Appendix E:
Preliminary Voluntary Mitigation Measures

The following features have been incorporated into the initial design of the proposed project in order to reduce the potential for adverse environmental effects during project construction, operations, and maintenance.

Natural/ Biological Resources

The Alaska Railroad Corporation (ARRC) conducted a constraints analysis to guide alternative corridor development, and, to the extent possible, identified alternative alignment routes for consideration that would avoid or minimize impacts to the Susitna Flats and Goose Bay State game refuges, waterbodies, anadromous fish streams, high value wetland complexes (based on National Wetlands Inventory mapping), and MSB designated wetland banks.

Clearing of vegetation in preparation for construction would occur before or after the typical migratory bird nesting season as identified by the U.S. Fish and Wildlife Service (USFWS) (typically May 1 to July 15) to the extent possible to ensure compliance with the Migratory Bird Treaty Act. If clearing is required during the nesting season, a nest survey would be conducted at the USFWS would be consulted, as necessary, to identify additional compliance measures. This would also mitigate potential impacts to moose and many other mammals as it encompasses the most sensitive time when young are born.

During the bald eagle nesting season (typically March 1 through August 31), ARRC and its contractor(s) would ensure construction does not disturb bald eagles. Active nest trees would be protected by vegetative buffer zones in accordance with USFWS guidelines.

ARRC would construct an embankment wide enough to allow moose a place to retreat on one side when a train passes to reduce the potential for moose strikes.

ARRC would design and construct stream crossings that do not impede fish passage or impair the hydrologic functioning of the waterbody. Refer to additional mitigation measures below (Water Resources/Wetlands).

Construction in anadromous streams would be timed to minimize adverse effects to salmon during critical life stages. Timing windows would be incorporated into construction contract specifications for in-stream work.

During construction, temporary barricades, fencing, and/or flagging would be used in sensitive habitats to contain project-related impacts to the construction area. Staging areas would be located in previously disturbed sites to the extent practicable and not in sensitive habitat areas.

Areas disturbed during construction would be reseeded or replanted with native species within one growing season following construction to stabilize the banks and reduce the likelihood of invasive weed expansion.

Water Resources/ Wetlands

ARRC would obtain all Federal permits, including the Clean Water Act Section 404 permit, required by the U.S. Army Corps of Engineers (USACE) for project related encroachment of jurisdictional waters of the U.S., including wetlands, prior to initiation of construction in these areas. Permit stipulations would be incorporated into the construction contract specifications.

ARRC would obtain coverage from EPA under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction Activities. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented.

To minimize sedimentation into streams and waterways during construction, ARRC would employ best management practices as specified in the SWPPP.

To compensate for unavoidable impacts to jurisdictional wetlands, ARRC would implement compensatory mitigation negotiated as part of the USACE Section 404 permit for placement of fill in wetlands.

ARRC would use contaminant-free embankment and surface materials in construction.

ARRC would disturb the smallest area practicable around any streams and would conduct reseeding efforts to promote revegetation of disturbed areas as soon as practicable following project-related construction activities. Disturbed areas, except for the railroad embankment, would be reseeded with native vegetation to provide permanent stabilization and minimize the potential for erosion.

ARRC would design and construct culverts used for new stream crossings with a width greater than or equal to 125 percent of the width of the stream at the ordinary high water stage. The culvert grade would approximate the surrounding slope of the stream channel. Whenever possible, new culverts would be buried to approximately 40 percent of their diameter with substrate material that would remain stable at expected flood discharge rates.

ARRC would obtain necessary State permits and authorizations (e.g., Alaska Department of Natural Resources (ADNR) Fish Habitat Permit, ADF&G Special Use Permit, Coastal Zone Consistency determination). Permit stipulations would be incorporated into the construction contract specifications.

When project-related construction activities, such as culvert and bridgework, require work in streambeds, ARRC would conduct these activities, to the extent practicable, during low-flow conditions.

During construction, ARRC would prohibit project-related construction vehicles from driving in or crossing streams at other than established crossing points.

All stream crossing points would be returned to their preconstruction contours to the extent practicable and the banks would be reseeded or replanted with native species within one growing season following construction to stabilize the banks and reduce the likelihood of invasive weed expansion.

ARRC would coordinate with the local MSB Floodplain Administrator to ensure that new project-related stream and floodplain crossings are appropriately designed. For crossings within the mapped 100-year flood plain, ARRC would design drainage crossing structures to pass a 100-year flood. These crossings would comply with MSB floodplain management regulations and permit conditions, and would not raise the backwater surface elevation by more than 1 foot.

ARRC would design and construct the new rail line in such a way as to maintain natural water flow and drainage patterns to the extent practicable. This would include placing equalization culverts through the embankment as necessary to maintain existing drainage patterns, prevent impoundment of water or excessive drainage, and maintain the connectivity of floodplains and wetlands.

Depending on the alignment selected, ARRC would obtain a Section 9 Bridge Permit from the U.S. Coast Guard for construction of new rail bridges over navigable rivers (e.g., Willow Creek and Little Susitna River). Permit stipulations would be incorporated into the construction contract specifications.

During construction, ARRC would install appropriate BMPS within its parallel drainage ditches that are within 1,000 feet of perennial waters to provide stormwater retention and filtration. ARRC would maintain drainage ditches as necessary (e.g., by removing accumulated sediments to maintain storm water retention capacity and function).

Land Use

General Land Use

Land areas that are directly disturbed by project-related construction and are not owned by the ARRC (such as temporary access roads, haul roads, and crane pads) would be restored to their original condition, as may be reasonably practicable, upon completion of construction.

ARRC would require contractor(s) to dispose of waste generated during project-related construction activities in accordance with applicable Federal, State, and local regulations.

ARRC would continue to participate in regional land use planning efforts to coordinate with MSB planners and other participants.

Community Outreach

Prior to initiation of construction activities related to this project, and for a period of one year following start-up of operations on the new rail line, ARRC would establish a Community Liaison to consult with affected communities, businesses, and agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. ARRC would provide the name and phone number of the Community Liaison to mayors and other appropriate local officials in each community through which the new rail line passes.

ARRC would continue its ongoing community outreach efforts by maintaining a website about the project throughout the period of construction of the new line.

Residential

Project-related construction vehicles, equipment, and workers would not access work areas by crossing residential properties without the permission of the property owners.

In the unlikely event of any inadvertent damage, ARRC would work with affected landowners to appropriately redress any damage to each landowner’s property caused by project-related construction activities.

Business and Industrial

Project-related construction vehicles, equipment, and workers would not access work areas by crossing business or industrial areas, including parking areas or driveways, without advance notice to the business owner.

In business and industrial areas, project-related equipment and materials would be stored in established storage areas or on ARRC property. Parking of equipment or vehicles, or storage of materials along driveways or in parking lots, is prohibited unless agreed to by the property owner.

ARRC would work with affected businesses or industries to appropriately address project related construction activity issues affecting any business or industry.

To the extent practicable, ARRC would ensure that entrances and exits for businesses are not obstructed by project-related construction activities, except as required to move equipment.

Utility Corridors

ARRC would make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within the right-of-way (ROW) or that cross the ROW. ARRC would consult with utility owners during design and construction so that utilities are protected during project-related construction activities. ARRC would notify the owner of each such utility identified prior to project-related construction activities and would coordinate with the owner to minimize damage to utilities.

ARRC would make reasonable efforts to minimize the utility disruptions by timing construction work and outages to low use time periods. ARRC would notify residents and other utility customers in advance of construction activities requiring temporary service interruptions.

Geology and Soils

ARRC would limit ground disturbance to only the areas necessary for project-related construction activities.

During earthmoving activities, ARRC would remove topsoil and segregate it from subsoil. ARRC would also stockpile topsoil for later application during reclamation of disturbed areas along the ROW. ARRC would use appropriate erosion control measures to minimize the potential for erosion of stockpiles.

ARRC would restore disturbed areas as soon as practicable after construction ends along a particular stretch of rail line. The goal of restoration would be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, ARRC would use temporary erosion control measures (such as mulching or erosion control blankets) until reseeding can be completed.

Prior to initiating project-related construction activities, ARRC would consult with the local offices of the Natural Resource Conservation Service and the Palmer Plant Center to develop an appropriate plan for restoration and revegetation of disturbed areas (including appropriate seed mix specifications). This would apply to areas that cannot be revegetated using natural recruitment from the native seed sources in the stockpiled topsoil.

ARRC would, to the extent practicable, revegetate the bottom and sides of the drainage ditches using natural recruitment from the native seed sources in the stockpiled topsoil or a native seed mix.

Recreation/ Public Access

ARRC conducted a constraints analysis and to the extent possible, identified alternative alignment routes for consideration that would avoid or minimize impacts to the Willow Creek State Recreation Area, the Nancy Lakes State Recreation Area, and the Little Susitna Recreation River.

Depending on the alignment selected, ARRC would coordinate with the U.S. Coast Guard to provide adequate clearances for navigation of recreational boats on navigable rivers (e.g., Willow Creek and Little Susitna River).

Depending on the alignment selected, during construction of the new railroad bridge crossing over navigable rivers, some short-term temporary restrictions of watercraft traffic could occur for safety purposes. ARRC would install warning devices to notify boaters of project-related bridge construction activities. Signs providing the name, address, and telephone of a contact person would be displayed on-site to assist motorists and waterway users in obtaining immediate responses to questions and concerns about project activities.

Public access would be maintained to and from legally authorized trails and MSB recognized trail easements. ARRC would provide separated grade crossing locations where the new rail line crosses these trails, although some trails may require some realignment to consolidate crossings. This would ensure the public can cross through the embankment to access public use areas. ARRC would work with trail user groups to design and construct these separated grade trail crossings.

ARRC would work with the Bureau of Land Management; ADNR Division of Mining, Land, and Water; the State Historic Preservation Officer (SHPO); The Iditarod Trail Sled Dog Race committee; and the non-profit organization of the Iditarod National Historic Trail to design and construct a separated grade crossing at the Iditarod National Historic Trail.

Transportation and Crossings

ARRC would consult with appropriate State and local transportation agencies to determine the final design and other details of grade-crossing warning devices. Implementation of all grade-crossing warning devices on public roadways would be subject to the review and approval of the Alaska Department of Transportation & Public Facilities and/or the MSB Department of Transportation.

During construction of grade crossings, road users would be notified of temporary road closings and other construction-related activities, so alternate routes can be planned. When practicable, ARRC would provide for detours and associated signage, as appropriate, or maintain at least one open lane of traffic at all times to allow for the quick passage of emergency and other vehicles. Signs providing the name, address, and telephone number of a contact person would be displayed on-site to assist the public in obtaining immediate responses to questions and concerns about project activities.

To the extent practicable, ARRC would confine all project-related construction traffic to a temporary access road within the ROW or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, ARRC would make necessary arrangements with landowners to gain access from private roadways. Any temporary access roads constructed outside the rail line ROW would be removed and restored upon completion of construction unless otherwise agreed to with the landowners.

ARRC would coordinate with MSB Port MacKenzie personnel regarding activities occurring within the port district and to ensure that track construction activities conducted by the ARRC and MSB are compatible.

Air Quality

To minimize fugitive dust emissions created during project-related construction activities, ARRC would implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. ARRC would also operate water trucks on haul roads as necessary to reduce dust.

ARRC would work with its contractor(s) to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

Noise and Vibration

ARRC would work with its construction contractor(s) to minimize, to the extent practicable, construction-related noise disturbances near residential areas. Construction and maintenance vehicles would be in good working order with properly functioning mufflers to control noise.

ARRC would use continuously welded rail and rail lubricants, as appropriate, on the newly constructed line in order to reduce wheel/rail wayside noise.

Cultural/ Archaeological Resources

ARRC would develop protocols to inform and prepare construction supervisors of the importance of protecting archaeological resources, graves, and other cultural resources and how to recognize and treat the resources.

Should construction activities unearth any cultural or archaeological resources, construction would be halted in the immediate area, and coordination and consultation would commence with the Knik Tribal Council, MSB Cultural Resources Division and the SHPO. The protocol and contingency plan would outline the appropriate methods of documentation and procedures.

Emergency Response

At least one month prior to initiation of construction activities in the area, ARRC would provide the information described below regarding project-related construction of the new rail line, as well as any additional information, as appropriate, to fire departments and the Local Emergency Planning Commissions (LEPCs) for communities within the project area

- The schedule for construction throughout the project area, including the sequence of construction of public grade crossings and approximate schedule for these activities at each crossing.
- A number for ARRC's contact, who would be available to answer questions or attend meetings for the purpose of informing emergency-service providers about the project construction and operation.
- Revisions to this information, including changes in construction schedule, as appropriate.

Before the start of operations, ARRC would contact the LEPCs to provide them with information concerning the proposed operations to allow the LEPCs to incorporate the information into local response plans.

For each of the public grade crossings on the new and existing rail line, ARRC would provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number would be answered 24 hours per day by ARRC personnel.

Hazardous Materials/ Potential Spills

Prior to initiating any project-related construction activities, ARRC or its contractor(s) would develop a spill prevention plan for petroleum products or other hazardous materials during construction activities. The plan would include a requirement to conduct daily inspections of equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, ARRC would require the contractor(s) to immediately remove the equipment from service and repair or replace it.

Standard spill-prevention measures would be implemented during construction and spill clean-up equipment (e.g., oil-absorbent pads) would be available onsite.

ARRC would incorporate the new rail line into the existing ARRC Emergency Response process and would update its Oil Spill Contingency Plan to include the new rail line.

In accordance with ARRC's Oil Spill Contingency Plan, ARRC would make the required notifications to the appropriate Federal and State environmental agencies in the event of a reportable hazardous materials release. ARRC would work with the appropriate agencies such as the Alaska Department of Environmental Conservation, EPA and USFWS to respond to and remediate releases with the potential to affect sensitive habitats such as wetlands.

ARRC would continue its ongoing efforts with community officials to identify the public emergency response teams located in the project area and would provide, upon request, hazardous material training.

Seismic Considerations

The project would be designed and take into account the region's potential for earthquake activity to mitigate potential damage to bridges and tracks. Separated grade crossings would be designed in accordance with the latest applicable seismic codes.