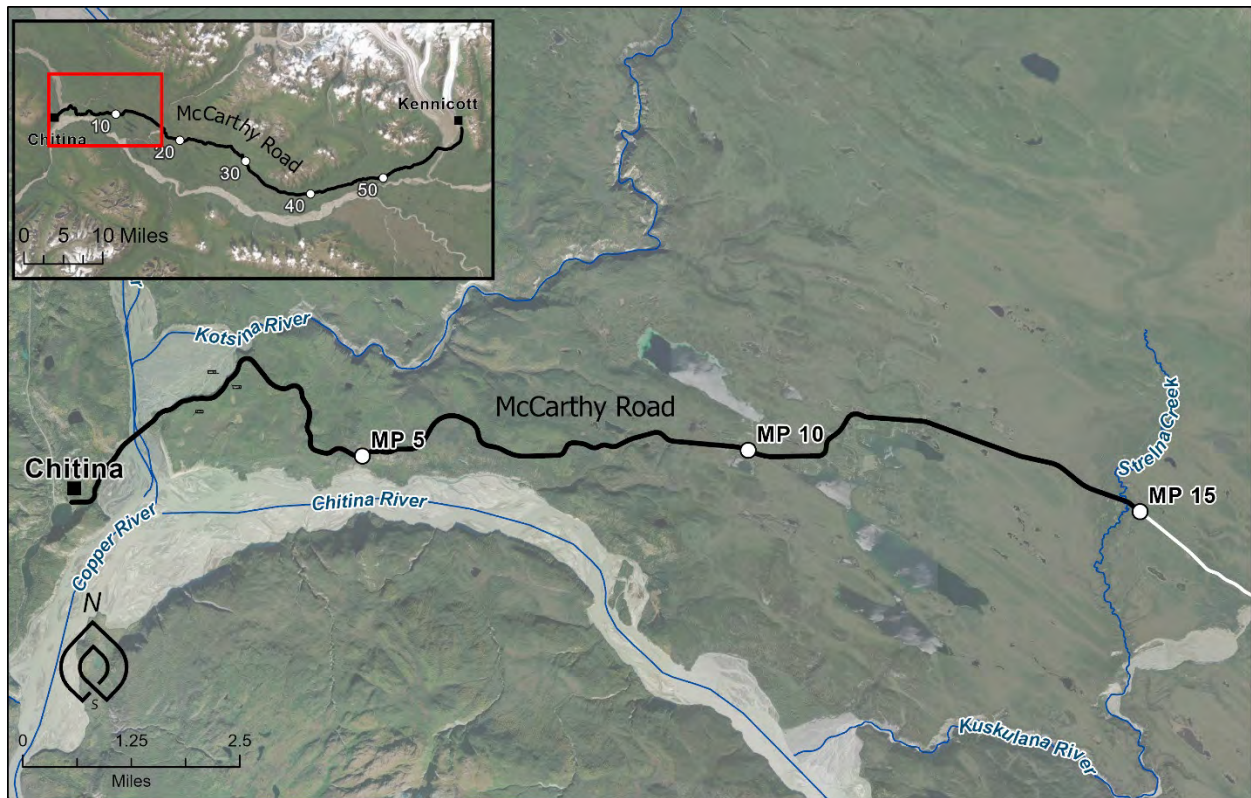
5.5.4 (#4) MP 0 to 15 Rehabilitation (from rock cut near Chitina to Strelna Creek)

The following table and figure highlight the proposed road rehabilitation from the rock cut east of Chitina to Strelna Creek.

Table 5-5. McCarthy Road MP 0 to 15 Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road MP 0 to 15 Rehabilitation
Scope	Widen the McCarthy Road and add drainage improvements (like ditches and culverts). Add material to raise road in areas with poor conditions. Improve geometry (reduce curves and steep grades) to meet project design criteria. Clear roadside brush and vegetation. Add/replace signs and mile markers.
Description	Rehabilitate the McCarthy Road from near the rock cut located east of Chitina to Strelna Creek (MP 0 to 15). Where necessary, work would include adding material to widen and/or raise the road (add 2 to 3 feet of gravel material over the existing road), improving drainage (such as constructing or re-establishing ditches and culverts), clearing roadside brush and vegetation, and adding or replacing signage.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Medium-term
Timeline Rationale	Rehabilitation projects are not likely to advance sooner than standalone drainage improvement projects largely due to higher cost.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting design standards (such as addressing narrow road width, poor sight lines, road curvature, and steep grades) and improving drainage along the McCarthy Road. Needs arise from the following: • The road is narrow in places and needs to be widened to improve safety. The road also has sharp curves and steep grades in locations; reducing these would improve safety. • There are numerous drainage issues, which partly can be attributed to lack of ditches. Thawing permafrost exists uphill of the road at Kotsina Bluffs. Surface water runoff that is unable to drain contributes to poor road condition. Poor drainage has led to deterioration of the road, safety concerns by drivers, and increased maintenance costs. The DOT&PF M&O staff have indicated substantial maintenance issues. • Members of the public have cited speeding as a concern. Widening the road, improving or constructing new drainage features (like ditches and culverts), and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$16.1 million
Potential Funding Sources	PROTECT formula funds (for drainage features), STBG, NHPP (only for protective features), PROTECT discretionary grant (for drainage features), FLAP, HSIP, BUILD
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

Figure 5-7. McCarthy Road MP 0 to 15 Rehabilitation



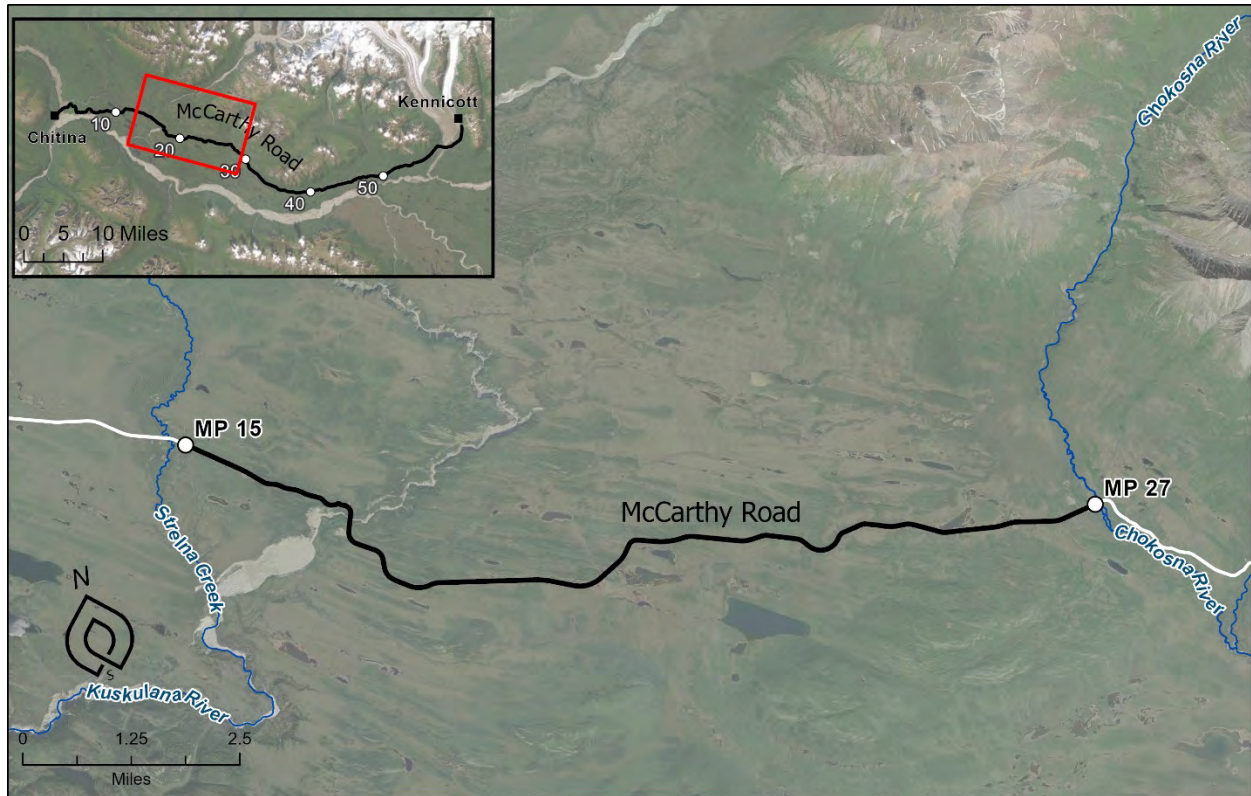
5.5.5 (#5) MP 15 to 27 Rehabilitation (between Strelna Creek and Chokosna River)

The following table and figure highlight the proposed road rehabilitation between Strelna Creek and Chokosna River.

Table 5-6. McCarthy Road MP 15 to 27 Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road MP 15 to 27 Rehabilitation
Scope	Widen the McCarthy Road and add drainage improvements (like ditches and culverts). Add material to raise road in areas with poor conditions. Improve geometry (reduce curves and steep grades) to meet project design criteria. Clear roadside brush and vegetation. Add/replace signs and mile markers.
Description	Rehabilitate the McCarthy Road between Strelna Creek and Chokosna River (MP 15 to 27). Where necessary, work would include adding material to widen and/or raise the road (add 2 to 3 feet of gravel material over the existing road), improving drainage (such as constructing or re-establishing ditches and culverts), clearing roadside brush and vegetation, and adding or replacing signage.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Medium-term
Timeline Rationale	Rehabilitation projects are not likely to advance sooner than standalone drainage improvement projects largely due to higher cost.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting design standards (such as addressing narrow road width, poor sight lines, road curvature, steep grades) and improving drainage along the McCarthy Road. Needs arise from the following: • The road is narrow in places and needs to be widened to improve safety. The road also has sharp curves and steep grades in locations; reducing these would improve safety. • There are numerous drainage issues, which partly can be attributed to lack of ditches. Poor drainage has led to deterioration of the road, safety concerns by drivers, and increased maintenance costs. Widening the road, improving or constructing new drainage features (like ditches or culverts), and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$17.0 million
Potential Funding Sources	PROTECT formula funds (for drainage features), STBG, NHPP (only for protective features), PROTECT discretionary grant (for drainage features), HSIP, FLAP, BUILD
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

Figure 5-8. McCarthy Road MP 15 to 27 Rehabilitation



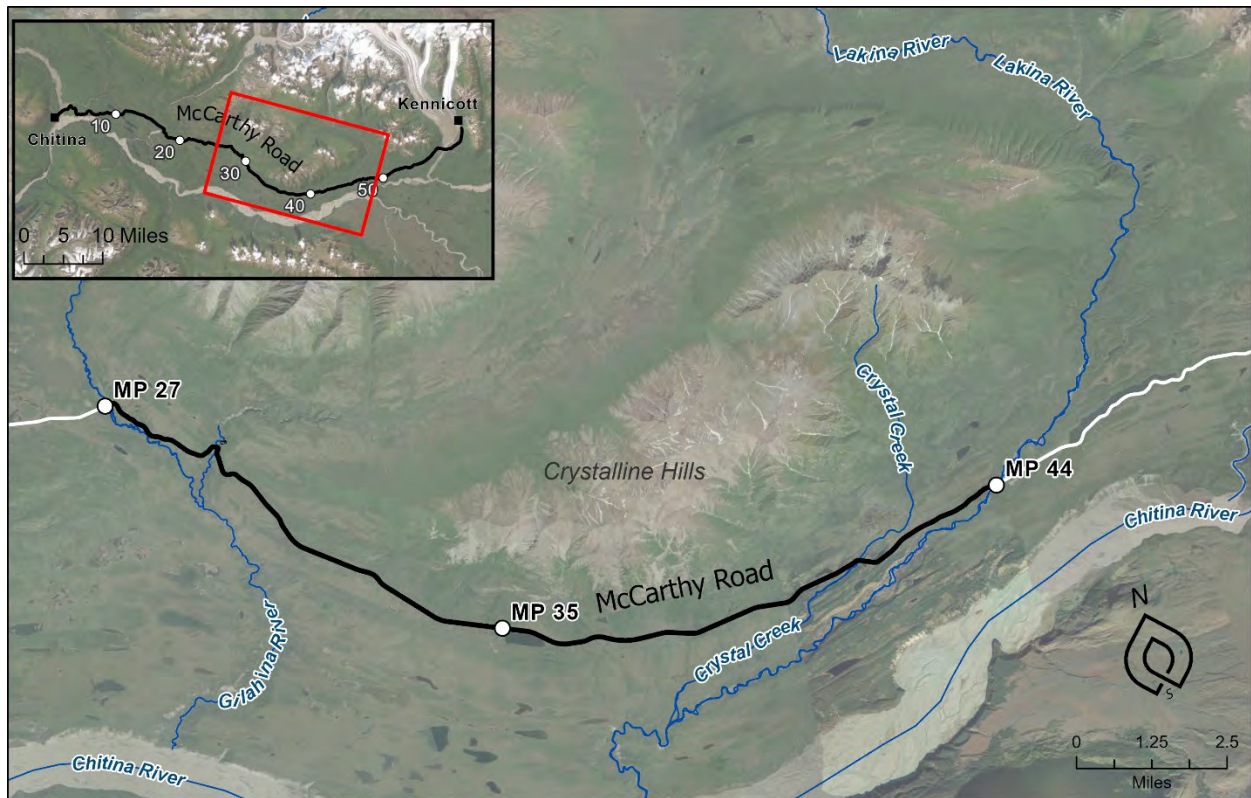
5.5.6 (#6) MP 27 to 44 Rehabilitation (between Chokosna River and Lakina River)

The following table and figure highlight the proposed road rehabilitation between Chokosna River and Lakina River.

Table 5-7. McCarthy Road MP 27 to 44 Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road MP 27 to 44 Rehabilitation
Scope	Widen the McCarthy Road and add drainage improvements (like ditches and culverts). Add material to raise road in areas with poor conditions. Improve geometry (reduce curves and steep grades) to meet project design criteria. Clear roadside brush and vegetation. Add/replace signs and mile markers.
Description	Rehabilitate the McCarthy Road between Chokosna River and Lakina River (MP 27 to 44). Where necessary, work would include adding material to widen and/or raise the road (add 2 to 3 feet of gravel material over the existing road), improving drainage (such as constructing or re-establishing ditches and culverts), clearing roadside brush and vegetation, and adding or replacing signage.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Medium-term
Timeline Rationale	Rehabilitation projects are not likely to advance sooner than standalone drainage improvement projects largely due to higher cost.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting design standards (such as addressing narrow road width, poor sight lines, road curvature, steep grades) and improving drainage along the McCarthy Road. Needs arise from the following: • The road is narrow in places and needs to be widened to improve safety. The road also has sharp curves and steep grades in locations; reducing these would improve safety. • There are numerous drainage issues, which partly can be attributed to lack of ditches. Several locations experience glaciation over the roadway during the winter, such as near approximate MPs 27, 34, 36, and 38. Poor drainage has led to deterioration of the road, safety concerns by drivers, and increased maintenance costs. Widening the road, improving or constructing new drainage features (like ditches or culverts), and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$24.0 million
Potential Funding Sources	PROTECT formula funds (for drainage features), STBG, NHPP (only for protective features), PROTECT discretionary grant (for drainage features), HSIP, FLAP, BUILD
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

Figure 5-9. McCarthy Road MP 27 to 44 Rehabilitation



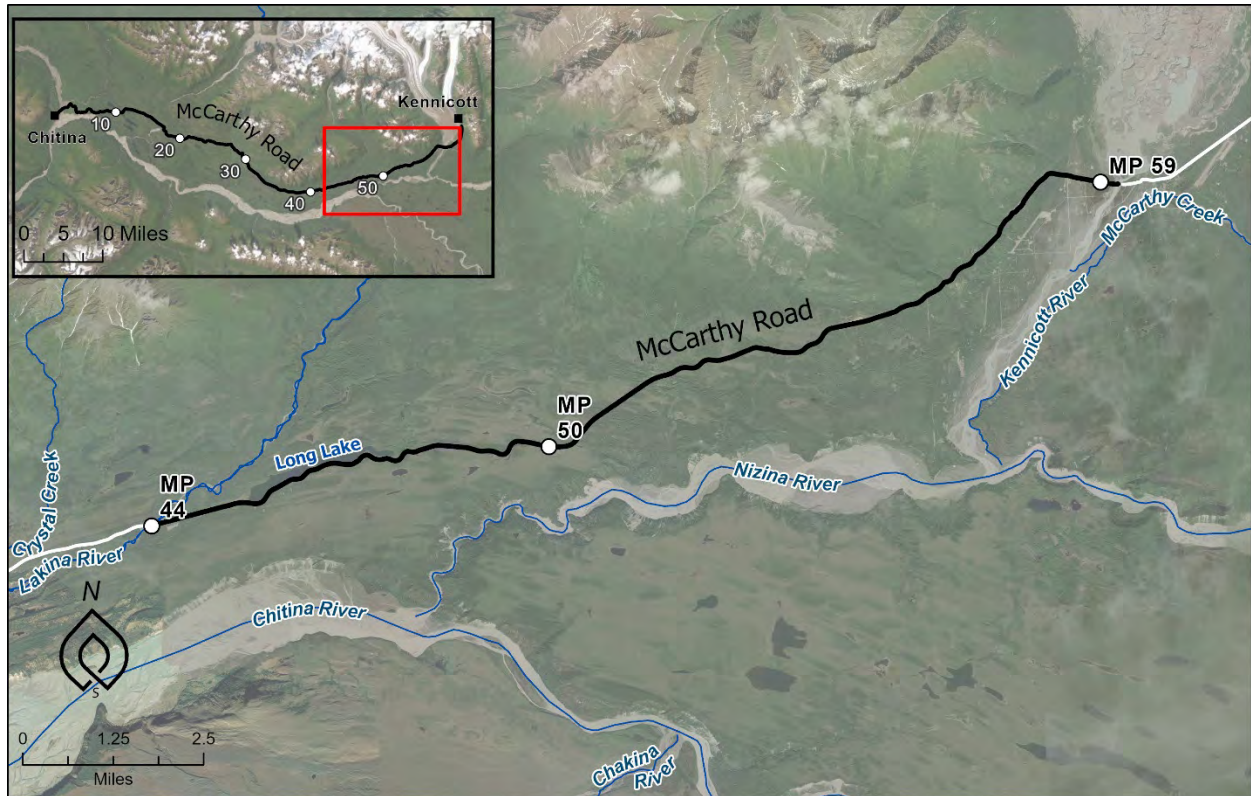
5.5.7 (#7) MP 44 to 59 Rehabilitation (between Lakina River and Kennicott River)

The following table and figure highlight the proposed road rehabilitation between Lakina River and Kennicott River.

Table 5-8. McCarthy Road MP 44 to 59 Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road MP 44 to 59 Rehabilitation
Scope	Widen the McCarthy Road and add drainage improvements (like ditches and culverts). Add material to raise road in areas with poor conditions. Improve geometry (reduce curves and steep grades) to meet project design criteria. Clear roadside brush and vegetation. Add/replace signs and mile markers.
Description	Rehabilitate the McCarthy Road between Lakina River and Kennicott River (MP 44 to 59). Where necessary, work would include adding material to widen and/or raise the road (add 2 to 3 feet of gravel material over the existing road), improving drainage (such as constructing or re-establishing ditches and culverts), clearing roadside brush and vegetation, and adding or replacing signage.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address.
Timeline	Medium-term
Timeline Rationale	Rehabilitation projects are not likely to advance sooner than standalone drainage improvement projects largely due to higher cost.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting design standards (such as addressing narrow road width, poor sight lines, road curvature, steep grades) and improving drainage along the McCarthy Road. Needs arise from the following: • The road is narrow in places and needs to be widened to improve safety. The road also has sharp curves and steep grades in locations; reducing these would improve safety. • There are numerous drainage issues, which partly can be attributed to lack of ditches. Beaver activity is also contributing to drainage issues (between MP 50 and 52), as is glaciation over the roadway during the winter (approximate MP 54.5 and 57.5). Thawing permafrost near approximate MP 57.5 is a concern. Poor drainage has led to deterioration of the road, safety concerns by drivers, and increased maintenance costs. Widening the road, improving or constructing new drainage features (like ditches or culverts), and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$25.9 million
Potential Funding Sources	PROTECT formula funds (for drainage features), STBG, NHPP (only for protective features), PROTECT discretionary grant (for drainage features), HSIP, FLAP, BUILD
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

Figure 5-10. McCarthy Road MP 44 to 59 Rehabilitation



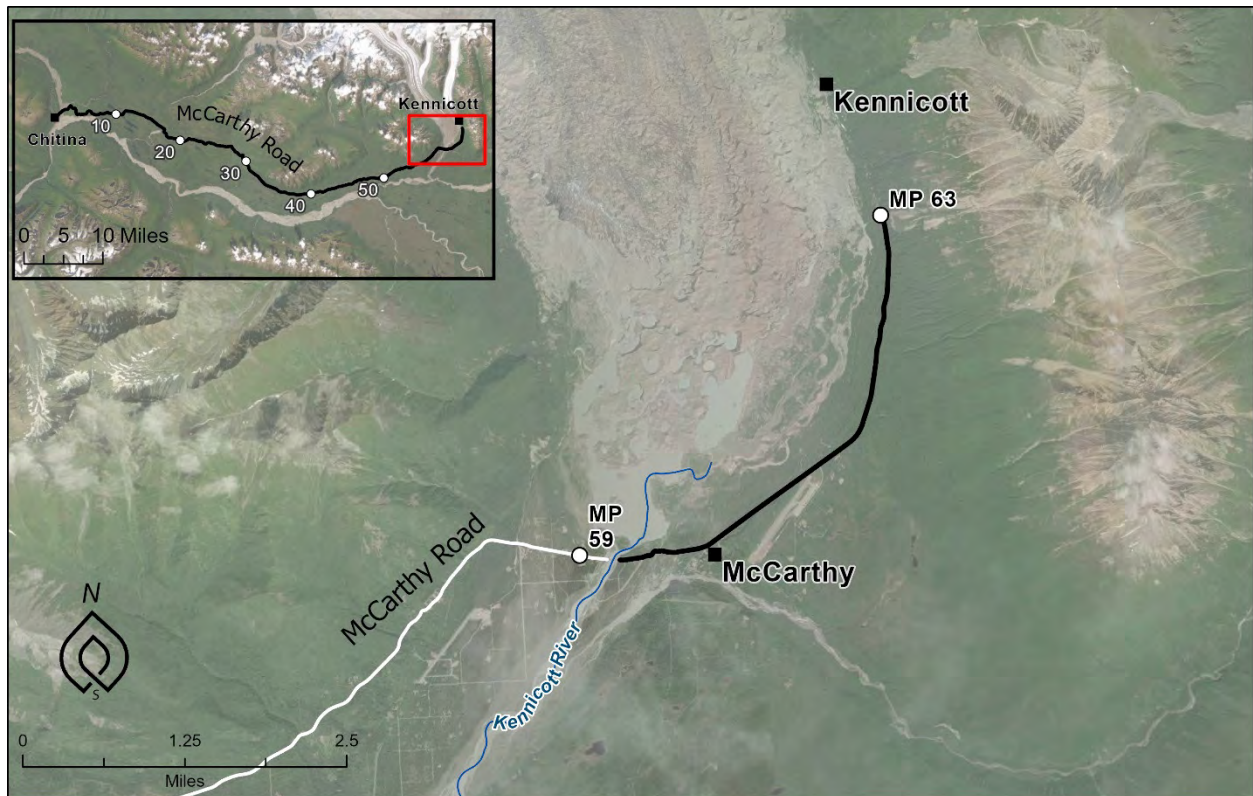
5.5.8 (#8) MP 59 to 63 Rehabilitation (between Kennicott River and Kennicott Subdivision)

The following table and figure highlight the proposed road rehabilitation between the Kennicott River to the southern boundary of the Kennicott subdivision.

Table 5-9. McCarthy Road MP 59 to 63 Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road MP 59 to 63 Rehabilitation
Scope	Widen the McCarthy Road and add drainage improvements (like ditches and culverts). Add material to raise road in areas with poor conditions. Clear roadside brush and vegetation. Add/replace signs and mile markers.
Description	Rehabilitate the McCarthy Road between Kennicott River and the Kennicott subdivision (MP 59 to 63). Where necessary, work would include adding material to widen and/or raise the road (add 2 to 3 feet of gravel material over the existing road), improving drainage (such as constructing or re-establishing ditches and culverts), clearing roadside brush and vegetation, and adding or replacing signage.
Priority	Medium
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified drainage and roadway cross sections as some of the highest priorities to address. This project received a medium priority (rather than a high priority) because of the lower vehicle traffic east of the Kennicott River compared to west of it.
Timeline	Medium-term
Timeline Rationale	Rehabilitation projects are not likely to advance sooner than standalone drainage improvement projects largely due to higher cost.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting design standards (such as addressing narrow road width) and improving drainage along the McCarthy Road. Needs arise from the following: • The road is narrow in places and needs to be widened to improve safety. • There are numerous drainage issues, which partly can be attributed to lack of ditches. Poor drainage has led to deterioration of the road, safety concerns by drivers, and increased maintenance costs. • Abandoned rails protrude from the embankment in the ditches, preventing some maintenance activities such as brush clearing with hydro-axes. Widening the road, improving or constructing new drainage features (like ditches or culverts), removing abandoned rails, and adding material to raise the roadway in select areas would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$8.9 million
Potential Funding Sources	PROTECT formula funds (for drainage features), PROTECT discretionary grant (for drainage features), FLAP, STBG, NHPP (only for protective features), HSIP, BUILD
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

Figure 5-11. McCarthy Road MP 59 to 63 Rehabilitation



5.5.9 (#9) MP 1.5 to 3 Reconstruction (reroute near Kotsina Bluffs)

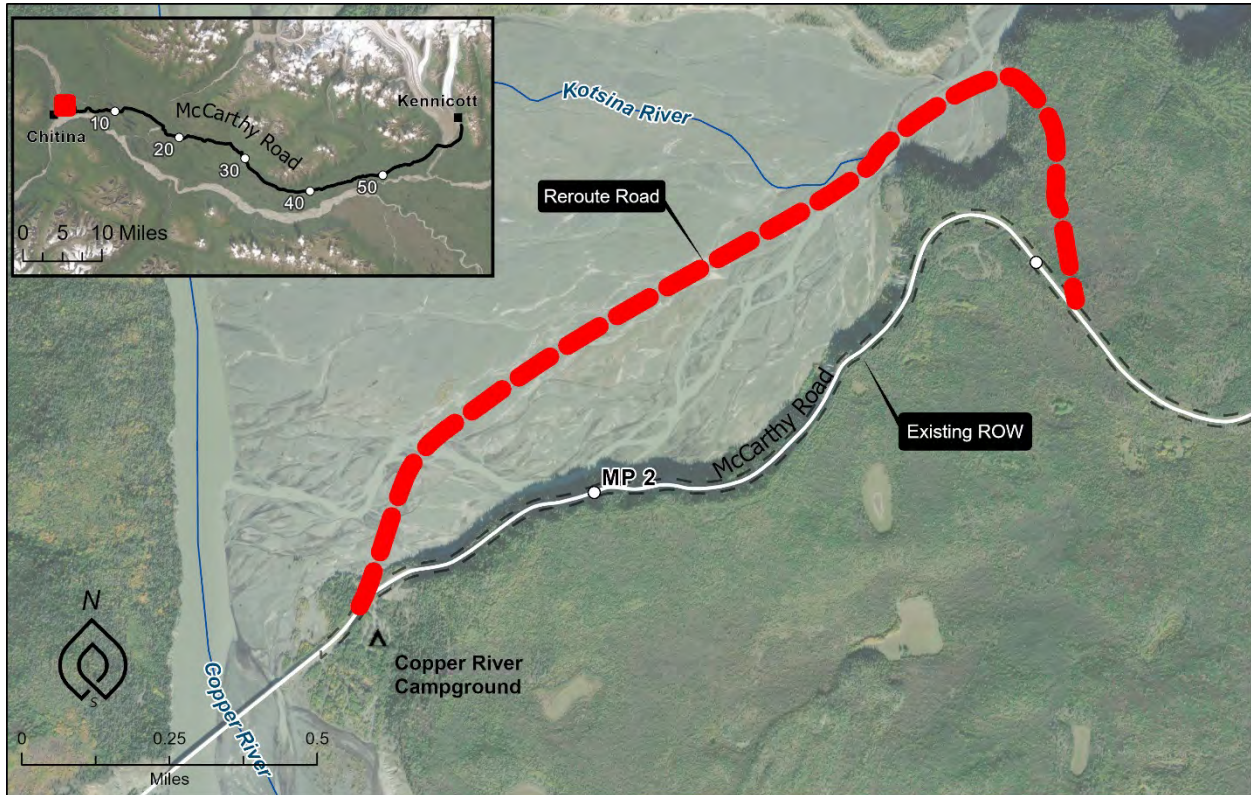
The following table and figure highlight the proposed reroute of the road near the Kotsina Bluffs.

Table 5-10. McCarthy Road MP 1.5 to 3 Reconstruction Project Details

Project Feature	Description
Name	McCarthy Road MP 1.5 to 3 Reconstruction
Scope	Reconstruct approximately 1.5 miles of the McCarthy Road from MP 1.5 to 3. Project would realign the existing road onto the dry Kotsina riverbed with substantial riprap.
Description	Realign approximately 1.5 miles of the McCarthy Road from MP 1.5 to 3 onto the dry Kotsina riverbed, away from and off the Kotsina Bluffs and landslide hazard. Road would be armored appropriately with riprap to protect it from the river. The existing road alignment would be abandoned. Requires acquisition of new ROW.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, improving infrastructure conditions along the road, and reducing the risk of road closure by realigning the road away from the landslide hazard. This is one of the highest identified needs areas in the corridor. For several decades prior to the PEL study, the DOT&PF and the public have indicated this area as a high priority of concern for the road corridor, due to historic landslides and the continuing likelihood of more. In addition to the landslide hazard and risk of slope failure, the road condition is poor due to numerous drainage issues. This stretch requires frequent DOT&PF maintenance. The road is also narrow. During outreach, the public identified the Kotsina Bluffs focus area as one of the highest priorities to address. As a member of the public stated, “if the road slides, no other project along the corridor matters.”
Timeline	Long-term
Timeline Rationale	Despite being one of the highest priorities in the corridor, the timeline for implementing this project is in the long-term due to factors such as cost, ability to obtain funding, ROW acquisition, and environmental approvals.
Draft Purpose and Need	The purpose of the project is to ensure a safe and reliable road corridor by improving roadway conditions, meeting current design standards (such as road width), and preventing road closure due to landslides. Project needs arise from the following: • Landslide hazard: Historic landslides have resulted in road closures and continues to pose a risk of sliding and road closure. A massive landslide would close McCarthy Road, cutting off the only access into the area for residents and visitors. • Road conditions and drainage issues: Substantial drainage issues result in poor road condition. Thawing permafrost exists uphill from the road. The bluffs shed due to over saturation of unconsolidated material. There are constant slope failures. This section of the road requires frequent attention by DOT&PF M&O. • Design standards: The existing road alignment is narrow, with some sections between 15 and 16 feet wide, rather than 24 feet wide. Addressing these needs by relocating a section of the McCarthy Road away from a landslide area would improve reliability and safety for travelers.
Estimated Total Cost	\$72.1 million
Potential Funding Sources	PROTECT formula funds (for resilience features), STBG, NHPP (only for protective features), PROTECT discretionary grant (for resiliency features), FLAP, HSIP, BUILD (only if ROW is not on federally owned lands), TTP

Project Feature	Description
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, Chitina Native Corporation, Ahtna, Inc., Native Village of Chitina

Figure 5-12. McCarthy Road MP 1.5 to 3 Reconstruction



The linework shown on this map reflects a planning-level conceptual design. Future design and coordination would determine the actual location.

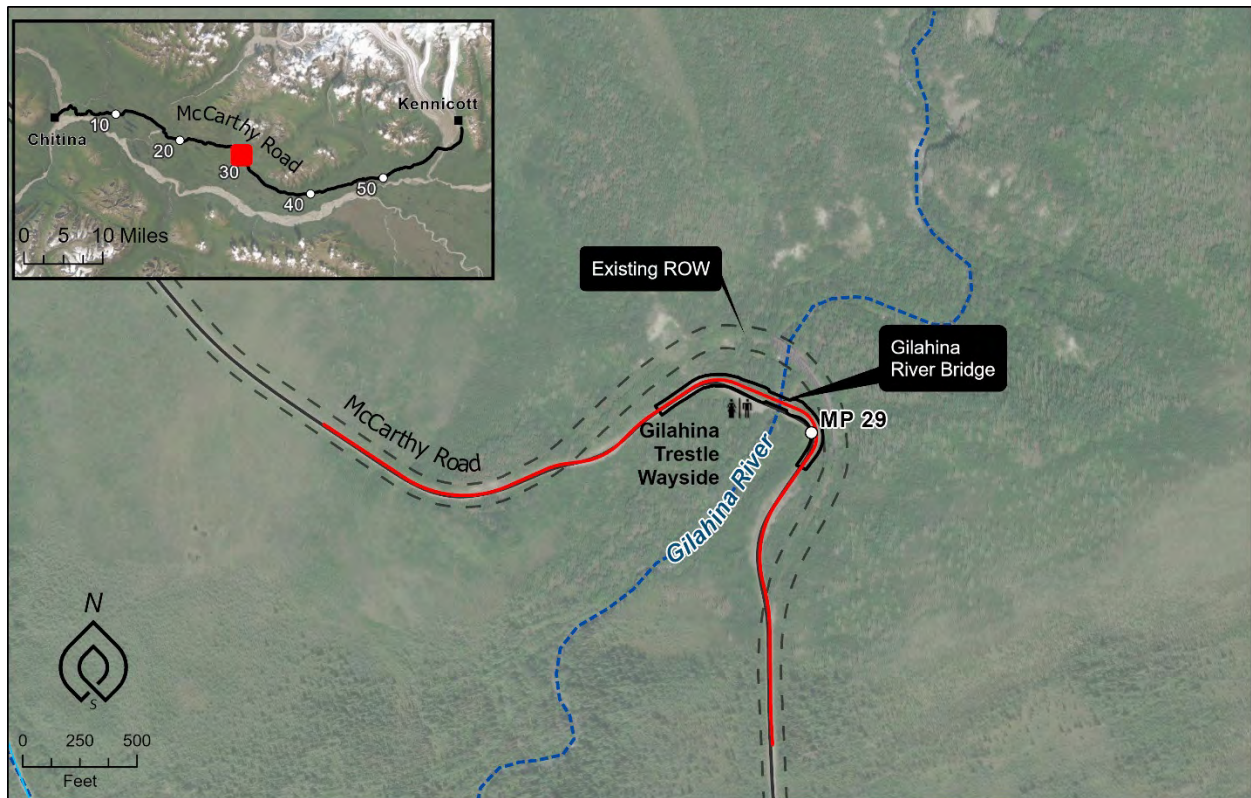
5.5.10 (#10) MP 29 Gilahina River Bridge (#1194) Replacement

The following table and figure highlight the proposed bridge replacement at Gilahina River.

Table 5-11. McCarthy Road MP 29 Gilahina River Bridge (#1194) Replacement Project Details

Project Feature	Description
Name	McCarthy Road MP 29 Gilahina Bridge (#1194) Replacement
Scope	Replacement of the single-lane Gilahina bridge #1194 at MP 29 on the McCarthy Road with a new two-lane bridge with higher clearance. Road would be raised to match new bridge, which would also reduce the steep road grade.
Description	Replace the Gilahina bridge #1194 at MP 29 on the McCarthy Road with a two-laned bridge with higher clearance. The road would be raised to match the new bridge, which would reduce (but not fully eliminate) the steep grade. Expand the ROW to incorporate the road.
Priority	Medium
Priority Rationale	Priority is based on resolving needs related to improving safety and maintaining reliable access, addressing roadway elements to meet current design standards, and improving infrastructure conditions.
Timeline	Short-term
Timeline Rationale	Timeline assumes a bridge replacement project in nearly the existing alignment is somewhat straightforward to implement. Timeline considers resolving the ROW discrepancy as well as obtaining environmental approvals.
Draft Purpose and Need	The purpose of the project is to improve safety by meeting current design standards and maintaining reliable connectivity along the McCarthy Road by addressing sight distance, clearance, and load restriction issues associated with the existing Gilahina River bridge (#1194). The existing one-lane bridge is in an area that has one of the steepest grades along the road corridor; it is on sharp roadway curves that are constrained by topography, contributing to poor sight distance. Increasing the bridge clearance and then raising the road to match the raised bridge would decrease the steep road grade. Of all the vehicle bridges in the road corridor, this bridge has the most limiting load restriction (that is, the lowest weight capacity) and the lowest bridge sufficiency rating. Scour occurs at the bridge abutments, debris gets into the girders, and a higher bridge clearance over the river is needed. The road is not located in the road ROW, which is where the abandoned railway trestle stands; the ROW discrepancy needs to be resolved.
Estimated Total Cost	\$6.4 million
Potential Funding Sources	BFP, BIP, STBG, NHPP (only for protective features), FLAP, HSIP, BUILD (only if ROW is not on federally owned lands)
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

Figure 5-13. McCarthy Road MP 29 Gilahina River Bridge (#1194) Replacement



5.5.11 (#11) MP 44 to 48.5 Reconstruction (existing alignment improvements near Long Lake)

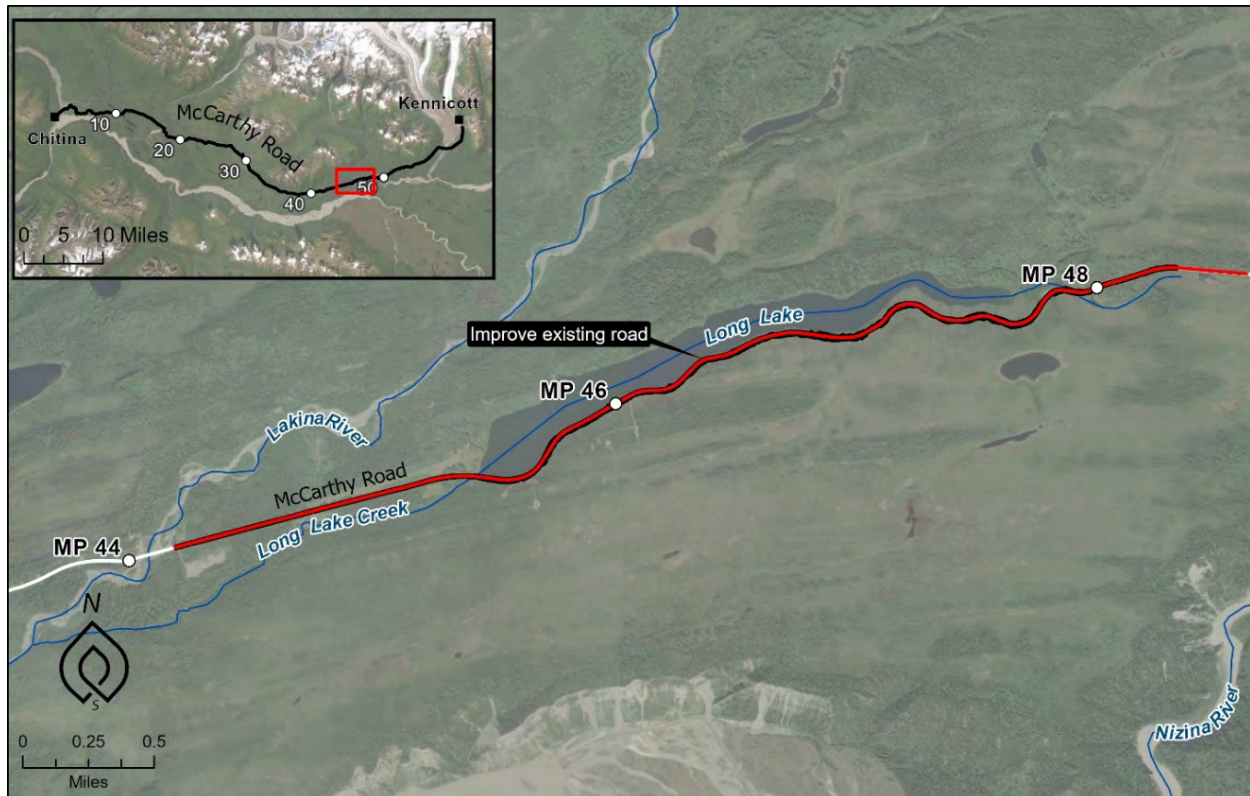
The following table and figure highlight the proposed improvements in the existing alignment along Long Lake.

Table 5-12. McCarthy Road MP 44 to 48.5 Reconstruction Project Details

Project Feature	Description
Name	McCarthy Road MP 44 to 48.5 Reconstruction (existing alignment improvements near Long Lake)
Scope	Reconstruct 4.5 miles of the McCarthy Road between MP 44 and 48.5. Project would include road width improvements, resurfacing with new gravel, geometric improvements, roadway signage, and drainage improvements. Drainage improvements would include new ditches, culverts, and porous rock ditch lining. Clear roadside brush and vegetation.
Description	Reconstruct approximately 4.5 miles of the McCarthy Road along Long Lake in its existing alignment. Work would include widening the road to design standards; addressing roadway geometry by reducing sharp curves and steeper grades; installing ditching, including porous rock to mitigate drainage and glaciation issues; clearing brush and vegetation; and installing signage. Porous rock provides a permeable layer that allows water to flow through the embankment.
Priority	High
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road. During outreach, the public identified the Long Lake focus area as one of the highest priorities to address and drew some of the most attention during the PEL outreach efforts. ^[a]
Timeline	Medium-term
Timeline Rationale	Despite the high priority of this location, the project timeline is influenced by factors such as the high cost of trucking in large porous rock. More cost-effective improvements, like a standalone drainage project, might be able to be implemented sooner.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting current design standards (e.g., road width, curvature, grade) and improving drainage along the McCarthy Road. Project needs arise from the following: • Road conditions and drainage issues: Drainage problems, including glaciation and lack of ditching, deteriorate the road and pose safety concerns for drivers. • Proactive improvements would reduce maintenance and enhance resilience. • Design standards: The road is narrow, with high cutbanks, steep drop-offs, sharp curves, and steep grade. • Members of the public have cited speeding as a concern. Adding speed limit signs and mile markers are intended to improve safety for travelers. Addressing these needs would improve reliability and safety for travelers and reduce maintenance costs.
Estimated Total Cost	\$14.9 million
Potential Funding Sources	STBG, FLAP, HSIP, BUILD (only if ROW is not federally owned lands)
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

- [a] Of all the identified focus areas in the study corridor, public input, especially during Public Meeting #2 and Meeting #3, focused on a proposed southern reroute away from Long Lake; referred to by community members as the *Long Lake Relocation (Mile 44.0 to 48.5) and Trail (Mile 46.5 to 48.5)*. The reroute option was screened out during the PEL process for various reasons (*Screening Evaluation & Results Memo [Section 2.3.1], Appendix E*). The recommended project within the existing road alignment addresses many needs, except it does not reroute the road away from the lake or nearby residents. While public and stakeholder advocacy for the reroute has persisted for decades including through the PEL process, not all roadway users deem it necessary. **Appendix C** contains several letters of support for the reroute that were submitted by various groups and individuals. Outside of the PEL study, the DOT&PF applied for grant funding (a BUILD grant) in January 2025 to further explore the Long Lake reroute option; the DOT&PF was not selected to receive the grant award. More data needs to be collected on the exiting conditions in the proposed reroute location.

Figure 5-14. McCarthy Road MP 44 to 48.5 Reconstruction (existing alignment improvements)



5.5.12 (#12) MP 58 Reconstruction

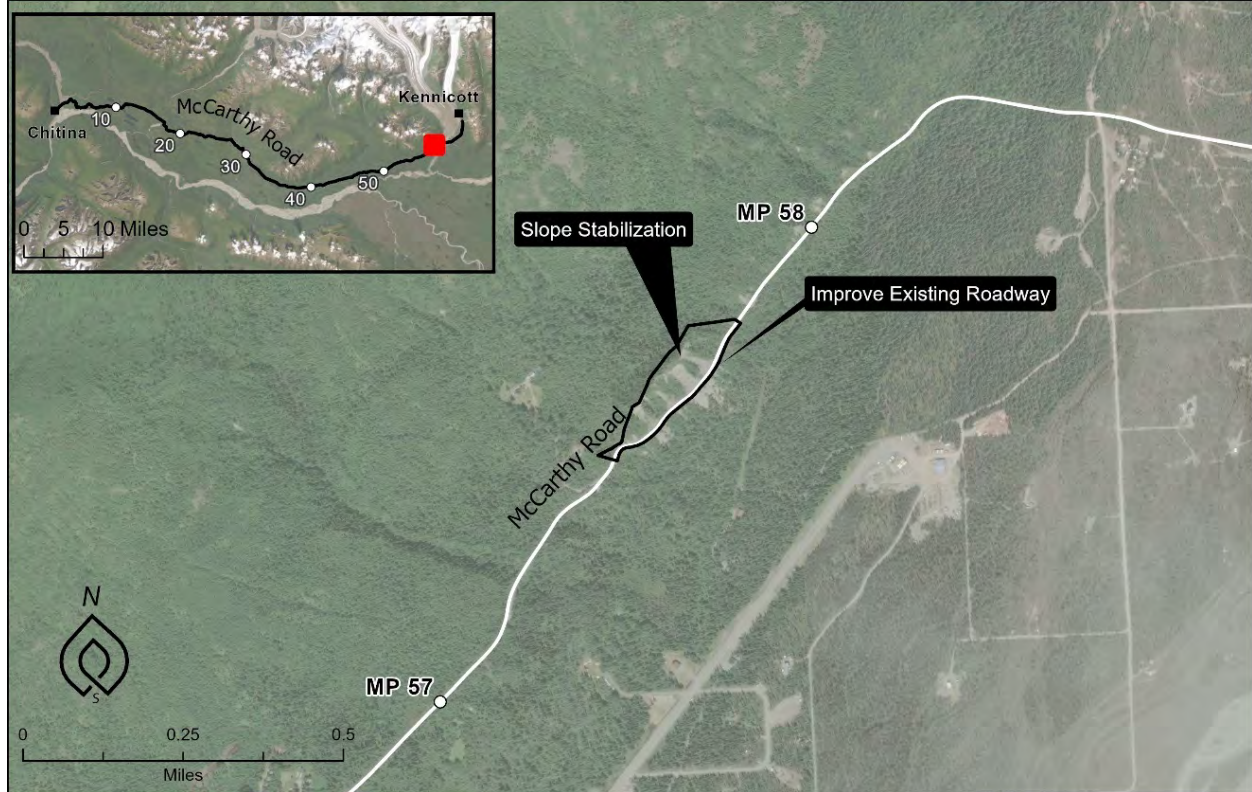
The following table and figure highlight the proposed improvements near MP 58 in the existing alignment.

Table 5-13. McCarthy Road MP 58 Reconstruction Project Details

Project Feature	Description
Name	McCarthy Road MP 58 Reconstruction (existing alignment improvements)
Scope	Reconstruct 0.3 mile of the McCarthy Road between MP 57.5 and 57.8. Project would include slope stabilization, road width improvements, resurfacing with new gravel, and drainage improvements. Slope stabilization would include slope flattening and geotextile fabric. Clear roadside brush and vegetation.
Description	Reconstruct 0.3 mile of the McCarthy Road near MP 58 in its existing alignment. Work would include widening the road to design standards; improving the road surface by installing fabric and more gravel; installing debris barriers; constructing ditches; clearing brush and vegetation; and installing signage.
Priority	Medium
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, improving infrastructure conditions along the road, as well as mitigating the landslide hazard risk. During outreach, the public identified the MP 58 focus area as one of the highest priorities to address. Geotechnical drilling by DOT&PF in fall 2024 indicted ongoing shallow slope failures but no clear failure plane for a large-scale failure; initial results suggest ongoing slope failures could be mitigated by flattening slope, installing geotextile fabric, and improving drainage.
Timeline	Medium-term
Timeline Rationale	Timeline is based on initial geotechnical drilling results conducted by DOT&PF in the fall 2024 and upcoming monitoring in 2025. Initial results suggest unstable slope failures are likely caused by ground saturation, with no obvious indication of a potential failure plane that a large-scale slope failure could occur upon. Smaller failures are expected as material accumulates and becomes saturated at the slope's base but could be mitigated by the recommended improvements.
Draft Purpose and Need	The purpose of the project is to ensure a safe and reliable road corridor by improving roadway conditions, mitigating landslide hazards, and meeting current design standards. Project needs arise from the following: • Landslide hazard: This section has a history of landslides that can cause road closure and require additional maintenance by DOT&PF. There is concern that a massive landslide could close the McCarthy Road, cutting off access for residents and visitors. • Road conditions and drainage issues: Drainage problems (including glaciation), deterioration of the road, and safety concerns for drivers. Thawing permafrost near MP 57.5 is a concern. Proactive improvements would reduce maintenance and enhance resilience. • Design standards: The road is narrow, with high cutbanks, steep drop-offs, sharp curves, and steep grade. Addressing these needs would improve reliability and safety for travelers and reduce maintenance costs. Adding speed limit signs and mile markers are intended to improve safety for travelers.
Estimated Total Cost	\$5.0 million

Project Feature	Description
Potential Funding Sources	PROTECT formula funds (for resilience features), STBG, NHPP (only for protective features), FLAP, HSIP
Potential Lead Sponsor(s)	NPS
Potential Project Partners	DOT&PF, WFL

Figure 5-15. McCarthy Road MP 58 Reconstruction



The linework shown on this map reflects a planning-level conceptual design. Future design and coordination would determine the actual location.

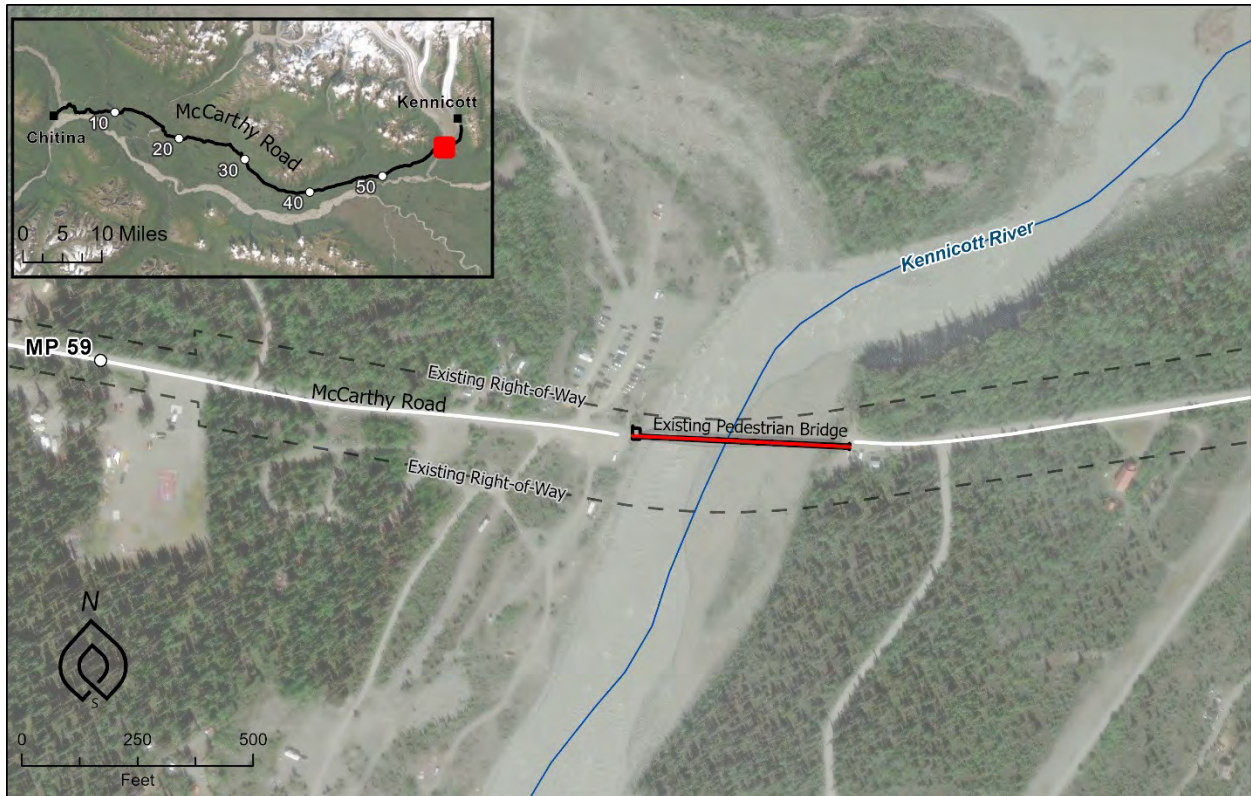
5.5.13 (#13) Kennicott River Footbridge (#6004) Rehabilitation

The following table and figure highlight the proposed improvements to the footbridge over Kennicott River.

Table 5-14. McCarthy Road Kennicott River Footbridge (#6004) Rehabilitation Project Details

Project Feature	Description
Name	McCarthy Road Kennicott River Footbridge (#6004) Rehabilitation
Scope	Rehabilitation of the pedestrian bridge at Kennicott River. Project would include bridge widening at piers, timber rub rail replacement, deck grating improvements, steel substructure recoating, precast slab jump span installation, and signage additions.
Description	Rehabilitate the pedestrian bridge at Kennicott River, just east of MP 59 to improve the bridge condition and extend its service life. Modifying the pedestrian bridge and adding signage are intended to mitigate the conflict of user groups on the bridge between ATV users and pedestrians or cyclists.
Priority	Medium
Priority Rationale	Priority is based on resolving key needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the corridor.
Timeline	Medium-term
Timeline Rationale	Timeline considers that the current pedestrian bridge conditions appear stable and other projects such as protecting the nearby river embankment from erosion should have higher priority.
Draft Purpose and Need	The purpose of the project is to extend the service life of the pedestrian bridge, repair known damage, decrease conflict among user groups, and improve safety. Bridge conditions are showing wear and tear, in particular the bridge decking, and need to be improved to maintain access, provide safe travel, and extend the life of the bridge. Bridge improvements would ensure public access is maintained across the Kennicott River. The pedestrian bridge is narrow and experiences conflicts among user groups, in particular pedestrians and ATV users. Bridge enhancements and signage are intended to improve access and safety for bridge users.
Estimated Total Cost	\$2.0 million
Potential Funding Sources	FLAP, NSFLTP (depending on cost and significance)
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

Figure 5-16. McCarthy Road Kennicott River Footbridge (#6004) Rehabilitation



5.5.14 (#14) Kennicott River Erosion Control (MP 59.3)

The following table and figure highlight the proposed erosion control along the Kennicott River, upstream of the footbridge.

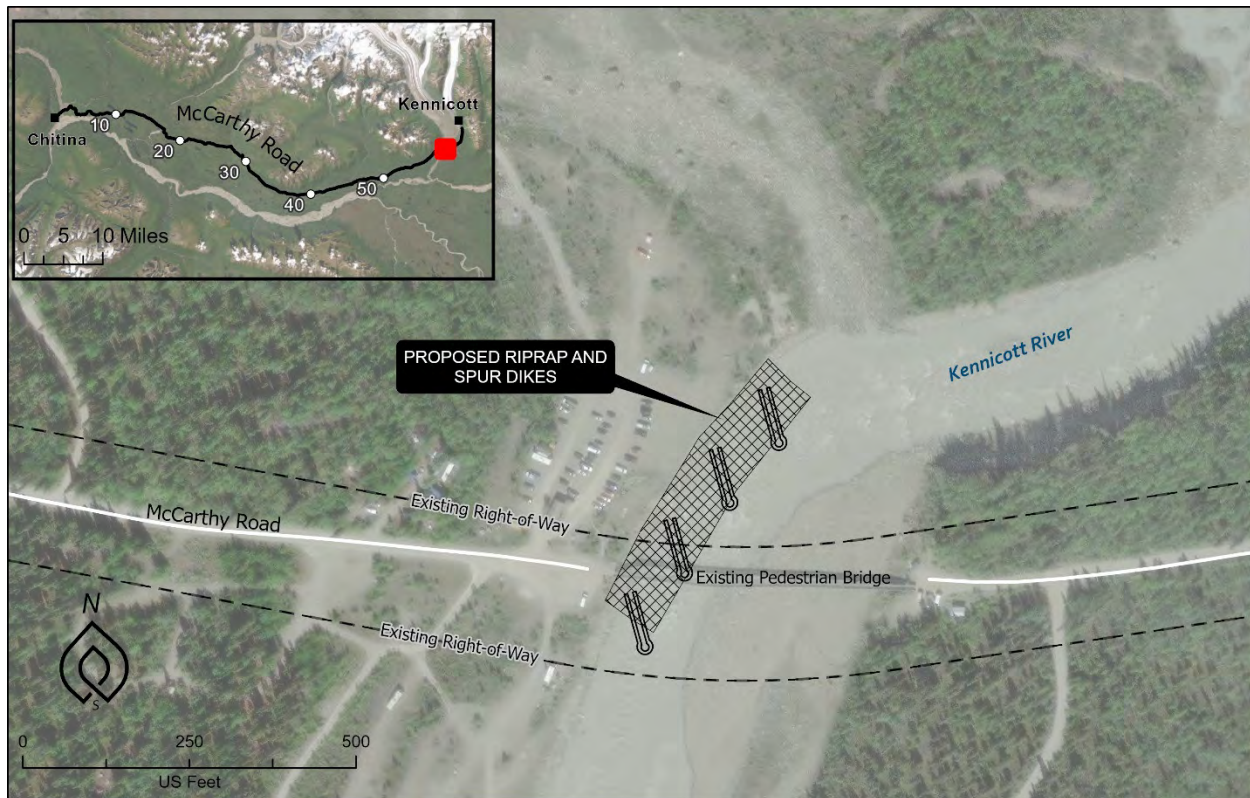
Table 5-15. McCarthy Road Kennicott River Erosion Control (MP 59.3) Project Details

Project Feature	Description
Name	McCarthy Road Kennicott River Erosion Control (MP 59.3)
Scope	Construct erosion control at Kennicott River. Project would include installation of armor rock and spur dikes.
Description	Erosion control measures, such as in the form of riprap and spur dikes (approximate 16-foot height), would be installed on the west bank of the Kennicott River, immediately upstream of the pedestrian bridge. Riprap would be installed along approximately 400 feet of riverbank.
Priority	High
Priority Rationale	Priority is based on the need to maintain reliable access and protect the pedestrian bridge across Kennicott River from ongoing erosion of the western bank.
Timeline	Short-term
Timeline Rationale	Timeline is based on the need to protect the bridge from natural hazards like bank erosion and annual glacial lake outburst flooding.
Draft Purpose and Need	The purpose of the project is to maintain reliable access across the Kennicott River and protect the pedestrian bridge. Erosion on the upstream western bank, despite some existing riprap, and annual outburst flooding from Kennicott Glacier Lake and Hidden Creek Lake upstream necessitate additional protection. Constructing erosion control measures on the west bank of the river would safeguard the bridge and ensure continued public access across the river.
Estimated Total Cost	\$11.5 million
Potential Funding Sources	FLAP, NSFLTP (depending on cost and significance), PROTECT
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS

During the public comment period on the draft PEL study report, several comments were submitted about the design, footprint, and consideration of other erosion control options at this location. Several commentors suggested looking at extending the footbridge to the west; however, this option would leave the area upstream of the river unprotected, and erosion would persist without protection.

The current concept includes spur dikes, which are intended to retrain the river alignment to utilize the existing bridge span more efficiently. The size of the spur dikes are conceptual, based on high water marks. The conceptual design was used to develop a project footprint and preliminary cost estimate. If this project is selected and funded, the future design team would develop a hydrologic and hydraulic report and model that would better inform the final design. At that time, other design concepts would be evaluated (such as longer bridge span, retaining walls, shore protection) and additional public and stakeholder outreach would be performed.

Figure 5-17. McCarthy Road Kennicott River Erosion Control (MP 59.3)



The footprint shown on this map reflects a planning-level conceptual design. Future design and coordination would determine the actual location.

5.5.15 (#15) MP 59.5 to 59.7 Reconstruction (existing alignment improvements near the swimming hole)

The following table and figure highlight the proposed road improvements in the existing alignment near the swimming hole.

Table 5-16. McCarthy Road MP 59.5 to 59.7 Reconstruction Project Details

Project Feature	Description
Name	McCarthy Road MP 59.5 to 59.7 Reconstruction (existing alignment improvements near the swimming hole)
Scope	Reconstruct the McCarthy Road between MP 59.5 and MP 59.7. Project would include road width improvements, resurfacing with new gravel, geometric improvements, roadway signage, and drainage improvements.
Description	Reconstruct a section of the McCarthy Road in its existing alignment near the “swimming hole” located at approximate MP 59.5 to 59.7, slightly east of the Kennicott River pedestrian bridge crossing. Work would include widening the road to design standards, improving roadway geometry by lessening the grade and roadway curvature, constructing drainage improvements to address past flooding and poor road condition, and installing signage. Update the ROW to more accurately reflect where the road stands now, conditional on future changes in the course of the Kennicott River.
Priority	Medium
Priority Rationale	Priority is based on resolving needs related to improving safety, maintaining reliable access, and improving infrastructure conditions along the road.
Timeline	Medium-term
Timeline Rationale	Timeline is based on the need to coordinate and resolve the ROW discrepancy between the State of Alaska and NPS.
Draft Purpose and Need	The purpose of the project is to ensure safer and more reliable access for roadway users by meeting current design standards (road width, curvature, grade) and improving drainage along the McCarthy Road. Project needs arise from the following: Road conditions and drainage issues: Road conditions are poor and need to be improved. There is a damaged culvert that needs to be replaced, though in consideration with how improvements might impact the swimming hole, located just north of the road. Design standards: The road is narrow, curvy, and has a steep grade. Addressing these needs would improve reliability and safety for travelers and reduce maintenance costs.
Estimated Total Cost	\$1.9 million
Potential Funding Sources	FLAP, Culverts AOP
Potential Lead Sponsors	DOT&PF
Potential Project Partners	NPS, WFL, ADF&G/USFWS

As with many of the recommended solutions, this recommended solution could be constructed in conjunction with several enhancements, as suggested in Section 5.6. In addition to the scope of the improvements described in Table 5-16, many comments submitted by the public and stakeholders (including the NPS), have expressed the desire for the improvements to be conducted in a way that achieves many of the PEL's secondary goals. These goals are related to environmental stewardship; accommodating non-motorized users; maintaining the intrinsic values of the corridor and location; and enhancing access and supporting land uses, including those related to visitor experience and recreation access. For instance, commentors have said the nearby recommended culvert replacement at Clear Creek should be done in a context-sensitive way so the culvert does not inadvertently drain the swimming hole. The swimming hole has been identified by many during the PEL process as an enormous community asset, and the area is considered an existing recreation hub that has the potential to be greatly enhanced, including becoming a future jumping off point for more formalized trails in the area.

Future project managers will consult with the NPS regarding work in this area and may reference existing documentation, such as the [Kennicott Glacier Interpretive Concept Plan](#), regarding trail or other development.

Figure 5-18. McCarthy Road MP 59.5 to 59.7 Reconstruction

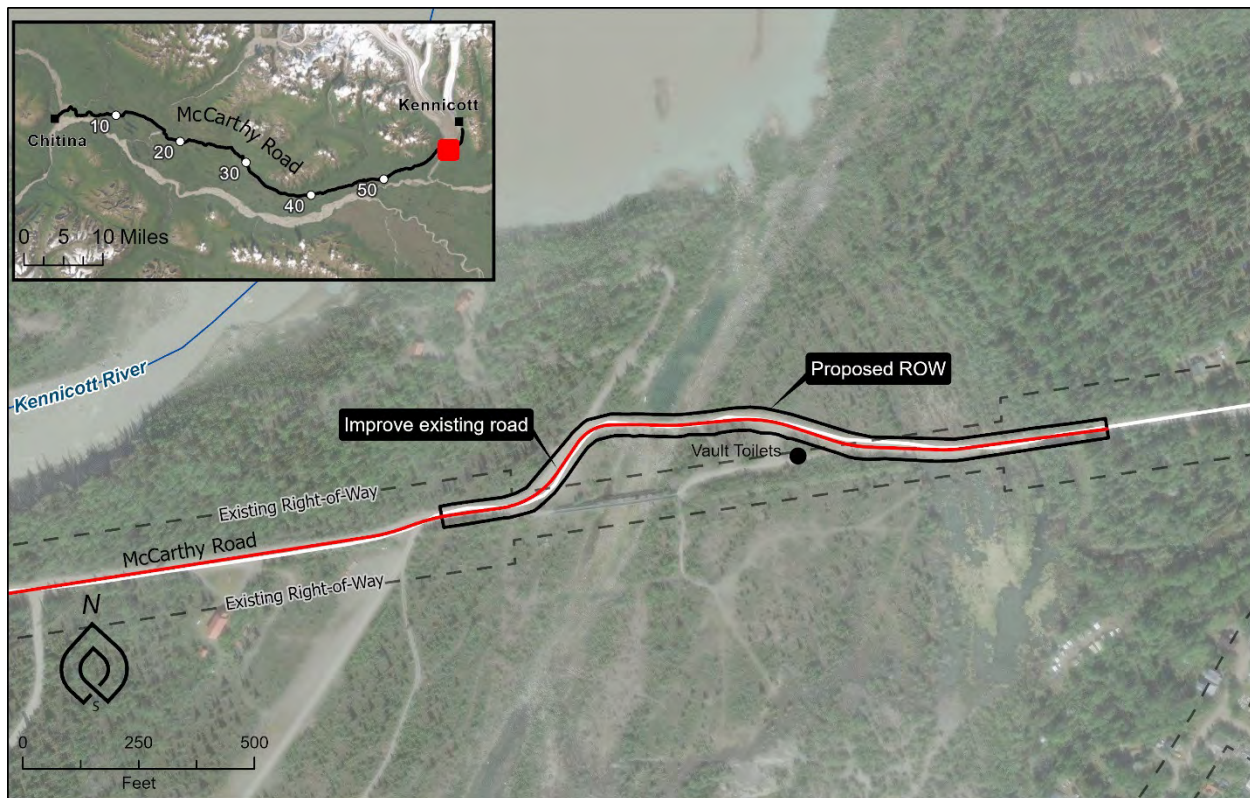
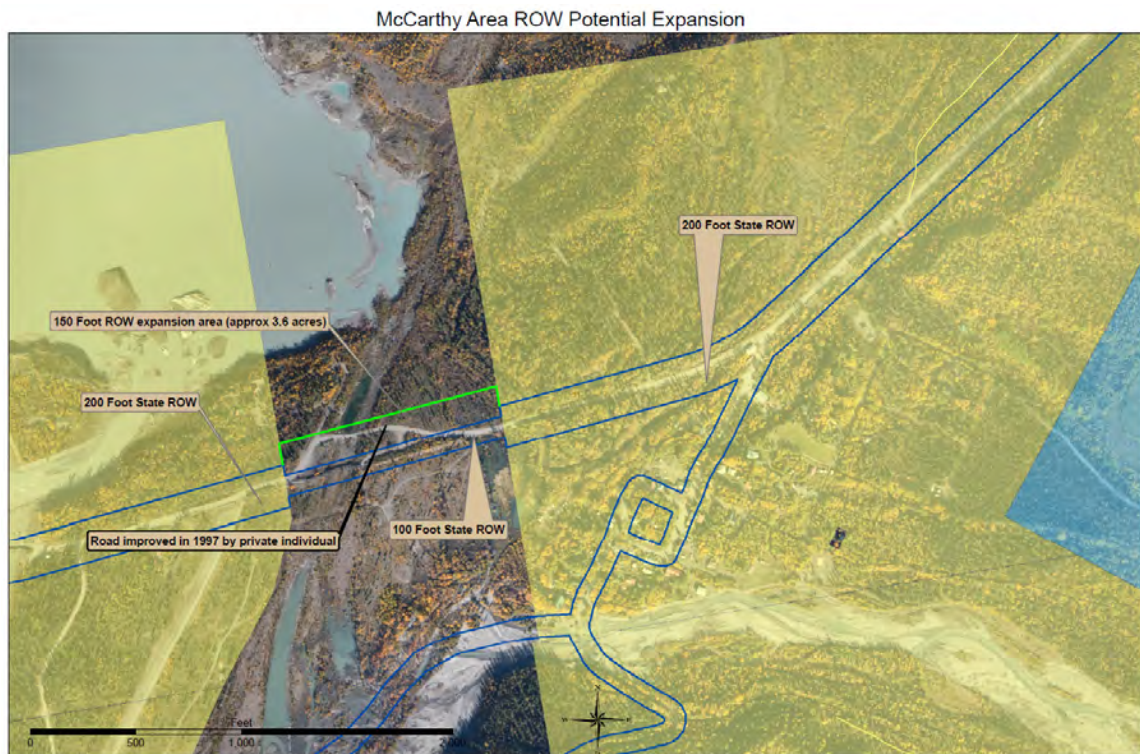


Figure 5-19. NPS-Prepared Map Depicting Potential Road ROW Expansion



5.5.16 (#16) Pullouts between McCarthy and Kennicott

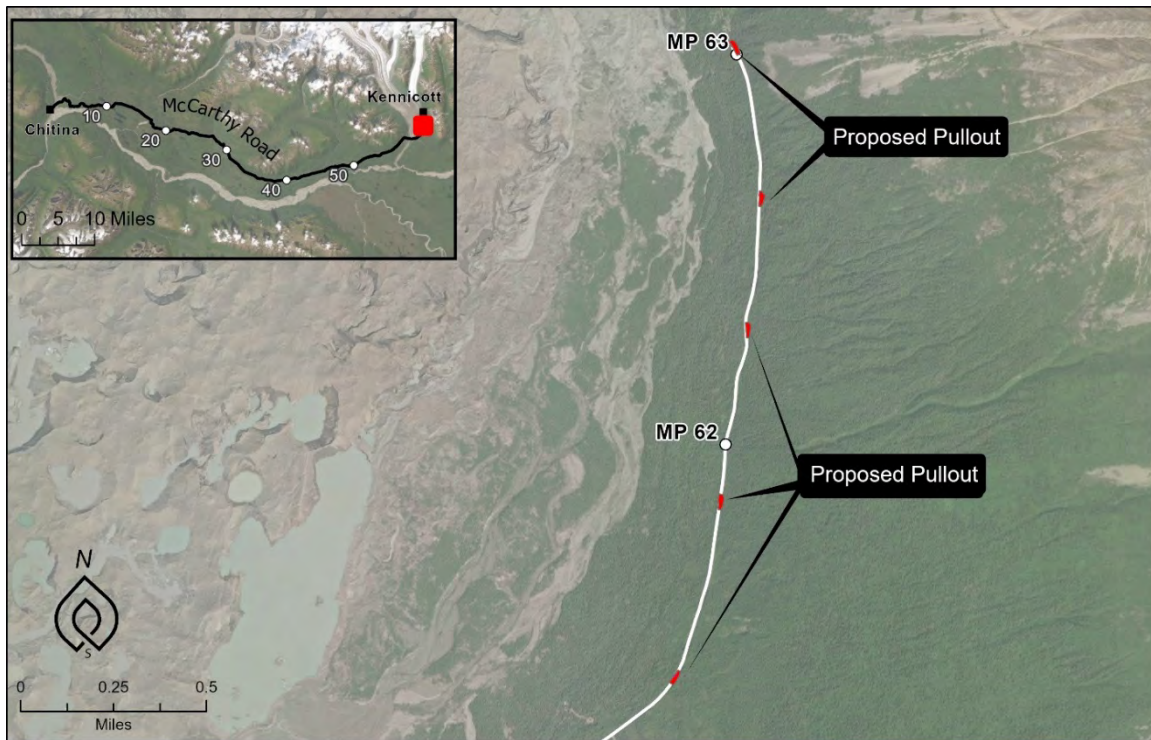
The following table and figure highlight the proposed pullouts between McCarthy and the southern boundary of the Kennicott subdivision.

Table 5-17. McCarthy Road Pullouts between McCarthy and Kennicott Project Details

Project Feature	Description
Name	McCarthy Road Pullouts between McCarthy and Kennicott
Scope	Construct pullouts along the McCarthy Road between MP 60 and 63. Project would include signage.
Description	Construct up to five pullouts between McCarthy and the southern boundary of the Kennicott subdivision. Each pullout would be approximately 100 feet long.
Priority	Medium
Priority Rationale	Priority is based on resolving needs related to improving safety and maintaining reliable access.
Timeline	Medium-term
Timeline Rationale	This section of the road corridor sees less vehicle traffic compared with the road west of the Kennicott River. Timeline reflects the assumption other projects would advance sooner than this one.
Draft Purpose and Need	The purpose of the project is to improve safety and maintain reliable access along the McCarthy Road by constructing pullouts in a section of road that is narrow and has a greater concentration of multiple transportation modes compared to the greater study corridor. The DOT&PF previously identified the need and proposed location for pullouts.
Estimated Total Cost	\$1.2 million
Potential Funding Sources	FLAP
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL

In response to public and stakeholder feedback on the draft PEL study report, including input during PAC Meeting #4, the study team revised the project's priority from low to medium and adjusted the timeline from long-term to medium-term. This change reflects several factors: a higher concentration of NPS visitors between McCarthy and Kennicott, many of whom bypass McCarthy Road by flying in; DOT&PF M&O staff's interest in removing rail ties along the road that hinder maintenance, and the segment's multimodal nature that includes regular shuttle traffic and lack of public vehicle access. Removal of the rail ties could be incorporated into the construction of the pullouts project. Despite these changes, the study team recognizes that in one public comment they expressed that the pullouts project was unnecessary. Also, based on public comment, the purpose and need statement was updated to remove reference to limited parking in the vicinity, clarifying that the pullouts are intended to support safe roadway passage for all users.

Figure 5-20. McCarthy Road Pullouts between McCarthy and Kennicott

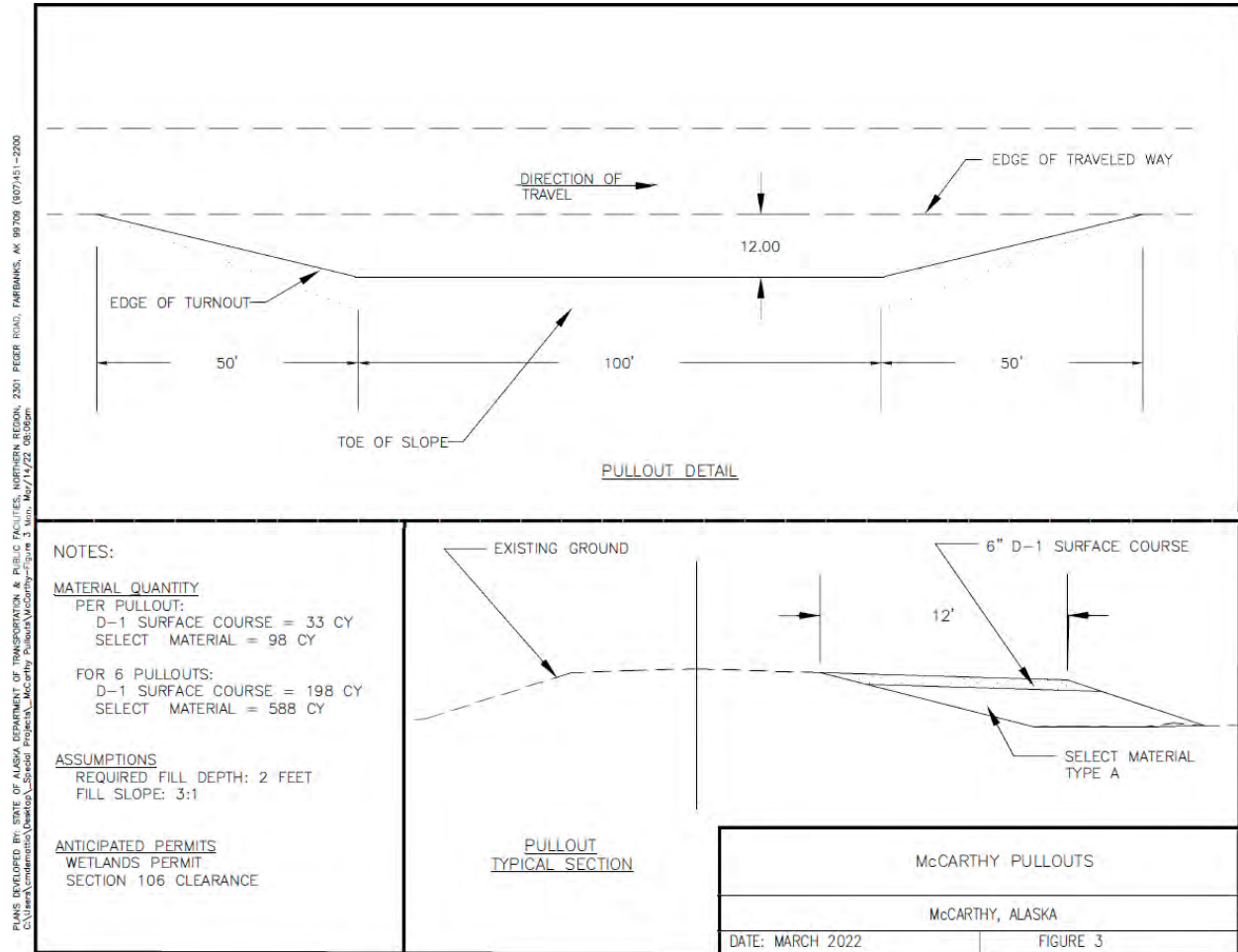


Prior to the PEL study, DOT&PF prepared the following two figures identifying the locations for pullouts. Pullouts 1 through 5 occur within the study corridor, whereas pullout 6 is to the north of the study area.

Figure 5-21. DOT&PF-Prepared Map Depicting Potential Pullout Locations



Figure 5-22. DOT&PF-prepared Map Depicting Potential Pullout Cross Section



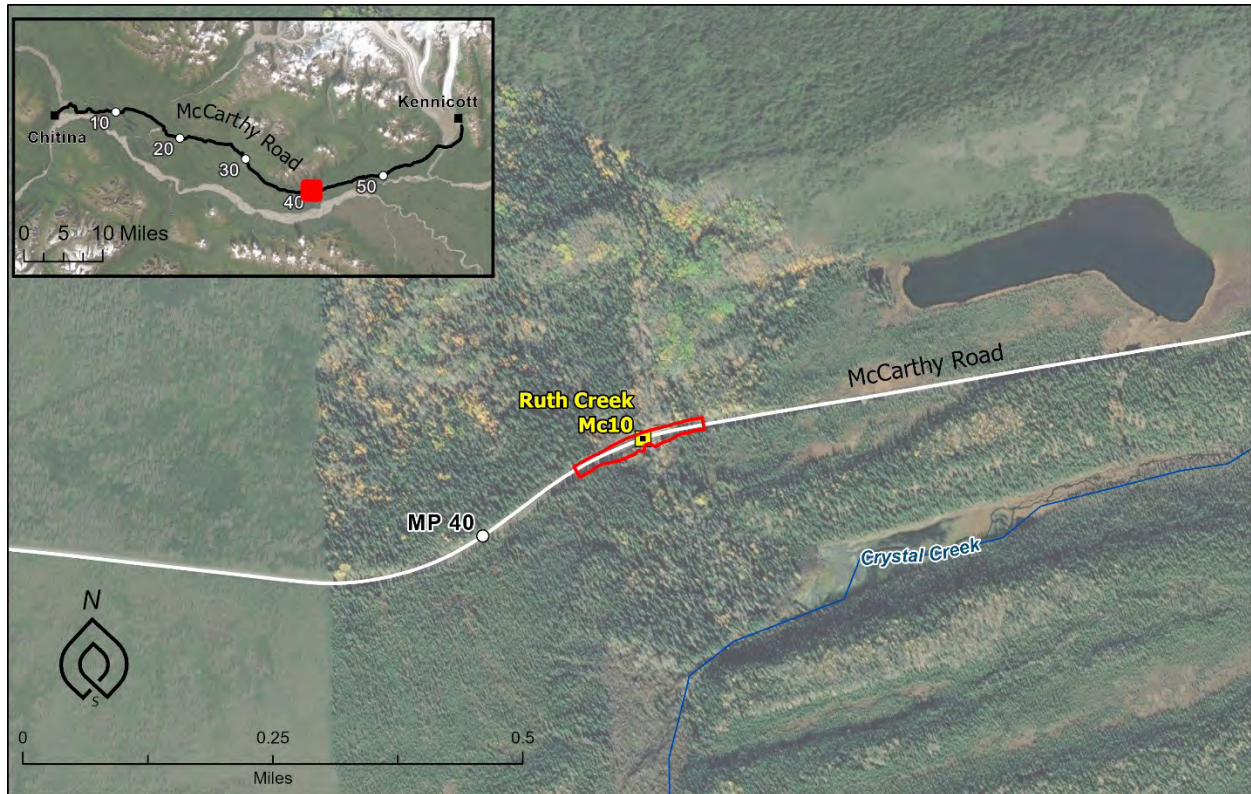
5.5.17 (#17) MP 40.2 Ruth Creek Culvert Replacement

The following table and figure highlight the proposed culvert replacement and road improvements at Ruth Creek.

Table 5-18. McCarthy Road MP 40.2 Ruth Creek Culvert Replacement Project Details

Project Feature	Description
Name	McCarthy Road MP 40.2 Ruth Creek Culvert Replacement
Scope	Construct a fish passage culvert at Ruth Creek near MP 40.2 and reconstruct and resurface approximately 715 feet of the McCarthy Road. Project would include road width improvements, roadway signage installation, and fish passage improvements.
Description	Construct a fish passage culvert at Ruth Creek near MP 40.2 and reconstruct a portion of the McCarthy Road nearby. Project location is south of Crystalline Hills and west of the Crystal Creek crossing and Ruth Lake. The road would be raised to accommodate the new fish passage culvert.
Priority	Low
Priority Rationale	Priority is assigned based on other higher needs in the study corridor. However, it is recognized that the proposed project would jointly improve infrastructure conditions (road and culvert), safety, and the environment (fish passage).
Timeline	Medium-term
Timeline Rationale	Timeline is based on the potential for the varying types of improvements to be able to access varying funding sources, beyond solely transportation-centric programs.
Draft Purpose and Need	The purpose of the project is to ensure safe and reliable access for roadway users by meeting current design standards (notably, road width) and improving fish passage under the McCarthy Road. DOT&PF M&O has recommended the culvert be replaced and upsized, and both ADF&G and CRWP identified the current culvert as a fish barrier needing replacement. The pipe condition is noted as poor. DOT&PF M&O has identified the area as having a sink hole/soft spot and drainage issues extending to the east about 0.5 mile. To accommodate the new culvert, the road would be raised. The project would resurface the road with new gravel material, improving the road condition. Widening the road, replacing the culvert, and adding new gravel material would improve reliability and safety for travelers, reduce maintenance costs, and enhance the environment by improving fish passage.
Estimated Total Cost	\$2.3 million
Potential Funding Sources	Culverts AOP, STBG, BFP, BIP, FLAP
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL, ADF&G/USFWS, CRWP

Figure 5-23. McCarthy Road MP 40.2 Ruth Creek Culvert Replacement



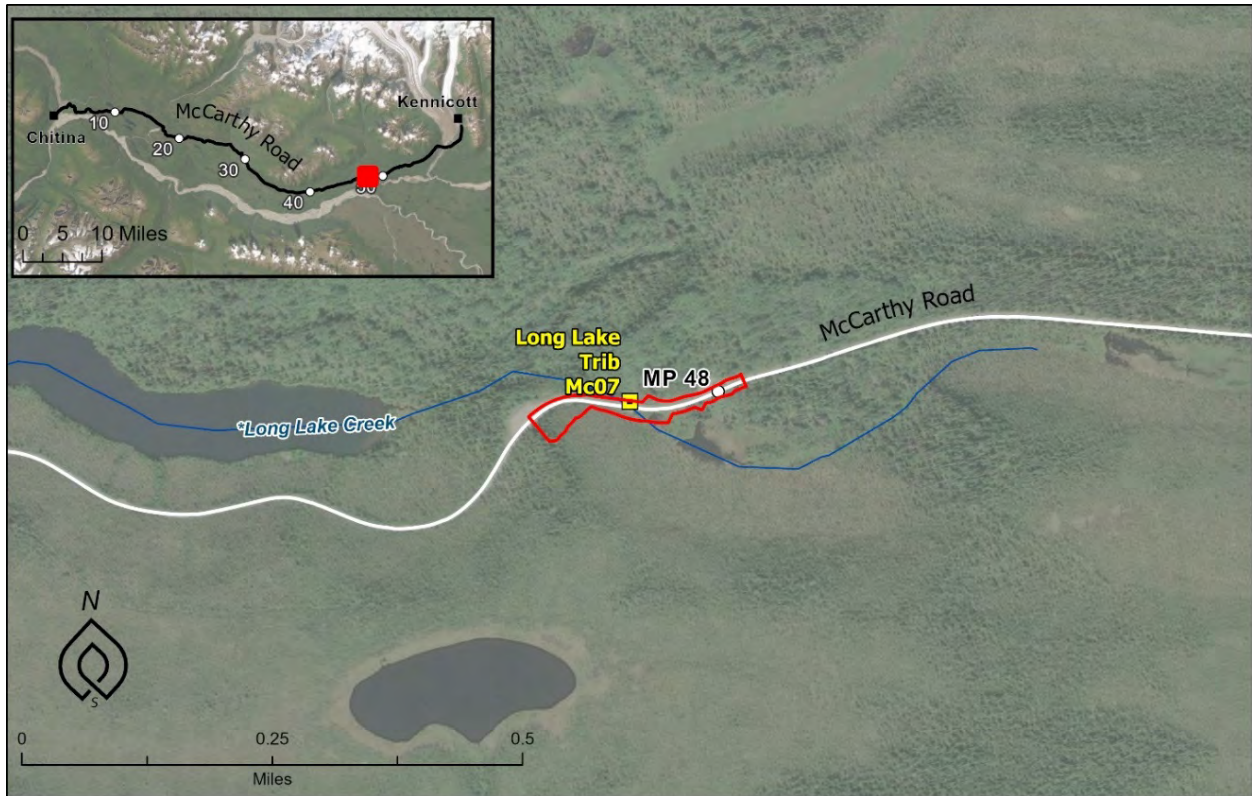
5.5.18 (#18) MP 47.9 Long Lake Creek/Tributary Culvert Replacement

The following table and figure highlight the proposed culvert replacement and road improvements at Long Lake Creek/Tributary.

Table 5-19. McCarthy Road MP 47.9 Long Lake Creek/Tributary Culvert Replacement Project Details

Project Feature	Description
Name	McCarthy Road MP 47.9 Long Lake Creek/Tributary Culvert Replacement
Scope	Construct a fish passage culvert at Long Lake Creek near MP 47.9 and reconstruct and resurface approximately 1,155 feet of the McCarthy Road. Project would include improvements to the road profile by raising road, improvements to horizontal curvature by realigning the road, width improvements, roadway signage, and fish passage improvements.
Description	Construct a fish passage culvert at Long Lake Creek/Tributary near MP 47.9 and reconstruct a portion of the McCarthy Road nearby. Project location is east of Long Lake. Improvements would include reducing the road curvature, widening, resurfacing, raising the road for the new culvert, and adding speed limit signs.
Priority	Low
Priority Rationale	Priority is assigned based on other higher needs in the study corridor. However, it is recognized that the proposed project would jointly improve infrastructure conditions (road and culvert), safety, and the environment (fish passage).
Timeline	Medium-term
Timeline Rationale	Timeline is based on the potential for the varying types of improvements to be able to access varying funding sources, beyond solely transportation-centric programs.
Draft Purpose and Need	The purpose of the project is to ensure safe and reliable access for roadway users by meeting current design standards (such as road width, road curvature) and improving fish passage under the McCarthy Road. The culvert is located on a narrow, curved stretch of road. Widening the road and reducing the curve would improve safety and sight lines, addressing public concerns about the curves, dips, and blind corner with brush blocking line of sight. The DOT&PF M&O staff have identified water drainage issues just east of the culvert near MP 48. Both ADF&G and the CRWP identified the current culvert as a barrier to fish. The 5-foot-diameter culvert was damaged during high flows in summer 2023 and can no longer pass fish. Replacing the culvert would restore connectivity and improve access to habitat for anadromous and resident fish species. To accommodate the new culvert, the road would be raised and resurfaced with new gravel material, improving its condition. Widening the road, reducing the road curvature, replacing the culvert, and adding new gravel material would improve reliability and safety for travelers, reduce maintenance costs, and enhance the environment by facilitating fish passage.
Estimated Total Cost	\$3.5 million
Potential Funding Sources	Culverts AOP, STBG, BFP, BIP, FLAP
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL, ADF&G/USFWS, CRWP

Figure 5-24. McCarthy Road MP 47.9 Long Lake Creek/Tributary Culvert Replacement



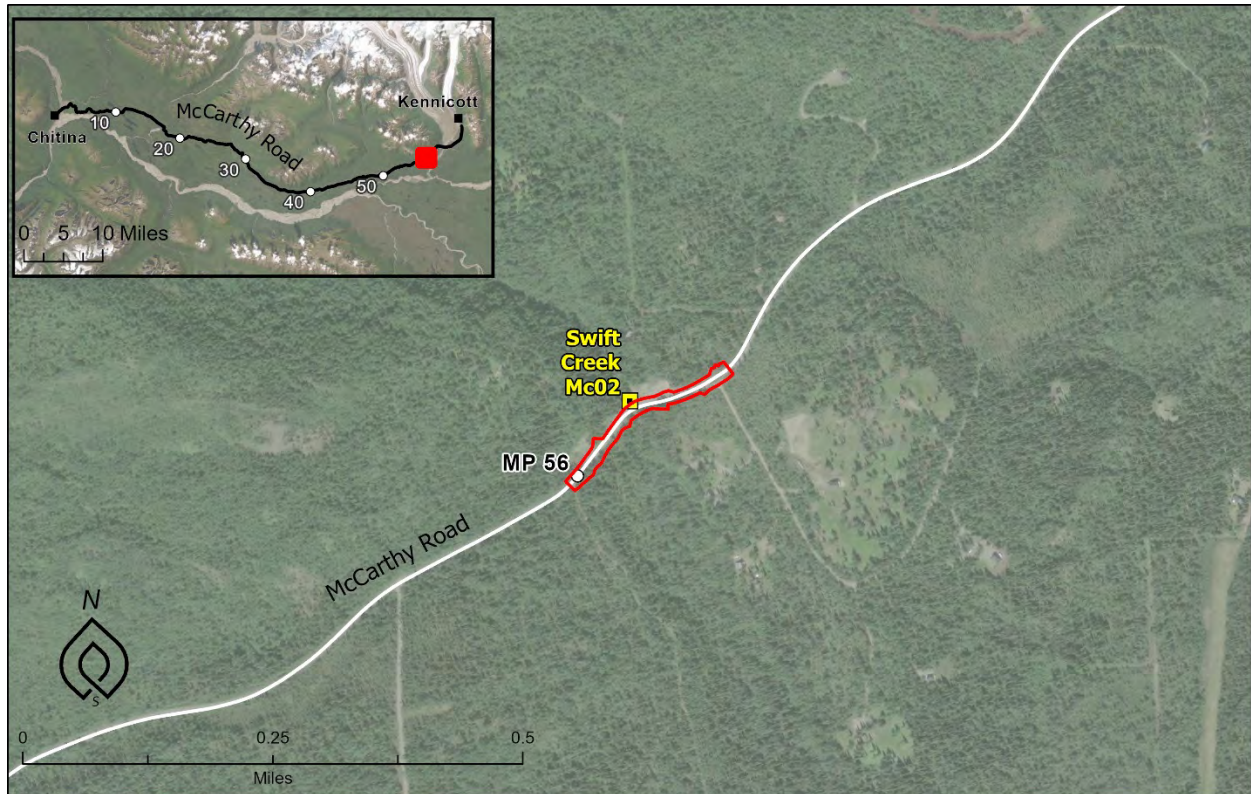
5.5.19 (#19) MP 56.1 Swift Creek Culvert Replacement

The following table and figure highlight the proposed culvert replacement and road improvements at Swift Creek.

Table 5-20. McCarthy Road MP 56.1 Swift Creek Culvert Replacement Project Details

Project Feature	Description
Name	McCarthy Road MP 56.1 Swift Creek Culvert Replacement
Scope	Construct a fish passage culvert at Swift Creek near MP 56.1 and reconstruct and resurface approximately 1,065 feet of the McCarthy Road. Project would include improvements to profile by raising road, improvements to horizontal curvature by realigning the road, width improvements, roadway signage, and fish passage improvements.
Description	Construct a fish passage culvert at Swift Creek near MP 56.1 and reconstruct a portion of the McCarthy Road nearby. Road improvements would include minimizing the road curve and widening the narrow road. The road would be raised to accommodate the new fish passage culvert.
Priority	Low
Priority Rationale	Priority is assigned based on other needs in the study corridor. However, it is recognized that the proposed project would jointly improve infrastructure conditions (road and culvert), safety, and the environment (fish passage).
Timeline	Medium-term
Timeline Rationale	Timeline is based on the potential for the varying types of improvements to be able to access varying funding sources, beyond solely transportation-centric programs.
Draft Purpose and Need	The purpose of the project is to ensure safe and reliable access for roadway users by meeting current design standards (such as road width, road curvature) and improving fish passage under the McCarthy Road. The culvert is located on a narrow, curved stretch of road. Widening the road and reducing the curve would improve safety and sight lines. Public concerns about a dangerous dip in the roadbed near this location would also be addressed. Several issues near the culvert need improvement. The riprap armoring is absent on the roadway side slopes around the culvert inlet and outlet, leading to erosion risks. Both ADF&G and the CRWP identified the current culvert as a barrier to fish due to its perched height. The large elevation change between the inlet and outlet provides construction challenges without a perch. Scouring on the outlet side due to perch height will continue to increase the elevation change and decrease slope stability, leading to further road maintenance issues. To accommodate the new culvert, the road would be raised and resurfaced with new gravel material, improving its condition. Widening the road, reducing the road curvature, replacing the culvert, and adding new gravel material would improve reliability and safety for travelers, reduce maintenance costs, and enhance the environment by facilitating fish passage.
Estimated Total Cost	\$3.0 million
Potential Funding Sources	Culverts AOP, STBG, BFP, BIP, FLAP
Potential Lead Sponsor(s)	DOT&PF, WFL
Potential Project Partners	NPS, ADF&G/USFWS, CRWP

Figure 5-25. McCarthy Road MP 56.1 Swift Creek Culvert Replacement



5.5.20 (#20) MP 59.8 Clear Creek Culvert Replacement

The following table and figure highlight the proposed culvert replacement and road improvements at Clear Creek.

Table 5-21. McCarthy Road MP 59.8 Clear Creek Culvert Replacement Project Details

Project Feature	Description
Name	McCarthy Road MP 59.8 Clear Creek Culvert Replacement
Scope	Construct a fish passage culvert at Clear Creek near MP 59.8 and reconstruct and resurface approximately 945 feet of the McCarthy Road. Project would include improvements to the road profile by raising road, width improvements, roadway signage, and fish passage improvements.
Description	Construct a fish passage culvert at Clear Creek near MP 59.8 and reconstruct and resurface a portion of the adjacent roadway. The road would be widened to improve safety and raised to accommodate the fish passage culvert. This area is also the location where people collect water for drinking, so impacts to that would need to be considered and addressed.
Priority	Low
Priority Rationale	Priority is assigned based on other needs in the study corridor. However, it is recognized that the proposed project would jointly improve infrastructure conditions (road and culvert), safety, and the environment (fish passage).
Timeline	Medium-term
Timeline Rationale	Timeline is based on the potential for the varying types of improvements to be able to access varying funding sources, beyond solely transportation-centric programs.
Draft Purpose and Need	The purpose of the project is to ensure safe and reliable access for roadway users by meeting current design standards (e.g., road width) and improving fish passage under the McCarthy Road. The culvert is located on a narrow stretch of road and in a dip. A member of the public indicated this is sometimes the worst spot on the entire road during the winter months. Both ADF&G and the CCRWP identified the culvert as a barrier to fish and as lacking substrate in the culvert. The CRWP also indicated there are beaver conflicts in the area with dams being built inside the pipe that result in road flooding. Vehicles driving through these waters results in water quality degradation, which impacts both the community drinking water and fish habitat. To accommodate the new culvert, the road would be raised and resurfaced with new gravel material, improving its condition and reducing the dip in the road. Widening the road, replacing the culvert, and adding new gravel material would improve reliability and safety for travelers, reduce maintenance costs, and enhance the environment by facilitating fish passage.
Estimated Total Cost	\$2.5 million
Potential Funding Sources	Culverts AOP, FLAP, FLTP (possibly in combination with Project #15)
Potential Lead Sponsor(s)	DOT&PF
Potential Project Partners	NPS, WFL, ADF&G/USFWS, CRWP

Refer to Section 5.5.15 for an additional discussion on potential enhancements in this vicinity.

Figure 5-26. McCarthy Road MP 59.8 Clear Creek Culvert Replacement



5.6 Suggested Enhancements

Potential projects within the road corridor termed ‘enhancements’ would not necessarily make the road safer and more reliable, but they may contribute to secondary goals related to the scenic and cultural values of the surrounding environment and communities.

The enhancements included in the PEL study came directly from the public and stakeholder input during the first phase of the PEL study outreach, particularly at Public Meeting #1 and through stakeholder and agency outreach. In response to engagement at Public Meeting #2, the team revisited the suggestions and developed a list of three main types of suggested enhancements:

- **Visitor experience:** Visitor enhancements included scenic pullouts, parking areas, and signage.
- **Recreation access:** Recreation enhancements included ideas and opportunities to access lakes, rivers, and trails.
- **Environmental enhancements:** Environmental enhancements were largely related to improving fish passage and habitat, particularly related to culverts.

Table 5-22 lists the suggested enhancements for consideration alongside the recommended solutions presented earlier.

Table 5-22. Suggested Enhancements

Type	Location (Approximate MP)	Description
 Parking	1	Widen road to increase roadside parking, especially for dipnetting season
 Pullouts	1.1	Install outhouses and trash cans during dipnetting season; provide trash pickup service
 Signage	1.5	Create entrance marker by installing a “Welcome to McCarthy Road” type of sign
 Pullouts	5	Expand/create pullout(s) for views above Chitina River (include picnic tables and outhouses)
 Lake access	10.3	Improve Strelina Lake access (location not specified in public comment)
 Lake access	11	Improve Silver and Van Lakes public access at boat ramp (existing abrupt edge)
 Lake access	12	Improve Sculpin Lake access (insufficient parking, with some people using the ditch or road)
 Trail/ Trailhead	14.5	Improve/create better parking for the Nugget Creek Trail (possibly with outhouse and trash bins)
 Fish Passage	14.8	Improve culvert at Strelina Creek, particularly for fish passage (culvert IDs: ADF&G, 20101840; CRWP: Mc17)
 Pullouts	17	Improve existing pullout to accommodate additional number of vehicles

Type	Location (Approximate MP)	Description
 Trail/ Trailhead	17	New potential trail: construct new trail on ridgeline on the west side of the Kuskulana River
 Fish Passage	24.6	Improve culvert at Chokosna Lake outlet, particularly for fish passage (culvert IDs: ADF&G, 20101839; CRWP: Mc16)
 Fish Passage	25.8	Improve culvert at Chokosna River Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101838; CRWP: Mc15)
 Fish Passage	27.2	Improve culvert at Chokosna River Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101836; CRWP: Mc13)
 Fish Passage	27.2	Improve culvert at Chokosna River Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101835; CRWP: Mc12)
 Fish Passage	27.4	Improve culvert at Chokosna River Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101834; CRWP: Mc11)
 Trail/ Trailhead	28.8	Construct new trail near Gilahina River bridge vicinity
 Trail/ Trailhead	34.6	Enhance Crystalline Hills Trailhead
 Fish Passage	40.2	Improve culvert at Ruth Creek, particularly for fish passage (culvert IDs: ADF&G, 20101833; CRWP: Mc10)
 Fish Passage	41.2	Improve culvert at Crystal Creek, particularly for fish passage (culvert IDs: ADF&G, 20101832; CRWP: Mc09)
 Fish Passage	45.3	Improve culvert at Long Lake Creek/outlet, particularly for fish passage (culvert IDs: ADF&G, 20101831; CRWP: Mc08)
 Trail/ Trailhead	46.5 to 48.5	If the road along Long Lake is rerouted, after realignment convert 2 miles of remnant road to a public trail (MP 46.5 - 48.5)
 Lake access	47.4	Identify a location and create a dedicated recreation access point to Long Lake
 Fish Passage	47.9	Improve culvert at Long Lake Creek/Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101830; CRWP: Mc07)
 Fish Passage	49.6	Improve culvert at Long Lake Creek/Tributary, particularly for fish passage (culvert IDs: ADF&G, 20101829; CRWP: Mc06)

Type	Location (Approximate MP)	Description
 Fish Passage	50.4	Improve culvert at unnamed crossing, particularly for fish passage (culvert IDs: ADF&G, 20101828; CRWP: Mc05)
 Pullouts	50.5	Construct new pullout for scenic views of Mount Blackburn
 Fish Passage	51.9	Improve culvert at unnamed crossing, particularly for fish passage (culvert IDs: ADF&G, 20101827; CRWP: Mc04)
 Fish Passage	53.5	Improve culvert at Tractor Creek, particularly for fish passage (culvert IDs: ADF&G, 20101826; CRWP: Mc03)
 Fish Passage	56.2	Improve culvert at Swift Creek, particularly for fish passage (culvert IDs: ADF&G, 20101825; CRWP: Mc02)
 Fish Passage	57.2	Improve culvert at unnamed crossing (tributary to Swift Creek), particularly for fish passage (culvert IDs: ADF&G, 20101824; CRWP: Mc01)
 Parking	58.5	Facilitate parking and transition to the pedestrian bridge
 Signage	58.5	Install better sign for West Kennicott Glacier Trail
 Trail/ Trailhead	59.4	Create a separated walking/bike trail along the road corridor from Kennicott River to the road junction for McCarthy
 Fish Passage	59.5	Improve culvert at the swimming hole, particularly for fish passage (culvert IDs: ADF&G, 20103766; CRWP: Ken02)
 Parking	59.5	Construct parking near swimming hole
 Trail/ Trailhead	59.5	Construct additional recreation enhancements in the vicinity (create a recreation hub) [refer also to Section 5.5.15 for a discussion on recreational opportunities and the recommended solution for reconstructing a part of the road near the swimming hole between MP 59.5 and 59.7]
 Parking	59.6	Construct a one-vehicle parking spot near the water source of Clear Creek
 Fish Passage	59.7	Improve culvert at Clear Creek, particularly for fish passage (culvert IDs: ADF&G, 20103765; CRWP: Ken01)
 Signage	60	Construct interpretive panel at location of old dike constructed to protect the former railbed from glacier runoff

Type	Location (Approximate MP)	Description
 Parking	60 to 64	Construct parking between McCarthy and Kennicott
 Signage	63	Install sign at southern boundary of the Kennicott subdivision that delineates the change in jurisdiction and shares information about the access to Kennecott Mines NHL. (e.g., “State Road ends here” and “No visitor parking within the Kennicott subdivision and National Historic Landmark”)
 Signage	Corridor- wide	Replace missing and damaged mile markers
 Trail/ Trailhead	Corridor- wide	Construct a multi-use trail paralleling the roadway between Chitina and McCarthy

Note: Suggested enhancements came directly from the public, stakeholder, and agency input.

6. Environmental Considerations

6.1 Overview

This section briefly summarizes environmental resources in the study corridor and provides a preliminary evaluation of environmental impacts associated with the recommended solutions.

Environmental resources were examined to establish a baseline understanding of the existing conditions in the study corridor vicinity. Environmental data were used to broadly assess the potential impacts associated with the proposed improvements under consideration.

Impacts disclosed in this PEL study report are based on a conceptual-level design. A future environmental review process for any recommended solution would need to have additional design advanced and the project further developed at that time, including outreach to the public, agencies, and Tribes.

Environmental resources are documented elsewhere in the PEL documentation. Refer to the following:

- Section 9 (Environmental Setting) and Section 3.3 (Review of Representative Prior Plans and Studies) of the *Needs and Opportunities Assessment Report* (**Appendix A**).
- Environmental data, briefly summarized in Section 1.6 (Data Sets and Metrics Used to Screen and Score Solutions) of the *Screening Evaluation & Results Memo* (**Appendix E**).
- Regulatory agency comments on environmental resources (**Appendix C**).
- The *Needs and Opportunities Assessment Report* for sections related to hydrology and drainage, geological and geotechnical assessment, and socioeconomics (**Appendix A**).

6.2 Agency Input

WFL transmitted agency scoping letters in November 2023, requesting early agency coordination.

As part of the public review of the draft PEL report phase, WFL transmitted agency letters in May 2025, seeking input on the proposed improvements and prioritizations included in the draft PEL study report.

Table 6-1 shows agency comments submitted by environmental resource category. Agencies provided information on environmental resources, preliminary environmental impacts, future environmental approvals and permit considerations, and potential mitigation measures.

Table 6-1. Agency Input Based on Environmental Resource Category

Agency	Water Resources	Fish and Wildlife, Birds, Ecology, Invasive Species	Contaminated Sites	Land Management (including access)	Cultural/Historical Resources (including subsistence)	Permitting, Mitigation, Design Input	Other ^[a]
DNR	Yes ^[b, c]	Yes ^[d]		Yes ^[b, c]	Yes ^[b, c]	Yes ^[c, d]	Yes ^[c, d]
NOAA	Yes ^[b, c]	Yes ^[b, c]				Yes ^[b, c]	
USACE	Yes ^[b]					Yes ^[b]	
ADEC			Yes ^[b]				
ADF&G	Yes ^[b]	Yes ^[b, d]		Yes ^[b]		Yes ^[b]	Yes ^[b, d]
EPA	Yes ^[b, c]	Yes ^[b]		Yes ^[b]	Yes ^[b]	Yes ^[b, c]	Yes ^[b]
SHPO (DNR)					Yes ^[b, c]		

SHPO = State Historic Preservation Office

^[a] Other resource categories commented on include global weather shifts and related impacts, permafrost, disproportionate share of negative environmental impacts, risk of wildland fire, parking related to trailheads and increased visitation, and socioeconomics.

^[b] Agency input received during the first agency outreach (November 2023 to January 2024)

^[c] Agency input received during the second agency outreach (May to July 2025)

^[d] As part of a support letters package seeking grant funding (separate from the PEL process), ADF&G Sport Fish Division and DNR Division of Forestry submitted support letters for the reroute option at Long Lake and provided input on baseline existing conditions. These are included as attachments in the Public Meeting #3 Summary in Appendix C.

6.3 Environmental Resources Considered

Environmental resources considered included the following:

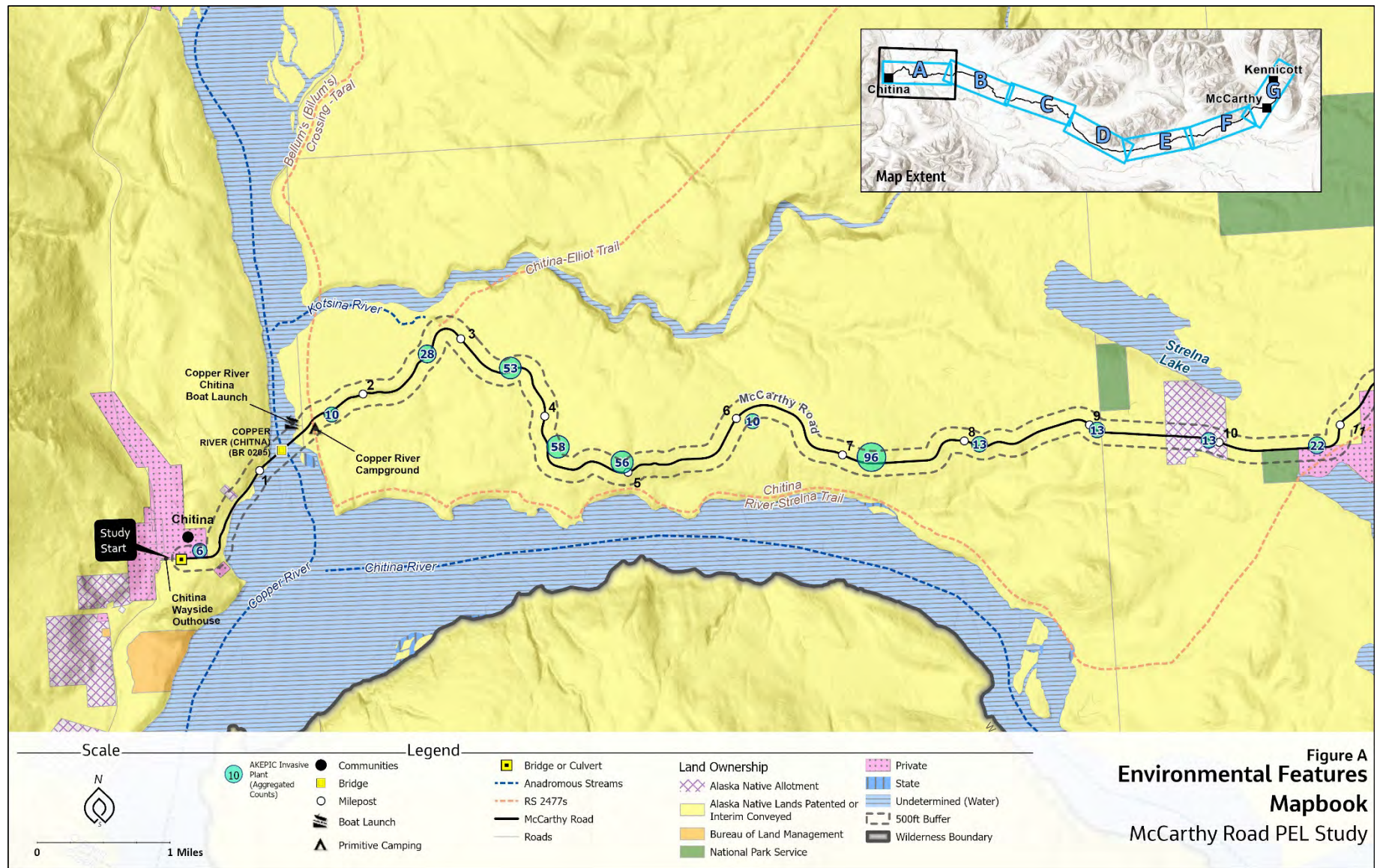
- Land ownership and management
- Recreational resources
- Cultural and historic resources
- Section 4(f)
- Water resources
 - Waters of the U.S. (including wetlands), waterbodies, and water quality
 - Navigable waters
 - Floodplains
- Fish and wildlife
- Migratory birds
- Invasive species

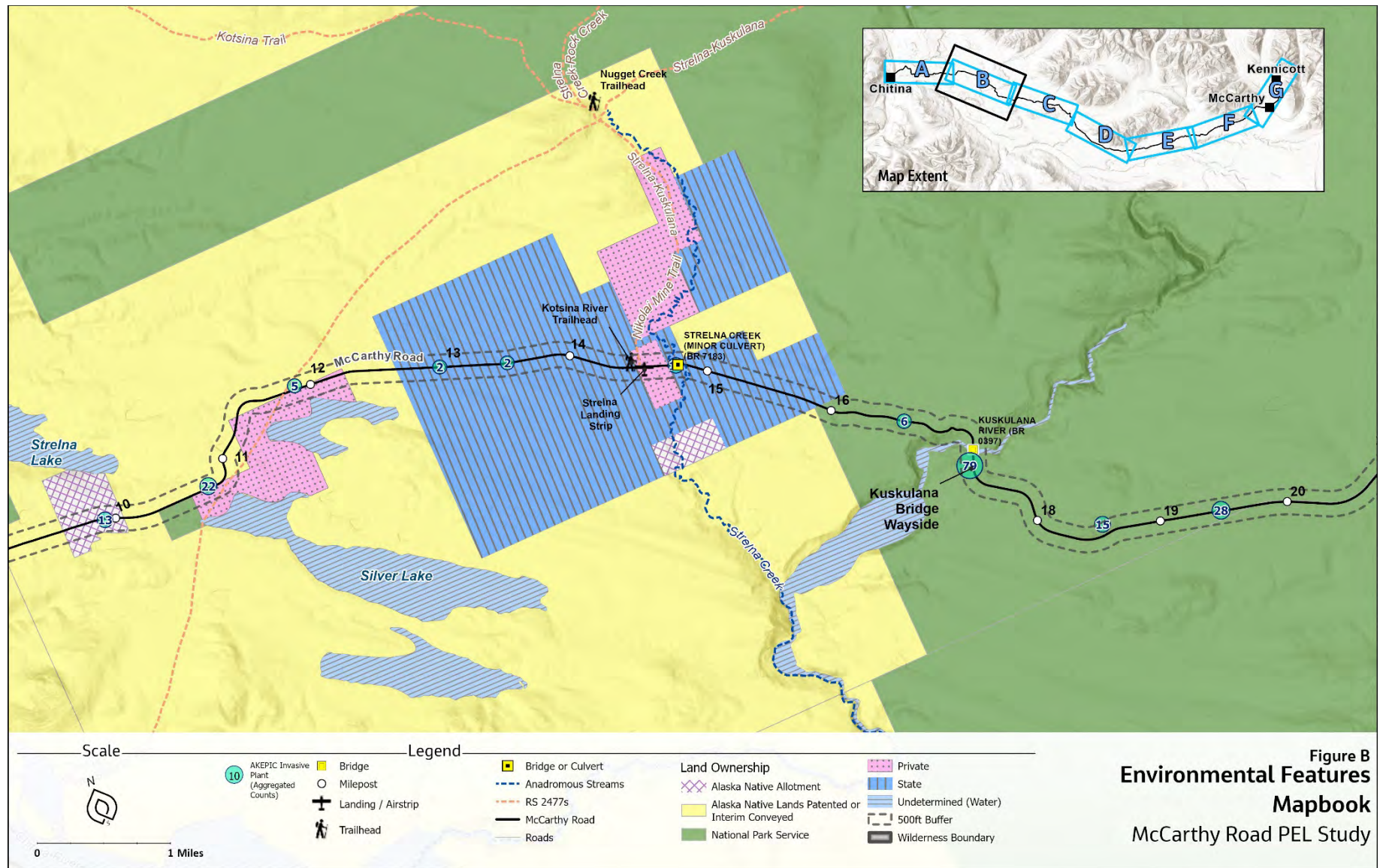
Figure 6-1 is a multi-page environmental mapbook that depicts many of these environmental resources.

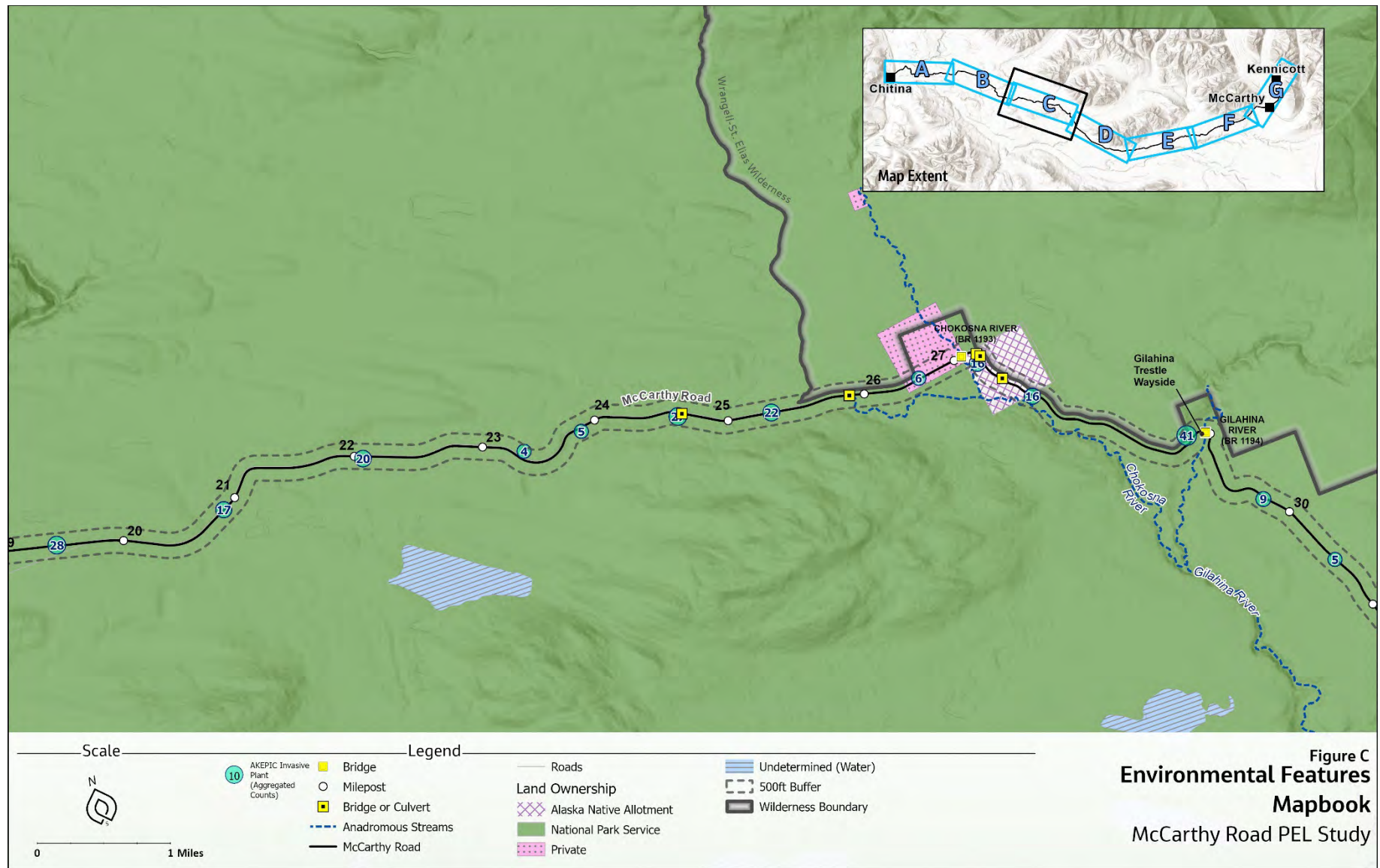
Some resources are described in greater detail than others based on presence, anticipated impacts, potential to influence recommendations, permitting considerations, and agency input.

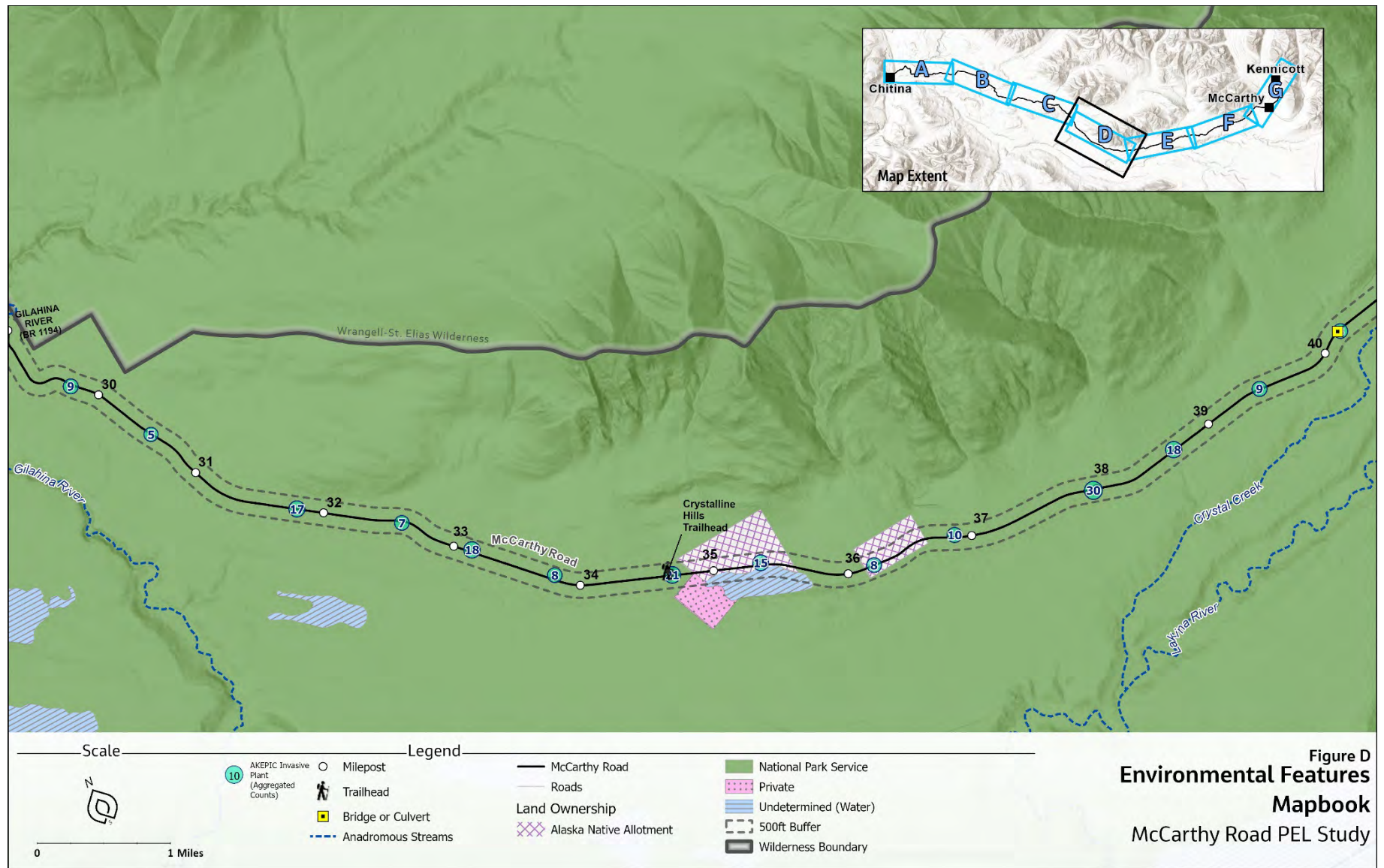
Certain environmental resources were not considered in this PEL study because they were not present, impacts were not anticipated, or they were not anticipated to be critical factors in evaluating the solutions under consideration. This includes environmental categories such as threatened or endangered species, visual resources, and contaminated sites.

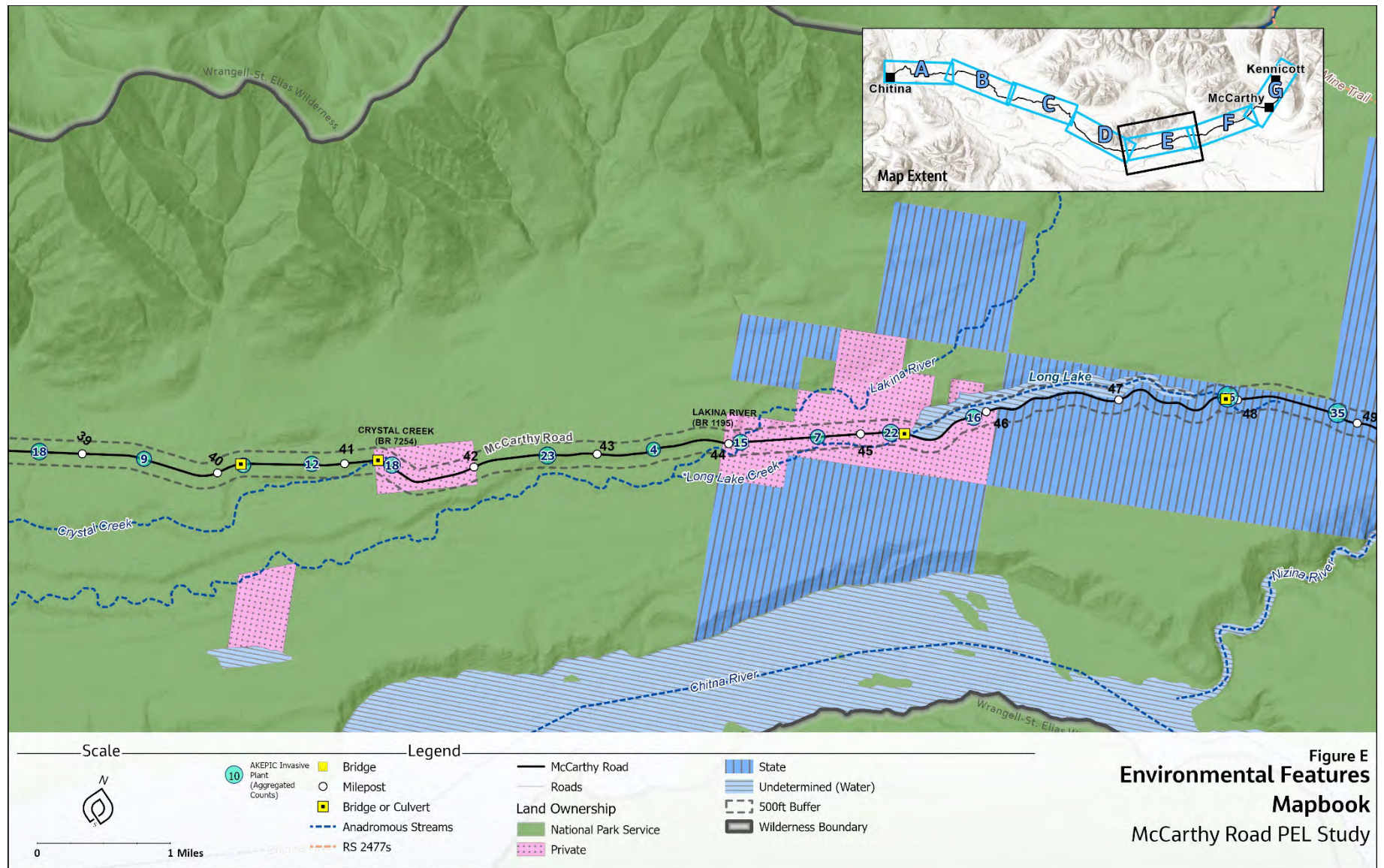
Figure 6-1. Environmental Resources Mapbook

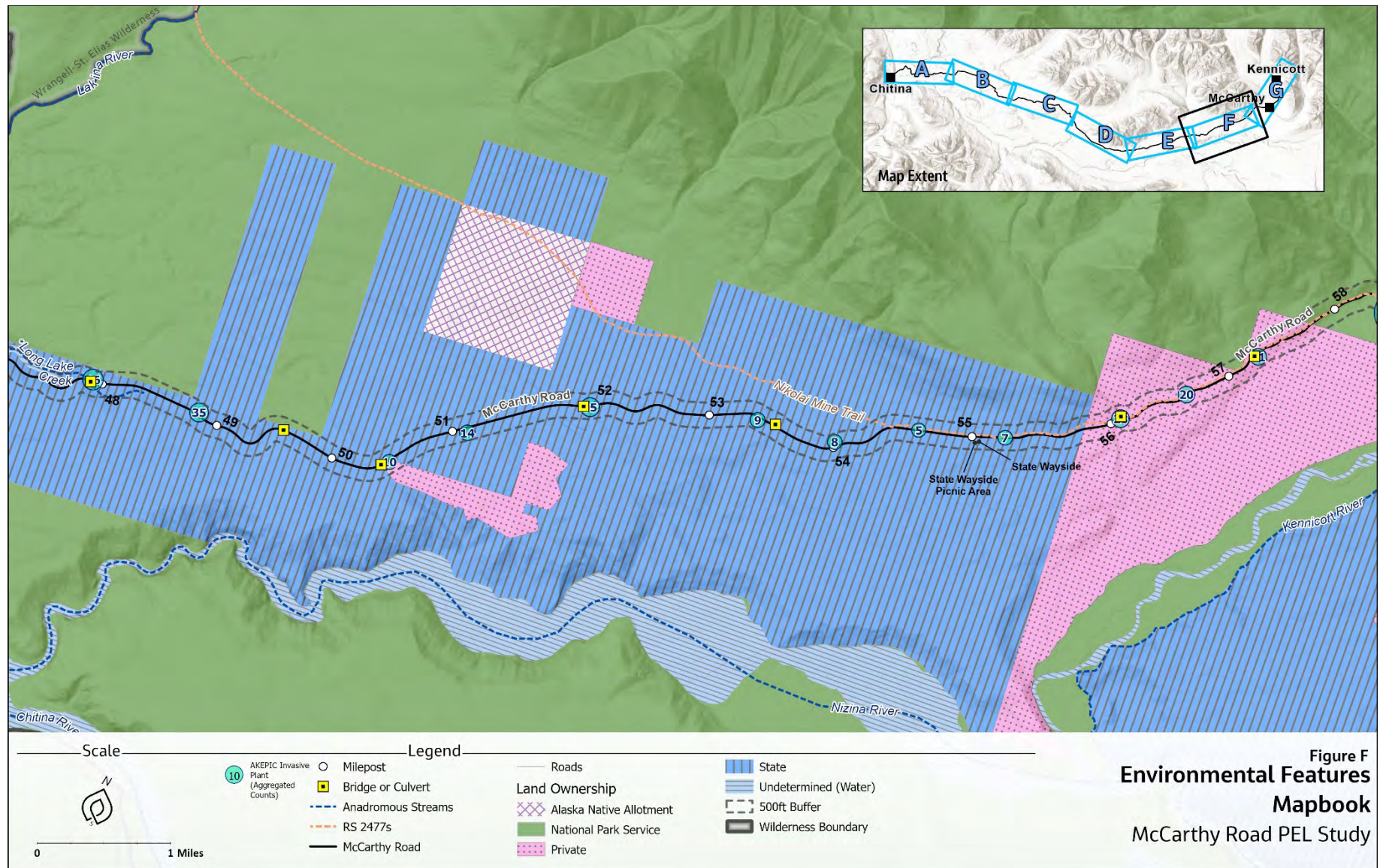


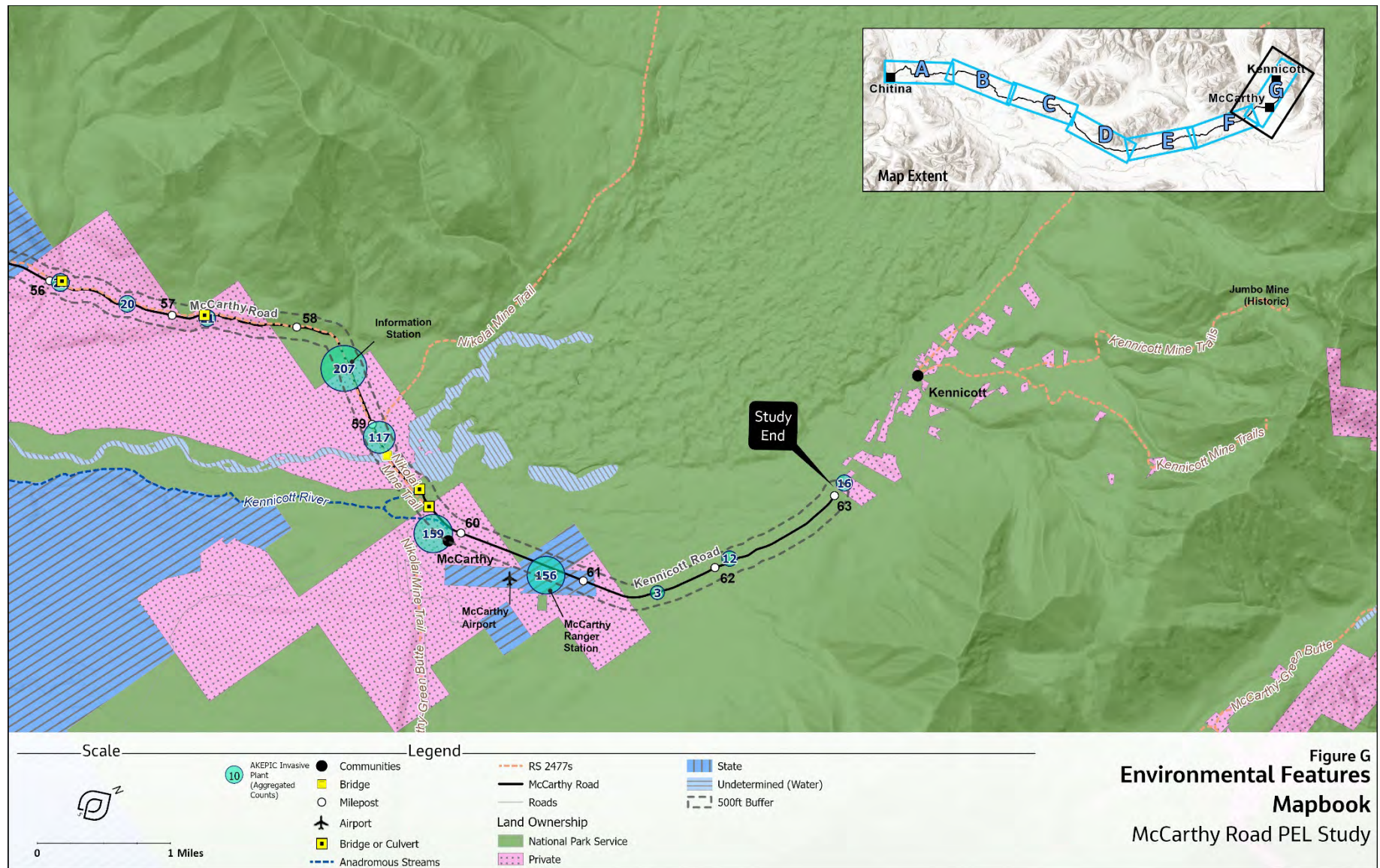












6.3.1 Land Ownership and Management

Table 6-2 lists landowners adjacent to the road study corridor. Land ownership in the region and along the study corridor is complex, consisting somewhat of a checkerboard pattern. About two-thirds of the land adjacent to the McCarthy Road is under federal or state ownership, with the NPS having the greatest proportion.

Table 6-2. Land Ownership Adjacent to the McCarthy Road Study Corridor

Landowner	Land Ownership Adjacent to the McCarthy Road (number of miles)
Alaska Native Allotment	2.37
Alaska Native Lands Patented or Interim Conveyed ^[a]	10.85
NPS	27.84
Private	8.59
State of Alaska	13.32
Undetermined (waterway classification)	0.28

^[a] also referred to as Alaska Native Claims Settlement Act Native Corporation Lands

Native Allotments

Eight parcels consisting of Native allotments are located on the western end of the study corridor, between MP 0 and MP 40.

Section 17(b) Easements

The Alaska Native Claims Settlement Act (ANCSA), Section 17(b)⁶ authorizes easements across Native Corporation lands for public access. Three 17(b) easements are located on the west end of the study corridor. This includes two near the Copper River Campground near approximate MP 1.5 (Easement IDs VALC2_33aE and VALC2_14aD1) and one near approximate MP 14.5, west of the Strelna Landing Strip (Easement IDVALC1_1gC3C5D1L). As of 2025, WFL, in coordination with the Bureau of Land Management, is preparing a guidebook for the management of 17(b) easements.

Non-Government Landowners

Ahtna, Inc., an Alaska Native Regional Corporation, established under ANCSA, is the largest non-government landowner in the corridor. Chitina Native Corporation, an ANCSA Alaska Native Village Corporation, also owns a substantial amount of surface estate within the corridor, with Ahtna, Inc. owning the corresponding subsurface estate. These lands are primarily on the west end of the study corridor.

Smaller private tracts, including Native Allotments, are sprinkled throughout the corridor (as mentioned earlier), inhabited by both seasonal and permanent residents.

⁶ When the federal government conveyed lands to Native Corporations, they reserved specific easements to ensure access to public lands and waters. Section 17(b) of the Alaska Native Claims Settlement Act authorizes the Secretary of the Interior to reserve public easements on lands conveyed to Native Corporations to guarantee access to public lands or waters. These easements are linear and site easements across Native lands.

Federal and State Government Landowners and Management

The NPS is the federal agency overseeing management of WRST. The NPS's applicable management plan for WRST is the General Management Plan (NPS 1986). Nearly 75% of WRST is designated and managed as a wilderness area (NPS 2022). The closest the McCarthy Road gets to the wilderness boundary is between approximate MP 25.5 (east of Chokosna Lake) and MP 29 (near the Gilahina River crossing); the wilderness boundary that runs close to the study corridor is on the northern side of the road corridor (NPS 2013). The proximity to wilderness is ironically one of the appreciated values of the roadway. The NPS has other management plans for areas of WRST, such as the Kennecott Operations and Management Plan (update currently under review).

The McCarthy Road provides access for recreational and subsistence fishing and hunting. If proposed improvements require federal public lands to be withdrawn, reserved, leased, or otherwise used, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA) details specific procedures required to evaluate the effect such use, occupancy, or disposition will have on subsistence uses and needs, and the availability of other alternatives which would reduce or eliminate the effects on subsistence uses or needs.

The State of Alaska's applicable land use plan for which the study corridor falls within is the Copper River Basin Area Plan, which describes long-term uses of state lands and waters within the area plan's boundary. As of 2025, the Alaska DNR is in a multi-year process to revise the plan. Much of the study corridor falls within a subarea of the DNR plan that describes area management as maintaining the balance of land that should be available for settlement and the preservation of habitat, recreation, and other values on other lands. DNR indicates its management policies are based on DOT&PF continuing to conduct only seasonal maintenance of the McCarthy Road.

DNR asserts management authority for State lands, including the submerged lands, tidelands, and shorelands of navigable waters within the State. This authority includes management of navigable waters, tidelands, and shorelands within and adjacent to the boundaries of federal lands, including conservation system units created under ANILCA. DNR's position is that these submerged lands within or in the vicinity of the study corridor include, but are not limited to, McCarthy Creek, Kennicott River, East Fork Kennicott River, Lakina River, Long Lake, Moose Lake, Chokosna River, Kuskulana River, Chitina River, and the Copper River; however, NPS's position is that navigability has not been adjudicated for some of these waterbodies or segments thereof, making land ownership and corresponding management authority disputed.

There are a half dozen Revised Statute (RS) 2477⁷ ROWs/trails (known colloquially as RS 2477s) located in the study corridor, as listed in the next section discussing trails.

The ADF&G as well as EPA provided agency comments related to hunting and fishing access, including the consideration of improved parking for access points.

Future Consideration

- Most but not all the proposed projects are contained within the existing ROW.

⁷ RS 2477 is found in Section 8 of the Mining Law of 1866, which grants states and territories ROWs over federal lands that had no existing reservations or private entries. Congress repealed the law in 1976 in the Federal Land Policy and Management Act, retaining the pre-existing rights though no new ROWs could be established. RS 2477s was included originally in the mining law because it was used initially by miners and homesteaders on federal land. With RS 2477s, the federal government retains ownership of the land but the State of Alaska is granted a ROW for a public highway. Alaska Statute 19.45.001(9) defines a highway several ways, which includes road, street, trail, walk, bridge, tunnel, drainage structure or other similar or related structure or facility. DNR has documented hundreds of historic routes that qualify as RS 2477 ROWs. (DNR 2021)

- In a few instances, a Native allotment extends into the road ROW where there is a proposed project. This includes the following longer linear projects for which there would be spot improvements through the segment: MP 0 to 21 and MP 21 to 43 drainage improvements projects (Projects #1 and #2) and MP 0 to 15 and MP 27 to 44 Rehabilitation projects (Projects #4 and #6). Future design should aim to minimize or avoid this impact.
- Several of the proposed projects have RS 2477 trails located nearby. The State of Alaska and NPS interpret these rights-of-way differently. The State asserts management authority of these ROWs and emphasizes the importance of these routes for resource development and overland travel in Alaska. The NPS asserts a State-claimed RS 2477 must be properly adjudicated before the State can exercise management authority. A future project sponsor should coordinate with the appropriate stakeholders associated with the RS 2477. The ADF&G provided agency comments related to RS 2477s, specifically requesting that their locations be confirmed by the DNR.
- DNR suggested that any future road development take the routes of RS 2477s and 17(b) into consideration, as their locations could result in higher traffic or user needs such as parking at trailheads in the future.

6.3.2 Recreational Resources

An abundance and variety of year-round recreational opportunities—both developed and dispersed—exist in and from the study corridor. The importance of recreational resources in the study corridor is evidence in the state and federal land management planning documents for the area. Aside from campgrounds, trails or trailheads, and wayside facilities, there are numerous informal small pullouts found along the study corridor that provide scenic viewpoints for travelers and dispersed recreation access points. WRST is the largest recreational resource in the study corridor, though there are few visitor facilities and no formalized park entrance.

Campgrounds, Waysides, Trails, and Trailheads

There are a handful of private campgrounds found toward the beginning and end of the McCarthy Road. The Copper River Campground is located near MP 1.6 and received upgrades in 2023.

Located just west and outside of the study corridor is the paved Chitina wayside, which contains picnic tables, vault toilets, and interpretive panels. Waysides along the study corridor include the following:

- Kuskulana Bridge wayside (near MP 17.3) is owned and managed by the NPS. This rest area is a gravel pullout with vault toilets, picnic table, and interpretive panels.
- Gilahina Trestle wayside (near MP 29) is owned and managed by the NPS. It is located just southwest of the bridge. This rest area is a gravel pullout with vault toilets. There is a short 0.5 mile hiking trail from the rest area. The remnant Gilahina Trestle is located on the other side of the road to the northeast. The road ROW follows the trestle in this location rather than road.
- State wayside (near MP 55.2) is located on state land and managed by the NPS. This rest area is a gravel pullout with vault toilets, a picnic table, and interpretive panels.
- East of the second crossing of the Kennicott River (dry bed) are vault toilet facilities that are maintained by MAC. These are located on federal land in the DOT&PF easement.

The NPS maintains the McCarthy Road Visitor Center information station at MP 59 during the summer where visitors can obtain maps and use vault toilets.

Trails and trailheads comprise some of the more formalized recreation facilities in the study corridor, as included in the following list:

- Bellum's (Billum's) Crossing (DNR ID RST 1794) (near approximate MP 1.6) is an RS 2477 trail that intersects the road and goes through the Copper River Campground.
- Chitina-Elliott Trail (RST 1416) (near approximate MP 2.7) is an RS 2477 trail that comes close to the road.
- Chitina River-Strelina Trail (RST 1805) (near approximate MP 11.7) is an RS 2477 trail that intersects the road north of Sculpin Lake.
- Kotsina River Trailhead (near approximate MP 14.5) is west of the Strelina Landing Strip. Several miles north of this trailhead provides access to other trails, including Nugget Creek and Dixie Pass.
- Nikolai Mine Trail (372) is an RS 2477 trail located near the Kotsina River Trailhead. It also runs along the road corridor between MP 54 and east of the Kennicott River crossing before the turnoff to McCarthy.
- Strelina-Kuskulana Trail (RST 194) is also an RS 2477 trail located near the Kotsina River Trailhead.
- Crystalline Hills Trailhead (near approximate MP 34.8) is north of the road, providing access to the scenic Crystalline Hills and a 2.5-mile loop trail.

6.3.3 Cultural, Historic, and Archaeological Resources

Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations in 36 CFR 800 requires federal agencies to consider the effects of their undertakings on historic properties. Historic properties also have special protections under Section 4(f) of the U.S. Department of Transportation Act of 1966.

Cultural resources are present within the study corridor, including historic properties and archaeological sites. Historic properties consist primarily of railroad, mining, and homesteading sites. Archaeological sites include pre-contact sites as well as proto-historic and early contact period sites. Some of the identified historic sites have been evaluated for their eligibility for inclusion on the National Register of Historic Places (NRHP), but most of the sites have not yet been evaluated. The two sites comprising the McCarthy Road (VAL-00593 and XMC-00495) and the Copper River and Northwestern Railway (CR&NW) roadbed (XMC-00114) previously have been determined not eligible for the NRHP.

Alaska Natives, particularly the Ahtna people, have a cultural history that spans thousands of years in the Copper River region, which includes the area where the McCarthy Road is located. To date, a limited number of cultural resource and archaeological surveys have been done along the road corridor. Archaeological work to date likely has not identified all cultural sites.

During agency outreach early in the PEL study process, SHPO provided a response to WFL dated December 22, 2023, which contained information regarding known cultural resources within 100 feet of the road. SHPO identified 95 known historic resources within 100 feet of either side of the roadway; 39 of those had not been evaluated pursuant to NRHP criteria and thus lack determinations of eligibility. There are other Alaska Heritage Resource Survey (AHRs) sites listed in the AHRs database farther from the road corridor that should be considered, particularly for proposed improvements further than 100 feet, such as the proposed road realignment near Kotsina Bluffs. Through consultation with WFL, the Native Village of Chitina expressed particular interest and concern regarding impacts to areas near spawning streams and known gravesite locations in the region.

Future Consideration

- Alaska Natives have inhabited the region for thousands of years and there are documented culturally significant sites, such as previous native village site locations near salmon-supported

rivers. There are likely not-yet identified or documented sites as well. Archaeological surveys would need to be completed for proposed projects moving forward.

- Some proposed projects have known AHRS sites nearby, whereas other proposed projects do not, based on the AHRS database. Future NHPA Section 106 consultation, which includes consultation with tribes, and cultural resources surveys may reveal additional, unrecorded sites.
- The Native Village of Chitina specifically requested future partnership to ensure there are protections for cultural resources, especially for sites such as graves. This is important because of the sensitivity of past impacts to cultural resources in the region, particularly stemming from the construction of transportation infrastructure.

6.3.4 Section 4(f)

Section 4(f) is a federal environmental protection statute specific to U.S. Department of Transportation (USDOT) projects. This statute prohibits using land identified as Section 4(f) property unless specific criteria are satisfied. Section 4(f) properties include publicly owned parks, recreation areas, wildlife, or waterfowl refuges, and any publicly or privately owned historic sites listed or eligible for listing on the NRHP.

Recreational and historic properties within the study corridor are, or may be, Section 4(f) resources and eligible for protection under Section 4(f).

Future Consideration

- Depending on the location of proposed improvements, project proponent or project funding, some of these properties may require additional coordination with the Official with Jurisdiction to determine if they are Section 4(f) properties. If known Section 4(f) properties are impacted, adequate time should be built into the project schedule to allow for evaluation and coordination. DOT&PF is responsible for determining whether Section 4(f) applies, coordinating with the Official with Jurisdiction, determining whether a use of the Section 4(f) property will occur, and if so, determining what approval option is appropriate. It is also possible that an exception to Section 4(f) may apply, per 23 CFR 774.13.

6.3.5 Water Resources

Waters of the U.S., including Wetlands, and Waterbodies

Executive Order (EO) 11990, Protection of Wetlands, directs federal agencies to avoid, to the extent possible, adverse impacts associated with the destruction or modification of wetlands, and to avoid supporting new construction in wetlands whenever there is a practicable alternative. Wetlands are also protected under Section 404 of the Clean Water Act, which regulates discharges of dredge or fill material into waters of the U.S., including wetlands.

Waters of the U.S., including wetlands, and waterbodies are present within the study corridor. Wetland boundaries were not delineated as part of the PEL study. National Wetland Inventory (NWI) mapping was the data source used, which identifies the presence of freshwater emergent wetlands, freshwater forested/shrub wetlands, freshwater ponds, lakes and riverine areas in the study corridor.

The ADEC identifies no impaired waterbodies within the study corridor (ADEC 2025a).

The USACE, NOAA, EPA, and ADF&G provided comments related to water resources.

Future Consideration

- Some improvements will impact wetlands and require a Section 404 permit from the USACE, either a nationwide permit or an individual permit (depending upon impact acreages). Avoidance, minimization, and mitigation measures should occur; future design will consider this and should avoid or minimize impacts to the extent practicable, utilizing best management practices. When wetland impacts are anticipated, adequate time should be built into the project schedule to allow for wetlands to be delineated in a formal jurisdictional determination, mitigation to be identified where needed, and permits to be obtained. Authorization under a Section 404 permit and Section 401 Water Quality Certification would be required for impacts to waters of the U.S., including wetlands.
- Per Section 10 of the Rivers and Harbors Act, the USACE has jurisdiction over and requires a permit for any work or structures in, over, or under navigable waters of the U.S., or that affect the course, location, condition, or capacity of those waters, regardless of their navigability. There are several proposed projects where this is likely applicable; coordination with the USACE during a future environmental review process is recommended early in project development to determine whether a Section 10 permit will be required.
- Regulatory environment: Due to changing federal administrations, the definition of “waters of the U.S.” and “adjacent wetlands” have been revised over the past decade and continues to be under review.

Navigable Waters

Both the USCG and USACE define navigable waters of the U.S. as those which are subject to the ebb and flow of tides, or which are presently or could be susceptible to use in interstate and/or foreign commerce (USACE n.d.).

A review of the USACE Alaska District’s List of Navigable Waters webpage indicates there is one navigable waterway within the study corridor: the Copper River (USACE n.d.). The State of Alaska has additionally identified the Kotsina River as navigable from its confluence with the Copper River upstream 8 river miles (DNR 2001). Even though the Kennicott River is used by pack rafters, it is not considered navigable.

Per Section 9 of the Rivers and Harbors Act, the USCG has jurisdiction for the development of a bridge or causeway in or over a navigable waterway; this is to ensure the safety of navigation and to protect the environment.

Future Consideration

- A Section 9 permit is only applicable to a waterway formally considered navigable. This is relevant to the proposed reroute of the McCarthy Road on the dry Kotsina riverbed.

Floodplains

EO 11988 directs federal agencies to avoid adverse impacts associated with the modification of floodplains; avoid direct or indirect support of floodplain development wherever there is a practicable alternative; reduce the risk of flood loss; minimize the impact of floods on human safety, health and welfare; and to restore and preserve the natural and beneficial values served by floodplains.

Federal Emergency Management Agency data indicates there are no mapped 100-year floodplains or regulatory floodways within the study corridor.

Future Consideration

- Unmapped floodplains require coordination with the DOT&PF hydrology section for a Location Hydraulic Study (LHS) (as required under 23 CFR 650.111) and/or a hydraulic and hydrology (H&H) study, depending upon the complexity of the project and location. There are several proposed projects where this is applicable: projects #9, #10, #14, #17, #18, #19, and #20.

Drinking Water Sources

The ADEC Safe Drinking Water Information System database indicates two drinking water sources exist near the study corridor (in McCarthy); these are identified as transient non-community water system sources and located south of the road and outside of proposed road improvement footprints (ADEC 2025b).

During outreach, the public identified two sources for public drinking water accessible from the McCarthy Road that should be avoided and not impacted. The public identified a natural spring near MP 36.4. East of Kennicott River and the swimming hole is Clear Creek, near MP 59.8, where residents and visitors also collect drinking water. Proposed improvements at Clear Creek and near MP 36.4 would need to consider the water source and how it can be maintained.

6.3.6 Fish and Wildlife

There are many anadromous streams in the study corridor. These streams include various species such as coho salmon, chum salmon, Chinook salmon, pink salmon, and sockeye salmon in multiple life stages throughout each stream. Besides anadromous fish streams, there are also likely to be some streams that have just resident fish species, which may warrant or require a fish passage culvert design.

Improving fish passage and habitat is an important goal identified during the PEL study by the PEL sponsors, agencies, stakeholders, and the public. ADF&G and CRWP both maintain databases with culvert condition information and fish passage improvement priorities.

Table 6-3 lists anadromous streams as well as other streams crossed by the McCarthy Road with existing or potential for fish passage.

The ADF&G provided comments during outreach and identified several crossings they recommend for upgrade as part of any road improvement project; this is denoted with a “^” in Table 6-3. ADF&G specifically identified the Long Lake Creek crossing at MP 47.9 as a high priority for replacement. The EPA and NOAA also provided agency comments related to fish.

Table 6-3. Anadromous Streams and Existing or Potential Fish Passage Crossings

MP #	Crossing Name	Structure	Diameter (if applicable)	ADF&G AWC Stream Number	ADF&G Culvert #
Before 0	Town Lake	Culvert	Dual 36 inches	None	20100564
1.2	Copper River	Bridge	N/A	212-20-10080	N/A
14.8	Strelina Creek	Culvert	16.5 by 10.5 feet	212-20-10080-2300-3041-4021	20101840
24.6	Chokosna Lake outlet	Culvert	24 inches	None	20101839
25.8	Chokosna River Tributary	Culvert	10 by 5 feet	212-20-10080-2300-3371-4041-5105	20101838
26.8	Chokosna River	Bridge	N/A	212-20-10080-2300-3371-4041	N/A

MP #	Crossing Name	Structure	Diameter (if applicable)	ADF&G AWC Stream Number	ADF&G Culvert #
27.2	Chokosna River Tributary	Culvert	7.25 by 4.5 feet	None	20101836
27.2	Chokosna River Tributary	Culvert	48 inches	None	20101835
27.4	Chokosna River Tributary	Culvert	36 inches	None	20101834
28.9	Gilahina River	Bridge	N/A	212-20-10080-2300-3371	N/A
40.2	Ruth Lake Creek ^	Culvert	60 inches	None	20101833
41.2	Crystal Creek ^	Culvert	13.3 by 9.3 feet	212-20-10080-2300-3421-4021	20101832
45.3	Long Lake Creek/Outlet	Culvert	Dual 72 inches	212-20-10080-2300-3421-4062	20101831
47.9	Long Lake Creek/ Tributary ^	Culvert	60 inches	212-20-10080-2300-3421-4062	20101830
49.6	Long Lake Creek/ Tributary ^	Culvert	36 inches	None	20101829
50.4	Unnamed ^	Culvert	36 inches	None	20101828
51.9	Unnamed ^	Culvert	36 inches	None	20101827
53.5	Tractor Creek ^	Culvert	48 inches	None	20101826
56.2	Swift Creek ^	Culvert	72 inches	None	20101825
57.2	Unnamed ^	Culvert	48 inches	None	20101824
59.3	Kennicott River	Bridge	N/A	212-20-10080-2300-3511-4035-5018	N/A
59.5	Swimming Hole ^[a] ^	Culvert	24 inches	212-20-10080-2300-3511-4035-5018	20103766
59.8	Clear Creek ^[b] ^	Culvert	4 by 3.3 feet	12-20-10080-2300-3511-4035-5019	20103765

Source: ADF&G 2023

^ = denotes a culvert identified by ADF&G as a fish passage barrier that should be upgraded as part of a road improvement project.

[a] ADF&G refers to this as the “swimming hole” and states that it is located along the “McCarthy Town Road.” This is an upstream fork of the Kennicott River.

[b] ADF&G refers to this as “Clear Creek” and states that it is located along the “McCarthy Town Road.” This is an upstream fork of the Kennicott River.

AWC = Anadromous Waters Catalog

Long Lake, which is adjacent to approximate MP 45.5 to MP 47.5, has a unique and important sockeye salmon run that has the longest known annual spawning duration (August through April) of any sockeye salmon population in North America (NPS 2022). The public and agencies commented that any proposed improvements need to take this into consideration.

The NOAA Essential Fish Habitat (EFH) mapper database does not identify any EFH locations in the study corridor; however, NOAA indicated the AWC-identified streams support Pacific salmon, and therefore the study corridor streams have designated EFH for Pacific salmon.

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act require federal agencies to consult with NOAA on all actions that may adversely affect EFH and other aquatic resources.

Within the study corridor and greater vicinity, various mammal species can be observed such as brown and black bears, mountain goats, moose, Dall sheep, mountain goats, wolves, fox, lynx, caribou, beaver, porcupine, and Arctic ground squirrels, as well as transplanted bison (NPS 2019).

Refer to **Appendix A, Needs and Opportunities Assessment Report**, Section 6.2.5 – Fish Passage and Section 9.8 Fish and Wildlife, for more information.

Future Consideration

- Culvert or bridge replacements or repairs in fish streams will require an ADF&G fish habitat permit for the installation and any temporary bypass that may be required.
- For projects involving anadromous streams, coordination with NOAA will need to occur. However, no adverse effect to EFH is anticipated or is likely to occur based on mitigation measures included as part of future design.

6.3.7 Migratory Birds

The Bald and Golden Eagle Protection Act prohibits the take of bald eagles and their nests and eggs either directly such as by shooting or indirectly such as by disturbance of nesting eagles without a permit. The Migratory Bird Treaty Act was passed in 1918 and is a law aimed to protect birds from people; the law has been amended over the last century and prohibits the take (including killing capturing, selling, trading, and transport) of protected migratory bird species without prior authorization from the USFWS.

According to the USFWS Information for Planning and Consultation (IPaC) database, migratory birds are present in the study corridor. This includes the presence of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), though these species are not birds of conservation concern. The lesser yellowlegs (*Tringa flavipes*) and olive-sided flycatcher (*Contopus cooperi*) are considered birds of conservation concern across their ranges which include the study corridor. (USFWS 2023)

A variety of other bird species can be found in the study corridor and greater vicinity, including the alder flycatcher, trumpeter swan, nesting geese, ducks, and other waterfowl (NPS 2019; Dratzkowski et al. 2011).

Future Consideration

- Presence of migratory birds in the study corridor will require consideration of preconstruction surveys and vegetation clearing when these birds are not present (that is, during the off season).

6.3.8 Invasive Species

EO 13112 defines "invasive species" as a species (1) that is non-native to the ecosystem under consideration, and (2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. The State of Alaska has regulations and laws to protect native fish and wildlife from invasive species. To prevent the introduction of invasive species, a person may not take, possess, transport, sell, offer to sell, purchase, or offer to purchase wild fish, game, or marine aquatic plants, or any part of wild fish, game, or aquatic plants, or nest or egg of fish or game.

There are invasive, non-native plant species in the study corridor, according to the Alaska Exotic Plants Information Clearinghouse (AKEPIC) database (UAA 2023). The highest concentration of invasive species counts occur at the beginning of the McCarthy Road and the area west of the Kennicott River.

Both the public and agencies expressed concern regarding invasive plant species. The EPA provided comments related to mitigation measures to prevent further spread. A member of the public indicated concern specifically for white sweet clover near MP 10 and MP 38.

Future Consideration

- Revegetation plans for proposed projects need to consider preventing the introduction and spread of invasive, non-native plant species.

6.3.9 Cumulative Impacts Considerations

The planning process broadly considers past and future actions, such as land use development and population or recreation visitor growth. Cumulative impacts analysis considers past, present, and reasonably foreseeable actions. Section 3 in the *Needs and Opportunities Assessment Report (Appendix A)* reviewed the history of the road corridor, past projects, prior plans and studies, and other ongoing efforts.

Initial considerations in the PEL study include Alaska's slow population growth, expected to decrease by 2050, and the Copper River Census Area's anticipated decline (ADLWD 2024). Traffic on the McCarthy Road comes from local, seasonal residents, and visitors. McCarthy's population data shows its slightly increasing, while Chitina's is decreasing. Anecdotal comments from McCarthy area residents indicate a larger increase than the data show.

The University of Alaska and the Alaska DNR do not publish data on the number of private holdings that could be developed on their lands in the study corridor. Future residential developments are likely to be seasonal due to the distance from schools and services. Outreach during the PEL indicated increased areas of development in the corridor, including along Long Lake and the Sage subdivision near MP 55, as well as outside of the study corridor beyond McCarthy and the Nizina Road. Substantial commercial growth is not expected due to the corridor's remote, rural, and seasonal nature. Traffic volumes have remained somewhat steady. Improvements to the McCarthy Road would enhance safety but are not expected to significantly increase traffic volume.

Southcentral Alaska is experiencing a wetter climate with longer summers and warmer ground temperatures (NPS 2014, Reynolds et al. 2024, Schuurman et al. 2024), leading to increased precipitation and more frequent natural events like floods and slides. Glacial retreat and changing glacial valley characteristics can increase costs for protecting transportation infrastructure and stretching state and federal budgets in the future. Future projects should consider global weather shifts and related impacts.

6.4 Preliminary Evaluation of Environmental Impacts

Table 6-4 includes an overview of the anticipated type of future environmental documentation, if a currently known Section 4(f) resource might be impacted, anticipated environmental permits, and a preliminary analysis of environmental impacts.

Impacts are based on planning-level concept designs for each recommended solution. These rough impact estimates that will be refined in future design as projects move forward beyond the PEL study (refer to Section 8 for next steps). The presented impacts are likely greater than what would occur, as future design could minimize or avoid them. Acreage impact calculations were conducted as follows:

- For the three linear drainage projects, impacts were calculated using a conservative 60-foot width centered on the roadway, covering the road surface, ditch improvements, and clearing area. This was calculated for the entire length of the project, though future design will determine precisely which locations within the entire length will need improvement.
- For the five linear rehabilitation projects, impacts were determined similar to that for the linear drainage project and by using a 75-foot width centered on the roadway.
- For the other projects, impacts were based on the concept design-level project footprint.

Additionally, a broad qualitative and quantitative assessment of environmental impacts was conducted during screening to compare and evaluate potential solutions at the key focus areas where more than one option was initially under consideration; refer to the *Screening Evaluation and Results Memo (Appendix E)*.

Anticipated Future Environmental Documentation and Environmental Review Processes

Historically, for a project using federal funding or requiring a federal permit approval, an environmental document is required to evaluate the anticipated impacts on the environment. As of 2025 and with the current federal administration, there are changes coming to the process that drives the federal environmental reviews required under NEPA. For several decades and under different federal administrations, there has been an effort to streamline and modernize the regulatory permitting and environmental review process. For instance, under the previous administration, the Infrastructure Investment and Jobs Act (IIJA) provided several mechanisms for streamlining NEPA, such as better coordination among federal agencies (“One Federal Decision” or streamlining interagency Section 4(f) reviews).

This section describes the historic process that has been followed. It is possible new regulatory actions in the coming years may change processes and requirements. As projects advance beyond the PEL study, it will be important to understand the regulatory setting at that time. Future project sponsors will need to conduct early outreach and coordination with the public, tribal entities, and agencies as projects advance.

An environmental document involves analyzing the affected environment (existing conditions), anticipated environmental impacts, and environmental mitigation commitments. The type of environmental document required depends on the project context, complexity, potential impacts, and which federal agency (or the SEO on behalf of FHWA in Alaska) is the lead agency moving the project forward.

NEPA regulations identify three types of environmental classes of action (COAs): categorical exclusions (CEs), environmental assessments (EAs), and environmental impact statements (EISs).

- **CEs** are for actions that do not individually or cumulatively have a significant environmental effect and may be excluded from the requirement to prepare an EA or EIS. For certain actions that qualify, the DOT&PF may prepare a programmatic CE, which generally takes less time to complete than a CE.
- An **EA** is prepared for actions in which the significance of the impact is not clearly established.
- An **EIS** is prepared for types of actions that significantly affect the environment.

The PEL study is intended to help jump start the analysis for future NEPA requirements. Most of the proposed improvements in this PEL study report would fall within a CE classification; this COA is based on the lead agency being SEO. Should another agency lead a project or cooperate in the NEPA process, the COA may be different.

To help future sponsors move their project forward, a draft purpose and need statement has been prepared for each recommended solution; refer to Section 5.

Table 6-4. Recommended Solutions and Preliminary Environmental Impacts and Considerations

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
①	MP 0 to 21 Drainage Improvements	CE	None anticipated	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • A Native allotment extends into the road ROW; up to 0.45 acre may be impacted. Future design will aim to minimize or avoid these impacts when identifying the areas for improvement.^[a] • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • The Copper River Campground is located east of the Copper River near MP 1.6. The Kuskulana Bridge wayside near MP 17.3 is owned and managed by the NPS. • There are two RS 2477s (Chitina River-Strelna Trail and Bellum's [Billum's] Crossing) and two 17(b) easements. • Up to 6 acres of NWI-mapped wetlands (freshwater emergent wetlands, and riverine designations) may be impacted.^[b] • Road crosses anadromous streams (Copper River and Strelna Creek).^[c] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; more than 100 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
2	MP 21 to 43 Drainage Improvements	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	- Approximately 2.34 acres near Gilahina River bridge (MP 29) fall outside of the road ROW on NPS land. DOT&PF and NPS intend to resolve the ROW discrepancy, so the road ROW incorporates the existing road location. - Native allotments extend into the road ROW; up to 3.87 acres may be impacted.^[a] - There are four known AHRS sites in the area; future consultation may reveal unrecorded sites. - The NPS-owned and maintained Gilahina Trestle wayside near MP 29 and the Crystalline Hills Trailhead near MP 34.8 (located north of the road) may be impacted by work in the area. - There are no RS 2477s or 17(b) easements. - The public has requested that any project avoid a spring that provides access to drinking water near MP 36.4. - Up to 6 acres of NWI-mapped wetlands (freshwater emergent wetland and freshwater forested/shrub wetland) may be impacted.^[b] - Road crosses anadromous streams (Chokosna Lake outlet, Chokosna River and its multiple tributaries, Gilahina River, Ruth Lake Creek [also referred to as Ruth Creek], and Crystal Creek).^[c] These are all culverts except for the bridge crossings at Gilahina River and Chokosna River. ADF&G designates five of the culverts as likely deficient for fish passage. - Consider migratory birds and preconstruction surveys. Consider revegetation plan; more than 150 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
3	MP 43 to 63 Drainage Improvements	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are three known AHRS sites in the area; future consultation may reveal unrecorded sites. • The State wayside near MP 55.2 is located on state land and managed by the NPS. The vault toilet facilities near the swimming hole vicinity are maintained by the MAC. • There is one RS 2477 (Nikolai Mine Trail) and no 17(b) easements in the area. • Up to 13 acres of NWI-mapped wetlands (freshwater emergent wetlands, freshwater forested/shrub wetlands, and riverine designation) may be impacted.^[b] • Road crosses anadromous streams (Long Lake Creek/outlet, Long Lake Creek/Tributary, Kennicott River, near the swimming hole, and Clear Creek).^[c] • Road crosses six additional streams with no assigned AWC stream number (a second Long Lake Creek/Tributary, three unnamed crossings, Tractor Creek, and Swift Creek). ADF&G identifies these six culverts as likely deficient fish passage culverts.^[d] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 200 invasive plants have been identified.
4	MP 0 to 15 Rehabilitation (from rock cut near Chitina to Strelna Creek)	CE	No	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • A Native allotment extends into the road ROW; up to 0.6 acre may be impacted. Future design will aim to minimize or avoid these impacts when identifying the areas for improvement.^[a] • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • The Copper River Campground is located east of the Copper River near MP 1.6. • There are two RS 2477s (Chitina River-Strelna Trail and Bellum's [Billum's] Crossing) and two 17(b) easements. • Up to 4 acres of NWI-mapped wetlands (freshwater emergent wetlands, freshwater forested/shrub wetlands, and riverine designation) may be impacted.^[b] • Road crosses anadromous streams (Copper River and Strelna Creek).^[c] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 100 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
5	MP 15 to 27 Rehabilitation (between Strelna Creek and Chokosna River)	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are two known AHRS sites in the area; future consultation may reveal unrecorded sites. • The Kuskulana Bridge wayside near MP 17.3 is owned and managed by the NPS. • There are no RS 2477s or 17(b) easements in the area. • Up to 10 acres of NWI-mapped wetlands (freshwater emergent wetlands and freshwater forested/shrub wetlands) may be impacted.^[b] • Road crosses anadromous streams (Strelna Creek, Chokosna Lake outlet, Chokosna River tributary, and Chokosna River).^[c] These are all culverts except for the Chokosna River crossing. ADF&G designated the Chokosna Lake outlet crossing as likely deficient for fish passage. • Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 100 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
6	MP 27 to 44 Rehabilitation (between Chokosna River and Lakina River)	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	- Approximately 3.1 acres near Gilahina River bridge (MP 29) fall outside of the road ROW on NPS land. - DOT&PF and NPS intend to resolve the ROW discrepancy, so the road ROW incorporates the existing road location. - Native allotments extend into the road ROW; up to 5.1 acres may be impacted.^[a] - There are no known AHRs sites; however, future consultation may reveal unrecorded sites. - The NPS-owned and maintained Gilahina Trestle wayside near the Gilahina River bridge and the Crystalline Hills Trailhead near MP 34.8 (located north of the road) may be impacted by work in the area. - There are no RS 2477s or 17(b) easements in the area. - The public has requested a natural spring that provides access to drinking water near MP 36.4 be avoided. - Up to 6 acres of NWI-mapped wetlands (freshwater emergent wetlands, freshwater forested/shrub wetlands, and riverine designation) may be impacted.^[b] - Road crosses anadromous streams (Gilahina River [bridge] and Crystal Creek [culvert]).^[c] - Road crosses four additional streams with no assigned AWC stream number.^[d] ADF&G identifies three culverts as likely deficient for fish passage (two Chokosna River tributaries and Ruth Creek) and one adequate for fish passage (another Chokosna River tributary). - Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 140 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
7	MP 44 to 59 Rehabilitation (between Lakina River and Kennicott River)	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are two known AHRS sites in the area; future consultation may reveal unrecorded sites. • The State wayside near MP 55.2 is located on state land and managed by the NPS. • There is one RS 2477 (Nikolai Mine Trail) and no 17(b) easements in the area. • Up to 15 acres of NWI-mapped wetlands (freshwater emergent wetlands and freshwater forested/shrub wetlands) may be impacted.^[b] • Road crosses anadromous streams (Long Lake Creek/outlet, Long Lake Creek/tributary, and Kennicott River).^[c] • Road crosses six additional streams with no assigned AWC stream number (another Long Lake Creek/tributary, three unnamed crossings, Tractor Creek, and Swift Creek).^[d] ADF&G identifies the six culverts as likely deficient for fish passage. • Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 160 invasive plants have been identified.
8	MP 59 to 63 Rehabilitation (between Kennicott River and Kennicott Subdivision)	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are two known AHRS sites in the area; future consultation may reveal unrecorded sites. • The vault toilet facilities near the swimming hole vicinity are maintained by the MAC. • There are no RS 2477s or 17(b) easements in the area. • Few NWI-mapped wetlands are present.^[b] Up to 0.2 acre of freshwater forested/shrub wetland may be impacted. • Road crosses anadromous streams (Kennicott River, near the swimming hole, and Clear Creek).^[c] ADF&G designate the culverts at the swimming hole and Clear Creek as likely deficient for fish passage. • Consider migratory birds and preconstruction surveys. Consider revegetation plan; nearly 30 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
9	MP 1.5 to 3 Reconstruction (reroute near Kotsina Bluffs)	EA or possibly EIS	No	USCG Section 9 Permit; USACE Section 404/10 Permit; ADF&G Fish Habitat Permit	- Approximately 17 acres along the dry Kotsina Riverbed fall outside of the road ROW for this proposed project on land designated as Alaska Native Lands Patented or Interim Conveyed (ANCSA Native Corporation Lands). Pursuant to a 2017 Settlement Agreement between Ahtna, Inc. and the State of Alaska, Ahtna, Inc. holds fee title to approximately 165 acres of land near the Kotsina delta, subject to multiple material site ROWs held by the State of Alaska. As a key landowner, additional coordination with Ahtna, Inc. will be necessary for the road reroute. - There are no known AHRS sites; however, future consultation may reveal unrecorded sites. - The Copper River Campground is located east of the Copper River near MP 1.6. - There are two RS 2477s (Bellum's [Billum's] Crossing-Taral and Chitina-Elliot Trail) and no 17(b) easements in the area. - NWI-mapped wetlands are present. Up to 15 acres designated as riverine (i.e., unvegetated gravel bars) may be impacted requiring coordination with USACE.^[b] - The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination is needed with DOT&PF hydrology section to determine need for an LHS and/or H&H study.^[e] DOT&PF will need to assess the project's impacts on Kotsina River floodplains, for a potential longitudinal encroachment, per DOT&PF floodplain impacts guidance and compliance with EO 11988. - Reroute would be constructed in the dry Kotsina riverbed. Kotsina River is anadromous, as is the downstream Copper River.^[c] - The Kotsina River delta is a popular subsistence fishing area, which will require coordination with subsistence users. - The Kotsina River is considered navigable from its confluence with the Copper River upstream 8 river miles, which will require USCG coordination. - Consider migratory birds and preconstruction surveys.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
10	MP 29 Gilahina Bridge (#1194) Replacement	CE or EA	Likely	USCG Section 9 Permit; USACE Section 404/10 Permit; ADF&G Fish Habitat Permit	• DOT&PF and NPS intend to resolve the ROW discrepancy, so the road ROW incorporates the existing road location. • The NPS-owned and -maintained Gilahina Trestle wayside is near the bridge crossing and would be impacted. Likely Section 4(f) involvement. • There are no known AHRS sites within the area, though they are nearby. Future consultation and cultural resources survey may reveal unrecorded sites. • There are no RS 2477s or 17(b) easements in the area. • NWI-mapped wetlands are present outside of the project area.^[b] • The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] • The new bridge would span the Gilahina River, which is anadromous.^[c] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; eight invasive plants have been identified.
11	MP 44 to 48.5 Reconstruction (existing alignment improvements near Long Lake)	CE	No	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • There are no RS 2477s or 17(b) easements in the area. • Up to 3.5 acres of NWI-mapped wetlands (freshwater forested/ shrub wetlands) may be impacted.^[b] • Road crosses anadromous streams (Long Lake Creek/outlet and Long Lake Creek/tributary).^[c] ADF&G designates the Long Lake Creek/outlet as likely deficient for fish passage and the Long Lake Creek/tributary as maybe being inadequate. • Consider migratory birds and preconstruction surveys. Consider revegetation plan; 50 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
12	MP 58 Reconstruction (existing alignment)	CE or EA	Potential for involvement	None	- Slope stabilization measures will be constructed uphill on approximately 6.5 acres, of which about 6 acres is on private land and 0.5 acre on NPS land. A temporary construction easement is anticipated for construction access onto private lands. - There is one known AHRS site in the area; future consultation may reveal unrecorded sites. - There is one RS 2477 (Nikolai Mine) and no 17(b) easements in the area. - NWI-mapped wetlands are not present in the project area.^[b] - There are no anadromous streams in the project area. - Consider migratory birds and preconstruction surveys. Consider revegetation plan; 13 invasive plants have been identified.
13	Kennicott River Footbridge (#6004) Rehabilitation	CE	No	None	- Improvements are contained to the footbridge, except for a small amount of groundwork at the ends of the bridge to construct jump spans. - There are no known AHRS sites; however, future consultation may reveal unrecorded sites. - There are no RS 2477s or 17(b) easements in the area. - Kennicott River is anadromous.^[c] No instream work is anticipated. - Consider migratory birds and preconstruction surveys. Consider revegetation plan; 5 invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
14	Kennicott River Erosion Control (MP 59.3)	CE or possibly EA	No	USCG Section 9 Permit; USACE Section 404/10 Permit; ADF&G Fish Habitat Permit	- Approximately 0.6 acre of the project footprint falls outside of the road ROW on land designated as private (0.36 acre) and undetermined (riverine) (0.27 acre), requiring additional coordination. - There are no known AHRS sites; however, future consultation may reveal unrecorded sites. - There is one RS 2477 (Nikolai Mine) and no 17(b) easements in the area. - NWI-mapped waters of the U.S. are present in the area but are inaccurate, indicating only 0.01 acre of riverine will be impacted.^[b] - The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] - The Kennicott River is not designated as navigable by the USACE or USCG; however, the river is used by pack rafters especially during occasional Johkulaups. Coordination with the USACE is recommended to determine if a Section 10 permit would be applicable. - Kennicott River is anadromous.^[c] - Consider migratory birds and preconstruction surveys. Consider revegetation plan; three invasive plants have been identified. - During the comment review period of the draft PEL study, several members of the public requested that if this project advances, recreation waterway users should be particularly engaged in future design conversations.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
15	MP 59.5 to 59.7 Reconstruction (existing alignment improvements near the swimming hole)	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• DOT&PF and NPS intend to resolve the ROW discrepancy, so the road ROW incorporates the existing road location. • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • The vault toilet facilities near the swimming hole vicinity are maintained by the MAC. • There are no RS 2477s or 17(b) easements in the area, except for one RS 2477 (Nikolai Mine Trail) that runs outside of the southern extent of the project. • NWI-mapped waters of the U.S. are present but are likely inaccurate. Up to one-third acre of NWI-mapped wetlands (freshwater forested/shrub wetlands and riverine designation) may be impacted.^[b] • Road crosses over the swimming hole culvert, which conveys a designated anadromous stream.^[c] The culvert is in poor condition; ADF&G designates it as likely deficient for fish passage. • Consider migratory birds and preconstruction surveys. Consider revegetation plan; one invasive plant has been identified.
16	Pullouts between McCarthy and Kennicott	CE	No	None	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • There are no RS 2477s or 17(b) easements in the area. • Few NWI-mapped wetlands are present; no impacts are expected.^[b] • Consider migratory birds and preconstruction surveys. Consider revegetation plan. No invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
17	MP 40.2 Ruth Creek Culvert Replacement	CE	No	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • There are no RS 2477s or 17(b) easements in the area. • NWI-mapped wetlands are not present in the project area.^[b] • The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] • Ruth Creek does not have an assigned AWC stream number; however, ADF&G identifies the culvert conveying Ruth Creek as likely deficient in fish passage.^[d] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; five invasive plants have been identified.
18	MP 47.9 Long Lake Creek/ Tributary Culvert Replacement	CE	No	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Approximately 0.4 acre of the project footprint falls outside of the road ROW on state-owned land, requiring additional coordination. • There are no known AHRS sites in the area; future consultation may reveal unrecorded sites. • There are no RS 2477s or 17(b) easements in the area. • Up to 0.4 acre of NWI-mapped wetlands (freshwater forested/ shrub wetlands) may be impacted.^[b] • The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] • The Long Lake Creek/tributary is anadromous.^[c] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; five invasive plants have been identified.

ID #	Name	Anticipated Environmental Document	Currently Known Section 4(f) Involvement?	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts (based on planning-level concept design)
19	MP 56.1 Swift Creek Culvert Replacement	CE	No	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Likely contained within the existing ROW, reducing coordination efforts and chances of delay. • There are no known AHRS sites; however, future consultation may reveal unrecorded sites. • There is one RS 2477 (Nikolai Mine) and no 17(b) easements in the area. • NWI-mapped wetlands are not present in the project area.^[b] • The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] • Swift Creek does not have an assigned AWC stream number; however, ADF&G identifies the culvert conveying Ruth Creek as likely deficient in fish passage.^[d] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; 13 invasive plants have been identified.
20	MP 59.8 Clear Creek Culvert Replacement	CE	Potential for involvement	USACE Section 404 Permit; ADF&G Fish Habitat Permit	• Approximately 0.09 acre of the project footprint falls outside of the road ROW on NPS-owned land. However, DOT&PF and NPS intend to resolve the ROW discrepancy, so the road ROW incorporates the existing road location. • There are two known AHRS sites in the area; future consultation may reveal unrecorded sites. • The vault toilet facilities near the swimming hole vicinity are maintained by the MAC. • There are no RS 2477s or 17(b) easements in the area. • Up to 0.18 acre of NWI-mapped freshwater forested/shrub wetlands may be impacted.^[b] • The public has indicated this area provides an important drinking water source for the community and visitors. • The area does not have a delineated 100-year floodplain or regulatory floodway. Future coordination with DOT&PF hydrology section will determine need for an LHS and/or H&H study.^[e] • Clear Creek is anadromous.^[c] • Consider migratory birds and preconstruction surveys. Consider revegetation plan; five invasive plants have been identified.

- [a] Concept design: These recommended improvements have only been designed in concept and therefore disclosed impacts are preliminary. Additionally, for the long linear projects, improvements would occur in select areas based on spot-specific issues and needs. In other words, it is not intended that the full length of this project segment would have the same drainage or rehabilitation improvements applied across the entire length. Those locations will be identified during the future design phase. Therefore, it is possible an identified environmental resource might not be impacted whatsoever.
- [b] Waters of the U.S., including wetlands: Boundaries will need to be delineated and verified as part of future environmental review. Mitigation and coordination efforts will depend on the project's design.
- [c] Anadromous fish streams: Presence of anadromous streams will require coordination with ADF&G and NOAA.
- [d] Other streams: Streams not identified as anadromous will still require coordination with ADF&G in the case resident fish species are present.
- [e] Floodplains: Unmapped floodplains require coordination with the DOT&PF hydrology section to determine the need for an LHS and/or a H&H, depending upon the complexity of the project and location. There are several proposed projects where this is applicable, including projects #9, #10, #14, #17, #18, #19, and #20.

7. Funding Strategies

7.1 Overview

No funding has been obtained for the recommended solutions identified in the PEL study. Future implementation of recommended solutions depends on securing project funding. This section briefly describes potential sources that could be used to fund these recommended improvements. This section describes current funding sources, which may change over time. Refer also to Section 5.5, where the potential funding source(s) is identified for each recommended solution.

Potential Sponsors. For each recommended solution identified in this PEL study report, a potential lead sponsor(s) was identified. The identified sponsor for many of the recommended projects would likely be the DOT&PF. Other potential project sponsoring agencies or groups partnering alongside a lead sponsor could include the NPS, WFL, ADF&G, USFWS/CRWP, and Native Village of Chitina or Chitina Native Corporation.

Status of Federal Funding for Transportation Projects. Since the IIJA passed in 2021, the most recent federal surface transportation authorization by Congress, there has been a substantial increase in federal funding available for transportation projects largely through discretionary grants, which are administered through a competitive grant application process. By January 2025, more than 60% of IIJA funding via USDOT had been awarded. While funding is expected to continue through fiscal year (FY) 2025 and FY 2026, future funding beyond that is less certain. The next surface transportation reauthorization or continuing resolution by Congress will need to occur by the end of FY 2026.

The IIJA includes the following notable provisions for Alaska:

- Authorizes approximately \$3.5 billion in highway funding for Alaska over 5 years to construct, rebuild, and maintain its roads and highways.
- Provides approximately \$225 million to address more than 140 bridges considered to be structurally deficient (that is, in poor condition).
- Creates a new set-aside within the Surface Transportation Block Grant (STBG) formula program for transportation projects in rural areas.

Potential Funding Sources. Since DOT&PF is the likely lead for many of recommended projects in this PEL study, many of the identified funding sources are those commonly used for its capital improvement projects. To obtain certain federal funds, projects must be included in DOT&PF's Statewide Transportation Improvement Program (STIP). The information developed in Section 5.5 and **Appendix B** will help DOT&PF to prepare project nominations for the STIP.

A state or local match to the federal funding is generally a requirement for both formula and discretionary grant programs, the two main types of funding programs discussed in this section. If multiple sources of federal funds are used, the non-federal match cannot be counted for multiple programs.

- **Federal Formula Programs:** Federal formula funds are distributed to states through a formula established by Congress (through formulas that consider factors such as population or demographic data), and then typically are distributed to projects within each state through the STIP. While local agencies and projects may compete for funding with other projects within the state, the agency applying does not need to compete with projects nationwide as they would with discretionary grants. If awarded funds, the applicant works with a state agency (DOT&PF in Alaska) that administers the funds, rather than working directly with the USDOT or FHWA.

- **Federal Discretionary Grant Programs:** Federal discretionary grants are competitive opportunities that local agencies apply for directly. The programs listed in this section are administered by USDOT and agencies within that department. Discretionary grant awards can be relatively large, but these funding programs are typically highly competitive, with as many as 10 requests for every grant that is awarded. Upon being awarded a discretionary grant, applicants typically become direct recipients of federal funding and work with USDOT to develop a grant agreement, submit progress reports, and other grants administration activities.

Competitive grant programs are typically open 2 to 3 months. The window to apply begins with the release of a Notice of Funding Opportunity (NOFO), which is posted on www.grants.gov for federal opportunities. While some NOFOs, such as Better Utilizing Investments to Leverage Development (BUILD), appear annually, others are less predictable. In recent years, USDOT and FHWA have often combined multiple fiscal years into a single NOFO, making it essential for agencies to carefully track funding opportunities and work quickly to develop competitive applications. The DOT&PF has used information developed in previous PEL studies to inform these applications, such as the Parks Highway Cantwell to Healy PEL Study; numerous projects have advanced since the completion of that PEL study. Potential applicants should stay in touch with the funding agencies to anticipate program schedules and program requirements. In Alaska, DOT&PF and NPS frequently apply for grant opportunities jointly. Agencies should plan ahead to improve the competitiveness of projects for identified grant programs, including the collection of relevant data and review of stakeholder support (such as that which was prepared and conducted during this PEL study), which can be used in the grant application.

Funding resources are limited. Not all issues and needs in the corridor can be addressed. Creative partnerships and sponsors might help to bridge the funding gaps by obtaining enough money from different sources to move projects forward.

The following funding programs are discussed in this section and may be potential funding sources:

- National Highway Performance Program (NHPP)
- Surface Transportation Block Grant (STBG) Program
- Transportation Alternatives (TA) Set-Aside Program
- Highway Safety Improvement Program (HSIP)
- Preventive Maintenance (PM) Program
- Federal Lands Access Program (FLAP)
- Federal Lands Transportation Program (FLTP)
- Federal Lands Planning Program (FLPP)
- Bridge Formula Program (BFP)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program
- Tribal Transportation Program (TTP)
- Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program
- Better Utilizing Investments to Leverage Development (BUILD) Discretionary Grant Program
- Bridge Investment Program (BIP)
- PROTECT Discretionary Grant Program
- Culvert Aquatic Organism Passage (Culvert AOP) Discretionary Grant Program
- Rural Discretionary Grant Program (part of the Multimodal Project Discretionary Grant Program [MPDG])
- Infrastructure for Rebuilding America (INFRA) Discretionary Grant Program (part of MPDG)

- Congressionally Directed Spending (Earmarks)
- State of Alaska funding program:
 - Community Assistance Program
 - Denali Commission Match and Gap Funding Assistance for Surface Transportation Projects
 - State General Obligation Bonds (GO Bonds)
- Other potential funding for enhancement projects:
 - Dingell-Johnson Sport Fish Restoration Act (recreation and access grant program)
 - Land and Water Conservation Fund (LWCF) Act grant program (recreation focus grant program)
 - Pittman-Robertson Wildlife Restoration Act (recreation and access grant program)

7.2 Federal Formula Programs

7.2.1 National Highway Performance Program

The NHPP is the largest federal formula program for roadways. This program provides funding for routes on the NHS. NHS routes are primarily state owned, and projects selected for NHPP funding demonstrate an emphasis for safety, pavement condition, bridge condition, traffic, and other benefits.

The IIJA allows states to use up to 15% of NHPP funds each fiscal year for protective features, including on a non-NHS federal aid highway or bridge (such as the McCarthy Road). Almost half of the federal funding for the projects identified in DOT&PF's current STIP is provided through the NHPP.

7.2.2 Surface Transportation Block Grant Program

The authorization prior to IIJA was the Fixing America's Surface Transportation Act (FAST Act), which converted the longstanding Surface Transportation Program into the STBG program. The STBG program promotes flexibility in state and local transportation decisions and provides flexible funding to best address state and local transportation needs. While this funding source is flexible and may be used for a wide variety of transportation projects and activities, individual funding awards are relatively low. STBG funds can be used to preserve and improve the conditions and performance on any federal aid highway, bridge, and tunnel projects on any public road, as well as pedestrian and bicycle infrastructure and transit capital projects. The passage of the IIJA also added several new types of eligible projects, including protective features to enhance resilience.

In Alaska, a large share of federal STBG funds is distributed through the Community Transportation Program. This program is administered by DOT&PF through a state competitive process, which opens every 3 years. Communities must submit a notice of intent to apply, and the next deadline will likely be in fall 2025. The call for projects is expected to open in late fall or winter 2025.

7.2.3 Transportation Alternatives Set-Aside Program

The TA Set-Aside Program, formerly known as Transportation Alternatives Program, provides federal funding through a set-aside within the STBG program for projects and activities defined as TAs, including on- and off-road pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

The DOT&PF issues a call for projects, with the final projects being selected by the DOT&PF statewide project evaluation board. The following DOT&PF Alaska TA Program webpage provides details for applicants: <https://dot.alaska.gov/stwdplng/atap/index.shtml/>.

7.2.4 Highway Safety Improvement Program

The HSIP aims to significantly reduce traffic fatalities and serious injuries on all public roads. HSIP funds must be used for safety projects that are consistent with the Alaska Strategic Highway Safety Plan. The HSIP consists of three main components: the strategic highway safety plan, the program of highway safety improvement projects, and the Railway-Highway Crossing program. The HSIP program is administered through DOT&PF, and more information about the program is available here <https://dot.alaska.gov/stwddes/dcstraffic/hsip.shtml>.

7.2.5 Preventive Maintenance Program

The PM Program aims to preserve or extend the service life of an existing highway facility without significantly altering their appearance, capacity, or function. Unlike most of DOT&PF's construction program, which uses federal aid formula funding and contracts with private firms, about half of PM activities are done directly by DOT&PF staff and are limited to ongoing maintenance and operations, and minor preventive maintenance activities. The other half of this funding goes to larger capital projects that include restoring a paved surface to its original serviceable condition. The PM Program is funded equally by NHPP and STBG, with non-federal dollars also supporting ongoing maintenance. In order to receive federal aid funding for Alaska's construction program, Alaska is required to have resources in place to maintain the investments throughout their design life. Additionally, the federal aid construction program is required to have processes and procedures in place to administer the program in accordance with applicable federal, state, and local laws and regulations, and to assure the materials and construction meet predetermined performance, quality, safety, and environmental standards.

7.2.6 Federal Lands Access Program

The FLAP provides funds to states and local sponsors for projects that provide access to, are adjacent to, or are located within federal lands and makes available approximately \$7 million for projects in Alaska each year. The access program supplements state and local resources for public roads, transit system, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. IIJA increased the amount of FLAP and FLTP funds to be set aside for transportation planning from 5% to 20%. Another key provision in the IIJA added new eligibility for context-sensitive solutions, interpretive panels in or adjacent to parking areas, wayfinding markers, and landscaping. This is a particularly relevant program for Alaska, as nearly two-thirds of lands in Alaska are under federal management.

A committee comprising several representatives from FHWA and Alaska score and select the projects that will receive the FLAP grants. The Alaska FLAP webpage provides more details for potential applicants: <https://highways.dot.gov/federal-lands/programs-access/ak>. The next call for projects is open as of September 2025 with a deadline of October 31, 2025. The NPS and DOT&PF intend to submit a FLAP grant application for at least one of the recommended improvements in this PEL study.

7.2.7 Federal Lands Transportation Program

The FLTP provides federal funding for transportation facilities owned and managed by federal land management agencies and independent federal agencies with land and natural resource management responsibilities. Most of the funds are set aside for the NPS. FLTP funding has specific eligibility requirements and can be used for a variety of transportation projects such as roadway, pedestrian and bicycle provisions, transit, and parking areas for adjacent federal lands. An application should address the following: system definition, state of good repair, bridge deficiency reduction, safety improvement, and resource and asset management goals. The following FHWA webpage provides additional details: <https://highways.dot.gov/federal-lands/programs/transportation>.

7.2.8 Federal Lands Planning Program

The FLPP provides federal funding for planning activities supporting transportation projects at and adjacent to federal lands. Eligible activities for this funding source include long-range transportation plans, performance management, road and bridge inventory, and development and updating of a transportation improvement program.

7.2.9 Bridge Formula Program

Under the IIJA, Congress allocated \$5.5 billion per fiscal year through 2026 for the BFP. The program includes a set-aside for off-system bridges, bridges located on public roads that are not on a federal aid highway. For the current fiscal year, \$45 million is allocated to the State of Alaska through this program, including a \$6.75 million set aside for off-system bridges. Details on the BFP can be found on FHWA's website here: <https://www.fhwa.dot.gov/bridge/bfp/index.cfm>. For projects within Alaska, DOT&PF distributes the funds through the Community Bridge Investment Program. Details on the process can be found here: <https://dot.alaska.gov/stwdplng/cip/stip/projects/CBIP.shtml>.

7.2.10 PROTECT Formula Program

The PROTECT formula program provides funding for surface transportation resilience projects and is administered through DOT&PF. This program provides funding to ensure surface transportation resilience to natural hazards including flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. IIJA allocates \$93.1 million to Alaska through this program over 5 fiscal years (FY 2022 through FY 2026). The program requires a 20% state or local match.

7.2.11 Tribal Transportation Program

The TTP, formerly known as the Indian Reservation Roads Program, was established to provide safe and adequate transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities. A prime objective of the TTP is to contribute to the economic development, self-determination, and employment of Indians and Native Americans. The TTP addresses transportation needs of federally recognized Tribes by providing funding for planning, design, construction, and maintenance activities. The TTP is jointly administered by the Bureau of Indian Affairs and the FHWA. TTP funds provided to Tribes can only be spent on eligible projects and activities identified in an FHWA-approved transportation improvement program.

7.3 Federal Discretionary Grant Programs

7.3.1 Nationally Significant Federal Lands and Tribal Projects Program

The NSFLTP program was established in the FAST Act and provides funding for the construction, reconstruction, and rehabilitation of nationally significant projects within, adjacent to, or accessing federal and tribal lands. This program provides an opportunity to address significant challenges across the nation for transportation facilities that serve federal and tribal lands.

Program funds may only be used for construction, reconstruction, and rehabilitation and not for project design. The following FHWA NSFLTP webpage provides details for potential applicants: <https://highways.dot.gov/federal-lands/significant>. In the IIJA, \$55 million is made available through this program each fiscal year through FY 2026. The deadline to apply for FY 2025 funds is expected to be August 2025, but this date may change given the administration change and NOFO review currently underway by USDOT (as of March 2025).

7.3.2 BUILD Discretionary Grant Program

The BUILD Discretionary Grant program provides grant funding for surface transportation infrastructure projects with regional or national significance. BUILD is a longstanding program and was formerly known as RAISE (Rebuilding American Infrastructure with Sustainability and Equity) and TIGER (Transportation Investment Generating Economic Recovery).

The eligibility requirements of BUILD allow project sponsors at the state and local levels to obtain funding for large, multi-jurisdictional projects that are more difficult to support through traditional USDOT programs, and also includes planning funds. BUILD can provide capital funding directly to any public entity, including municipalities, boroughs, port authorities, tribal governments, metropolitan planning organizations, or others in contrast to traditional federal programs which provide funding to very specific groups of applicants (mostly state DOTs and transit agencies). The program can be used to fund a wide range of road projects. There is a 50% rural set-aside for BUILD, which may allow rural projects such as those along McCarthy Road to be more competitive. Importantly, BUILD does not fund projects located on federal lands, which could affect some of the projects for the McCarthy Road corridor.

The BUILD program has an annual application window as required by Congress. The NOFO typically appears in November and applications are due at the end of January, and award announcements must be made by the end of June. Applicants can submit applications for either planning or capital projects, and a benefit-cost analysis is required for capital projects. Due to the broad eligibility for a wide variety of transportation projects, these grants are very competitive. In the past 3 years, there have been approximately nine applications received for every award made. The following USDOT webpage provides details for potential applicants: <https://www.transportation.gov/BUILDgrants>.

7.3.3 Bridge Investment Program

The BIP is a substantial discretionary grant program that includes three subsets with different deadlines and guidance: bridge grants (for projects of up to \$100 million); large bridge grants (for projects more than \$100 million total cost); and bridge planning grants (for planning and design). The program focuses on bridges on the NBI in poor condition or in fair condition and at risk of falling into poor condition. The discretionary BIP program for Bridge grants and Planning grants is expected to open in early fall of 2025 for FY 2026 funds.

7.3.4 PROTECT Discretionary Grant Program

This program includes planning, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. Most of the funding available through this program goes toward resilience improvement grants. The first round of the PROTECT program for FY 2022 and FY 2023 funds was highly competitive. While PROTECT is authorized by the IIJA, it is funded through a variety of sources, and therefore the future of this program is uncertain. There is also a related PROTECT formula program that provides funds for similar project types. For additional detail on the PROTECT formula funding program, refer to Section 7.2.10.

7.3.5 Culvert Aquatic Organism Passage Discretionary Grant Program

This Culvert AOP program is funded through the IIJA and provides \$196 million per fiscal year through FY 2026 for projects for the replacement, removal, and repair of culverts or weirs that improve or restore fish passage for anadromous fish. While this is a competitive grant program, Alaska is one of only a handful of states with anadromous fish. Timing of the NOFO release for FY 2024 to FY 2026 is uncertain.

7.3.6 Rural Discretionary Grant Program (part of the MPDG)

The USDOT Rural program makes funds available to improve and expand the surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability for the movement of people and freight, generate regional economic growth, and improve quality of life. All IIJA funds for the Rural Discretionary Grant Program have been awarded and the future of this program is uncertain.

7.3.7 INFRA Discretionary Grant Program (part of MPDG)

The program purpose is to improve and expand the infrastructure primarily with a focus on freight benefits. All but \$200 million of the IIJA funds for the INFRA discretionary grant program have been awarded as of early 2025 and the future of this program is uncertain. Given that the McCarthy Road is not on the NHS, this corridor may not be eligible for INFRA.

7.3.8 Congressionally Directed Spending (Earmarks)

Congressionally Directed Spending, generally known as earmarks, are a common funding source for smaller projects that may not compete well for federal discretionary grants. Generally, earmarks are less than \$5 million. Communities can work with their members of Congress to obtain earmark funds. Senator Lisa Murkowski typically receives congressionally directed spending requests in the first 2 months of the year, and FY 2026 requests are closed as of August 2025. Details on the process can be found here: <https://www.murkowski.senate.gov/appropriations-and-cds-request-page>.

7.4 State of Alaska Funding Programs

State funding programs are administered by the State of Alaska and the funding source is considered local and could qualify as non-federal match for federal formula or discretionary grant funding. The state sources of funding discussed in Sections 7.4.1 through 7.4.3 may be appropriate for some of the recommended projects in the PEL study.

7.4.1 Community Assistance Program

The program, formerly known as Community Revenue Sharing, provides funding for vital public services to Alaska communities. Eligible services could include road maintenance. Typically, the funding is distributed to boroughs, cities, and unincorporated communities for projects they have identified as priorities. The funds are administered through an annual application process in the spring, and the application window for FY 2026 funds closed on June 2, 2025. Additional information is available at the Division of Community and Regional Affairs website here: <https://www.commerce.alaska.gov/web/dcra/GrantsSection/CommunityRevenueSharing>.

7.4.2 Denali Commission Match and Gap Funding Assistance for Surface Transportation Projects

This is a program that helps to leverage federal funding opportunities for Alaska by providing a local match for federal funding programs. The program provides up to \$5 million in non-federal match funding or gap funding for rural transportation projects. If an appropriate federal funding source is identified, this program could be used to support the McCarthy Road corridor projects.

7.4.3 State General Obligation Bonds

The State of Alaska has the option to issue GO Bonds for the purpose of paying the cost of state infrastructure. The state has previously issued significant GO Bond packages that addressed transportation infrastructure and other needs. A GO Bond would be subject to voter approval.

7.5 Potential Funding Sources for Enhancement Projects

The federal formula programs discussed in Sections 7.5.1 through 7.5.3 are not transportation-focused but could possibly fund some of the suggested enhancement projects. There are several funding programs such as these listed that focus on recreation access.

7.5.1 Dingell-Johnson Sport Fish Restoration Act (Recreation and Access Grant Program)

The Federal Aid in Sport Fish Restoration Act, commonly called the Dingell-Johnson Act (1950), created the Sport Fish Restoration and Boating Trust Fund, which provides funding to state fish and wildlife agencies to support recreational fishing. Numerous amendments to this act have been passed, including the Wallop-Breaux Amendment (1984) that funds projects to improve recreational power boating and sport fishing access.

The ADF&G Division of Sport Fish staff work with relevant stakeholders to provide grants for two types of projects: recreational boating and recreational angler access (non-boating) projects. Recreational access needs are assessed by the local ADF&G staff, who submit a list of project ideas annually for consideration. Projects are ranked and then prioritized based on project validity, need, and funding availability.

The following ADF&G boating and angler access grant program webpage provides details for potential applicants: <https://www.adfg.alaska.gov/index.cfm?adfg=fishingSportBoatingAnglerAccess.main>.

7.5.2 Land and Water Conservation Fund Act grant program

The LWCF Act (1965) is a federal grant program that provides federal funds to assist states in developing outdoor recreation sites. The LWCF Act was made permanent by the John D. Dingell Jr. Conservation, Management and Recreation Act (2019) and was fully funded by the Great American Outdoors Act in 2020. LWCF investments are intended to secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities. The LWCF program aims to increase the net quantity of public, outdoor recreational space. Funding priorities include trail and facility upgrades or improvements (includes support facilities, restrooms, and campsites), improved access to recreation areas (parking, boat launches, trailheads, signage), and those that meet Americans with Disability Act accessibility standards.

The DNR Division of Parks and Outdoor Recreation administers the LWCF grant program at the state level and has a call for projects window biannually, depending on funding availability. As a requirement of the LWCF program, the DNR prepares a Statewide Comprehensive Outdoor Recreation Plan, of which the most recent is for 2023 to 2027; Section C1 of the Statewide Comprehensive Outdoor Recreation Plan identifies the project selection and application process for LWCF grant funding. Awards range from \$25,000 to \$250,000 (DNR 2023a). The following DNR LWCF grant program webpage provides details for potential applicants: <http://dnr.alaska.gov/parks/grants/lwcf.htm>.

7.5.3 Pittman-Robertson Wildlife Restoration Act (Recreation and Access Grant Program)

The Federal Aid in Wildlife Restoration Act, commonly called the Pittman-Robertson Act (1937), provides funds to state fish and federal agencies to restore, conserve, and enhance wildlife populations and their habitats. Funded projects are diverse and include providing public use and access to wildlife resources. Other projects may include building, improving, and repairing public use trails, roads, parking lots, campgrounds, boat launches, and bridges.

The ADF&G Division of Wildlife Conservation staff work with relevant stakeholders to identify access improvements. The ADF&G has an annual call for projects based on funding availability. The State of Alaska typically matches 25%, with the federal government contributing 75%. The following ADF&G hunter access grant program webpage provides details for potential applicants:

<https://www.adfg.alaska.gov/index.cfm?adfg=hunteraccess.main>.

8. Next Steps

This PEL process and report provides a framework for prioritizing several future improvements along the McCarthy Road. It provides an opportunity to consider environmental issues and roadway users' input early in the transportation planning process.

Several steps must be accomplished before any of the recommended solutions identified can be advanced. Depending on the recommended solution, anticipated next steps for a recommended solution may include the following:

- Nominate the project for inclusion in the DOT&PF STIP (if DOT&PF is the sponsor)
- Secure project funding
- Continue to involve and engage the public, agencies, Native Tribes and corporations, and stakeholders
- Complete the NEPA process and preliminary design
- Complete final design
- Acquire ROW, if needed
- Obtain all needed permits
- Construct the project

As the recommended solutions move forward in the project development process and are programmed and funding is secured, NEPA and preliminary design activities can be initiated. Only conceptual-level design has been done during this PEL study.

In addition to the design considerations in the detailed project data sheets (**Appendix B**) and environmental considerations section (Section 6), agency correspondence (**Appendix C**) will help inform future environmental review and permitting processes.

Future ROW Considerations. For the conceptual-level design conducted for these recommended improvements, the intent was to stay within the existing road ROW to the extent practicable to minimize the potential for ROW acquisition. Several projects will require additional coordination with private landowners, Ahtna, the State of Alaska, and the NPS. Additional information and data collection on land ownership boundaries will be required in the study corridor for projects that move forward.

Future Design Considerations. The actual limits and precise locations of improvements will need to be determined in the future design phase, in particular for the longer linear drainage and rehabilitation projects.

Future Studies. A geotechnical investigation will need to be completed to inform the foundation design at the recommended Gilahina River bridge. The recommended erosion control measures at the Kennicott River bridge will require additional H&H design to inform the final size and location of riprap. Section 6.4 discusses other projects that will require H&H studies and/or LHS. Cultural resource and archaeological surveys are limited in the region and will be needed. Additional environmental studies will likely be needed depending on the project and will occur in a future NEPA phase.

Near-Term Coordination with Other Projects and Planning Efforts. Several other planning efforts or projects have been progressing during the same time as the PEL study process. The Copper Valley Telephone Cooperative is planning to install fiber optic transport cable and Fiber To The Premise (i.e., fiber extending to the end-user premise) between the communities of Chitina and McCarthy. The NPS is also advancing an emergency management evacuation planning study for WRST and for the McCarthy Road corridor, which is planned to be completed in 2027; this plan will make recommendations about interagency collaboration and preparations for responding to natural disasters. The PEL study team has

coordinated with these groups, fulfilling one of the goals to build relationships to identify transportation and access needs. As recommended solutions advance, it will be important to continue coordination with other planning and project efforts.

Refer to **Appendix A, Needs and Opportunities Assessment Report**, Section 3.4 – Other Representative Planning Efforts of Projects in Progress, for more details.

8.1 Potential Material Source Sites for Construction

Table 8-1 summarizes DOT&PF-identified material sites in and near the study corridor. The reports associated with these sites were updated between 2009 and 2015; therefore, available material quantities should be verified. There are 8 material sites along the McCarthy Road and 12 additional material sites outside of the study corridor located along the Edgerton Highway.

The extent and availability of existing gravel material sites within the study corridor likely will be sufficient for anticipated construction projects; however, this assumption does not consider other material needs DOT&PF may need to consider. Riprap (large stones or boulders) will be needed for several projects, such as the reroute at Kotsina River and the erosion control improvements at the Kennicott River upstream of the existing footbridge. Based on the materials identified in Table 8-1, riprap may not be available within the study corridor. Adequate sources will need to be identified as these recommended solutions advance.

Table 8-1.Existing Material Sites in and near the Study Corridor

Material Site	Name	Road	MP	Permitted Acres	Estimated Quantity ^[a]	Site Type	Material Source	Maximum Size (inch)	Riprap
MS 850-003-5	Chitina Bridge Pit	McCarthy Road	1	3.9	20,000	River Bar	Fluvial	N/A	Not Possible.
MS 850-004-5	Kotsina River Pit	McCarthy Road	2	18.3	180,000	River Bar	Fluvial	8	Not Possible.
MS 850-005-5	N/A	McCarthy Road	2.5	35.4	460,000	River Bar	Fluvial	60	Not Possible.
MS 850-007-5	N/A	McCarthy Road	3	8.8	200,000	Quarry	Bedrock	N/A	Possible. Further investigation needed.
MS 850-001-5	Kuskulana #2	McCarthy Road	17	57.8	40,000	Borrow Pit	Fluvial	60	Not Possible.
MS 850-008-5	Kuskulana #1	McCarthy Road	17	49.9	450,000	Borrow Pit	Fluvial	72	Not Possible.
MS 850-085-5	Wood Site	McCarthy Road	26.5	42.1	360,000	Borrow Pit	Fluvial	12	Not Possible.
MS 850-077-5	N/A	McCarthy Road	52	65.5	390,000	Borrow Pit	Fluvial	18	Not Possible.
MS 850-011-5	N/A	Edgerton Highway	1	7.1	20,000	Borrow Pit	Fluvial	10	Not Possible.
MS 850-022-5	Mile 1 Pit, MS 16-3M, OMS 16-3M	Edgerton Highway	1	59.8	360,000	Borrow Pit	Fluvial	12	Not Possible.
MS 850-036-5	Kenny Lake School Pit	Edgerton Highway	5	89	740,000	Borrow Pit	Fluvial	12	Not Possible.
MS 850-029-5	Old Tonsina Maintenance Camp	Edgerton Highway	19	1.4	2,000	Borrow Pit	Fluvial	N/A	Not Possible.
MS 850-070-5	Lower Tonsina Pit	Edgerton Highway	19	31.4	100,000	Borrow Pit	Fluvial	12	Not Possible.
MS 850-070A-5	Weaver Pit	Edgerton Highway	19	8.6	5,000	Borrow Pit	Fluvial		Not Possible.
MS 850-033-5	North Liberty Falls Pit	Edgerton Highway	23	12.1	50,000	Borrow Pit	Fluvial	60	Possible. Further investigation needed.
MS 850-032-5	South Liberty Falls Pit	Edgerton Highway	24	15.7	220,000	Borrow Pit	Fluvial	15	Not Possible.
MS 850-031-5	N/A	Edgerton Highway	26	8.3	30,000	Borrow Pit	Fluvial	60	Possible. Further investigation needed.
MS 850-074-5	Chitina Airport Pit	Edgerton Highway	28.5	5.17	5,000	Borrow Pit	Fluvial	15	Not Possible.
MS 850-027-5	N/A	Edgerton Highway	30	2.1	110,000	Quarry	Bedrock	N/A	Possible. Further investigation needed.
MS 850-073-5	Mile 31 Pit	Edgerton Highway	31	10.6	30,000	Borrow Pit	Fluvial	8	Not Possible.

Source: DOT&PF 2023b

^[a] Estimate material is from as recent as 2015. Available material is subject to substantial change.

N/A = not available.

8.2 Acknowledgements and Future Engagement

This PEL study was made possible through the collaborative efforts of the public, tribal groups, agencies, stakeholders, and individuals dedicated to the future of transportation and environmental stewardship along the McCarthy Road corridor. The study team—comprising WFL, DOT&PF, NPS, and Jacobs—extends sincere appreciation to all who contributed insights, comments, and feedback throughout the process. That input was instrumental in shaping the study’s direction and outcomes. Through an inclusive planning approach, the PEL study sought to balance transportation needs with community values and goals, laying the groundwork for safer, more reliable access to the corridor. This PEL study is not the final opportunity for engagement. Continued engagement and collaboration will be essential as future project sponsors consider advancing recommendations from this study.

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