

APPENDIX M
DRAFT SECTION 4(F) AND SECTION 6(F)
EVALUATION

M. SECTION 4(F) AND SECTION 6(F) EVALUATION

This appendix includes impact analyses for section 4(f) of the U.S. Department of Transportation Act and section 6(f) of the Land and Water Conservation Fund Act.

M.1 Section 4(f) Analysis

The U.S. Department of Transportation (USDOT) regulation known as “section 4(f)” is not applicable to Surface Transportation Board (STB or the Board) actions; however, it is applicable to the proposed Port MacKenzie Rail Extension through the involvement of the Federal Railroad Administration (FRA).¹ The FRA could provide funding for the proposed rail line.

Section 4(f) was originally established in the U.S. Department of Transportation Act of 1966 (49 United States Code [U.S.C.] § 1653(f) and later recodified as 49 U.S.C. § 303. In 2005, Congress enacted legislation that required the USDOT to issue additional regulations that clarify 4(f) standards and procedures (USDOT, 2005). These new regulations were finalized in March 2008, at 23 Code of Federal Regulations (C.F.R.) part 774.² Section 4(f) mandates that the Secretary of Transportation shall not approve any transportation project requiring the use of publicly-owned parks, recreation areas, wildlife and waterfowl refuges, or significant historic sites, regardless of ownership, unless:

- There is no prudent and feasible alternative to using that land.
- The program or project includes all possible planning to minimize harm to the public park, recreation area, wildlife or waterfowl refuge, or significant site, resulting from that use.

To be protected under section 4(f), public parks and recreation facilities must be considered “significant” (USDOT, 2005). Historic sites qualifying for section 4(f) protection must be officially listed on or eligible for inclusion on the *National Register of Historic Places* (National Register), or contribute to a historic district that is eligible for or listed on the National Register.

A “use” of properties protected under section 4(f) occurs under either of the following conditions (23 C.F.R. § 774.17(p)):

- When land from a qualifying 4(f) property is acquired and permanently incorporated into a transportation facility.
- When there is a temporary occupancy of 4(f) land during construction of the transportation facility that is considered adverse to the preservationist purposes of the section 4(f) statute.

In addition, a “constructive use” could occur when no land is acquired from a section 4(f) property, but the proximity of the project results in indirect impacts which would “substantially

¹ The lead agency for the Port MacKenzie Rail Extension is the STB. FRA is a cooperating agency in the National Environmental Policy Act (NEPA) process. Section 4(f) does not apply to the STB, so the FRA acts as lead agency with regard to the section 4(f) analysis.

² 23 C.F.R part 774 is an Federal Highway Administration (FHWA) regulation that does not apply to FRA. FRA follows 49 U.S.C § 303 and uses this FHWA regulation as guidance.

impair” the current use of the property, such as visual, noise, vibration impacts, or impairment of property access.

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2003: A Legacy for Users (SAFETEA-LU), 23 U.S.C. § 138, amended existing section 4(f) legislation to simplify the processing and approval of projects that have only *de minimis* impacts on resources protected by section 4(f). FRA follows statute 49 U.S.C. § 303(d) for *de minimis* findings. A *de minimis* finding refers to a finding that a project would have little or no influence to the activities, features, and/or attributes of the section 4(f) resource. This revision provides that once the USDOT determines that the transportation use of any section 4(f) property would result in a *de minimis* impact on that property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, an analysis of avoidance alternatives is not required and the section 4(f) evaluation process is complete for that resource.

A finding of *de minimis* impact on a historic site may be made when:

- The process required by section 106 of the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. § 470, results in the determination of “no adverse affect” or “no historic properties affected” with the written concurrence of the State Historic Preservation Office (SHPO) or tribal historic preservation officer (and from the Advisory Council on Historic Preservation if the Council is participating in the consultation process).
- The lead agency has considered the view of any consulting parties participating in the section 106 consultation.

Transportation project use of a park, recreation area, or wildlife and waterfowl refuge that qualifies for section 4(f) protection may be determined to be *de minimis* if the following criteria are met:

- The transportation use of the section 4(f) resource, together with any avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under section 4(f).
- The official(s) with jurisdiction over the property are informed of the lead agency’s intent to make the *de minimis* finding based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under section 4(f).
- The public has been afforded an opportunity for review and comment.

Section M.1.d summarizes the section 4(f) uses for proposed rail line segments that could impact section 4(f) resources and includes the No-Action Alternative for comparison.

M.1.a Purpose and Need

The Alaska Railroad Corporation (ARRC or the Applicant) has stated that the purpose of the proposed rail line is to provide rail service to Port MacKenzie and connect the Port with the remainder of the ARRC rail system, providing Port MacKenzie customers and shippers multi-

modal options for movement of freight to and from the Port, similar to that offered by other ports handling large vessels. At present, freight truck is the only available mode of surface transportation for bulk materials and other freight to and from the Port. Because of the economics and efficiencies offered by direct rail service, the Applicant anticipates that bulk commodity movements to and from the Port would likely be by rail if such an option were available. The Applicant states that the proposed rail line would also support its statutory goal to foster and promote long-term economic growth and development in the State of Alaska.

M.1.b Proposed Action and Alternatives

The proposed rail line would involve construction and operation of a single-track rail line from Port MacKenzie to a point on the existing ARRC main line between Wasilla and just north of Willow, Alaska. ARRC proposes to construct and maintain the rail line to FRA Class 4 standards, because of its anticipated average operating speed for commercial freight service (51 mph). The specific commodities to be shipped would be dependent on the Port MacKenzie customers that would choose to use the proposed rail line. The right-of-way (ROW) could contain a power line, utility lines, and an access road. In addition, ARRC would construct one rail line siding within the existing main line ROW at the tie-in location with the proposed rail line. The proposed action consists of a number of physical elements including (see Chapter 2 of this Draft Environmental Impact Statement [EIS]):

- ROW for rail line;
- Rail associated facilities (including towers and sidings);
- Bridges and culverts;
- Access roads; and
- Grade crossings.

Construction activities would include clearing within the ROW, constructing a permanent access road within the ROW, building a suitable rail bed, track construction, acquisition of materials for rail construction (ballast, subballast, large armor rock, and materials for construction of rail ties and rails), creating construction staging areas, temporary bridges, and permanent associated facilities for the rail line. ARRC would also construct a terminal reserve area along the southern terminus of the rail line. This area would eventually consist of yard sidings, storage areas, and a terminal building to support train maintenance. ARRC has proposed 2 terminal reserve areas, but would build only one depending on which alternative the Board authorizes, if any.

ARRC anticipates that construction would take approximately 24 months. The specific timeframe and sequence of construction would depend on funding, final design, and permit conditions, such as requirements to avoid sensitive breeding periods for migratory birds and raptors and when salmon are spawning, incubating, or rearing in specific areas. Wintertime construction activities would be limited due to weather considerations and overall construction timing would be determined in consultation with land managers in consideration of human and environmental factors. The area in the ROW that is cleared of vegetation for construction, but not needed for permanent structures, would be restored to natural conditions, to the extent practicable, consistent with rail line operating requirements.

Train frequency could vary, but ARRC anticipates that traffic on the proposed rail line would average 2 freight trains per day (one in each direction), with an average of 40 to 80 freight cars each.⁴ Train speeds would not exceed 60 miles per hour. ARRC anticipates that average train speeds would be 51 miles per hour. ARRC would conduct periodic maintenance and inspections to ensure operation of a safe and reliable rail line. The primary maintenance activities would include signal testing and inspection; minor rail, tie, and turnout replacement; and routine ballasting and surfacing tasks. Additional activities would be performed on an as-needed basis and would include vegetation control, snow removal, and vehicle and equipment maintenance.

The alternatives discussed in the EIS are the outcome of an extensive alternatives analysis process that began with the 2003 Matanuska-Susitna Borough (MSB) study to identify potential corridors that could be used for both road and rail connections between Port MacKenzie and the existing ARRC main line or George Parks Highway. The 2003 corridor study identified 11 potential alternatives.

From September to December 2007, the MSB and ARRC jointly conducted an analysis based on rail line engineering requirements and available environmental data to re-evaluate the alternatives from the 2003 MSB study and to develop feasible rail line alternatives that could minimize potential impacts to the environment. The analysis considered factors that influence the development of a rail line, such as land management/ownership and human and environmental factors. These included waterbodies, anadromous streams, archaeological and historic properties, native allotments, parks and refuges, wetlands, wetland banks, limiting soils, prison facilities, developed parcels, and land ownership. These factors were translated into a Geographic Information System analysis, whereby they could be used cumulatively to determine 5,000-foot-wide corridors for the possible rail line. Engineers then identified 200-foot-wide zones within these corridors that were both feasible from an engineering standpoint and would best minimize potential impacts.

Members of the public had the opportunity to comment on ARRC's preliminary alternatives at 5 public meetings in October 2007. ARRC held meetings in the communities of Wasilla, Big Lake, Willow, Knik, and Houston, Alaska. ARRC received a total of 361 comments from the public regarding the proposed rail line alternatives. Based on this information, in January 2008, ARRC issued the Preliminary Environmental and Alternatives Report (ARRC 2008), which presented 8 possible alternative configurations. These 8 potential rail line alternatives are different from, although some are similar to, the 11 road/rail line corridors identified in 2003.

The Board's Office of Environmental Analysis (OEA) reviewed the alternative development process during the National Environmental Policy Act (NEPA) scoping period, and requested that the Applicant complete refinements to the alternatives based on public comment and consultation with cooperating agencies. Both OEA and the cooperating agencies utilized the purpose and need factor (as described in Section M.1.a) to review ARRC's initial alternatives. Through this review, OEA and the cooperating agencies selected a reasonable range of

⁴ This estimated level of train traffic, which would be sufficient to fill approximately 13 Panamax class ships per year with bulk materials at Port MacKenzie, was based on market opportunities at the time of filing and the supply based infrastructure and equipment limitations. Based on current market opportunities, ARRC now estimates ship traffic for export of bulk commodities from the Port MacKenzie Rail Terminal would include 5 Panamax class ships per year. Thus, the estimated average of 2 trains per day used in the EIS analysis is conservative.

alternatives to study in detail in the EIS and to eliminate alternatives and segments from detailed study. OEA and the cooperating agencies considered eliminating from detailed study segments that did not meet fundamental components of the purpose and need, would lead to substantially greater adverse environmental impacts, or that featured insurmountable construction and/or operation limitations.

In response to comments on the Draft EIS and additional input from the Applicant, this Final EIS includes analysis of a variant to the Mac East Segment. The Mac East Variant Segment would use the same terminal reserve area as the Mac East Segment, but would be located to the west of the Mac East Segment and traverse the Point MacKenzie Agricultural Project along a section line. The addition of this segment also involved the creation of 2 new connector segments – Connector 2a, to connect with the Big Lake Segment, and Connector 3 Variant, to connect with the Willow and Houston segments. A summary of the alternative development process and alternatives analyzed and eliminated from consideration is available in Chapter 2 of this Final EIS. There is no option for the Board to authorize an individual segment;⁵ the Board would only authorize a complete route from Port MacKenzie to ARRC's main line, which would be comprised of a combination of the segments under consideration.

M.1.c Section 4(f) Property Description

A publicly-owned park, recreation area, or wildlife and waterfowl refuge must have national, state, or local significance for section 4(f) to apply. Historic sites must be officially listed on or eligible for inclusion on the National Register or contribute to a historic district that is eligible for or listed on the National Register qualify for section 4(f) protection. OEA, on behalf of FRA, consulted with the agencies with jurisdiction over the section 4(f) resources. These agencies have commented on the significance of the section 4(f) resources that would be crossed by the proposed rail line segments. This section describes OEA's preliminary determination of section 4(f) properties that are located within the project area. Figures M-1 through Figure M-3 show these resources and the proposed rail line segments analyzed in detail in this Final EIS. The resources discussed in M.1.c.1 and M.1.c.2 are considered to qualify for protection under section 4(f) because their primary purpose is for recreation and they are publicly accessible through public easements or public ownership, or both. The resources discussed in M.1.c.3 are considered to qualify for protection under section 4(f) because they are contributing features of a historic district that is eligible for inclusion on the National Register.

⁵ An alternative consists of a combination of segments from Port MacKenzie to the ARRC main line. ARRC identified segments and alternatives. Alternatives that OEA and the cooperating agencies selected for analysis in detail in the EIS are referred to as alternatives.

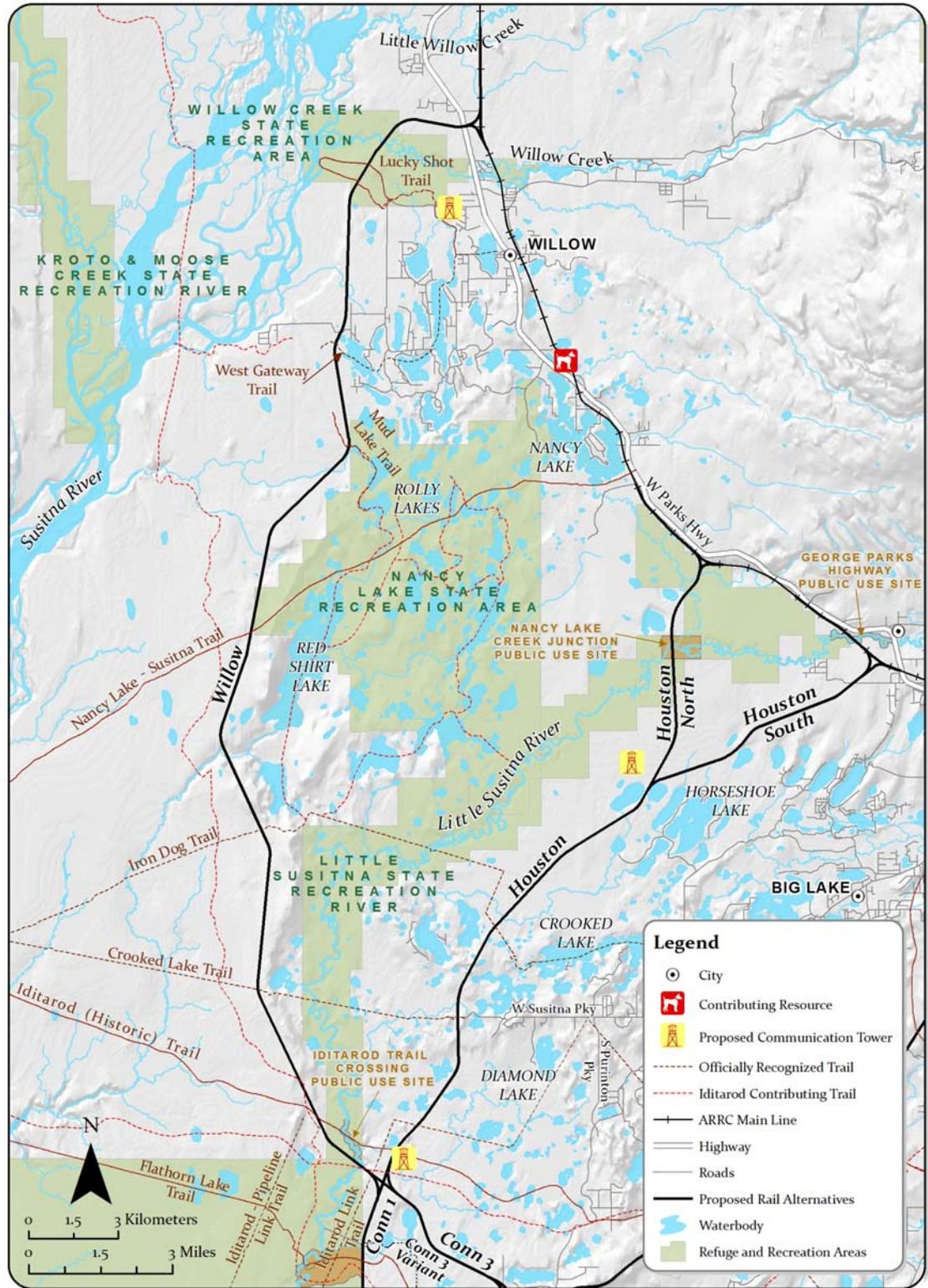


Figure M-1. Section 4(f) Resources along the Willow, Houston, Houston North, and Houston South Segments

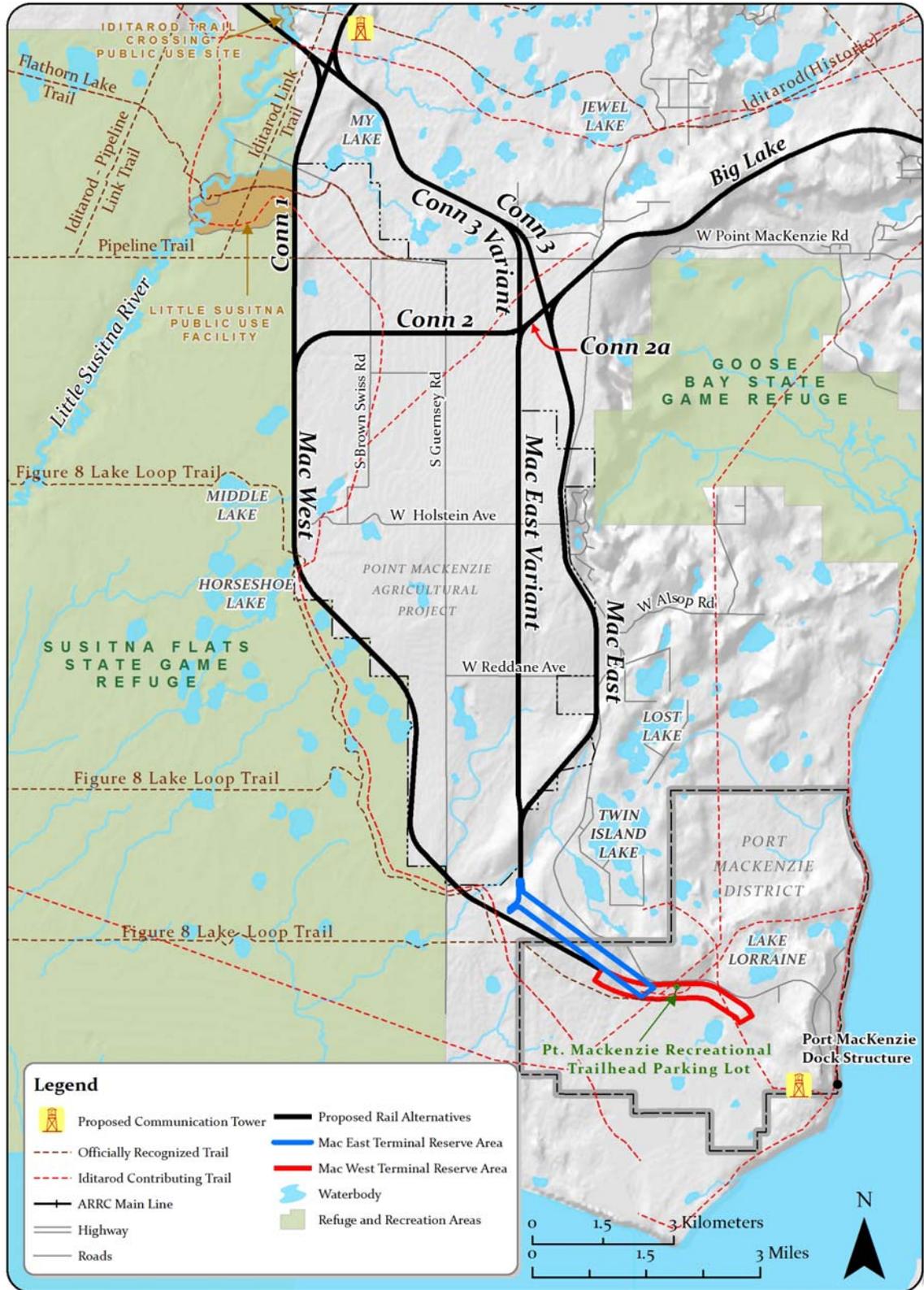


Figure M-2. Section 4(f) Resources along the Mac East, Mac West, and Connector Segments

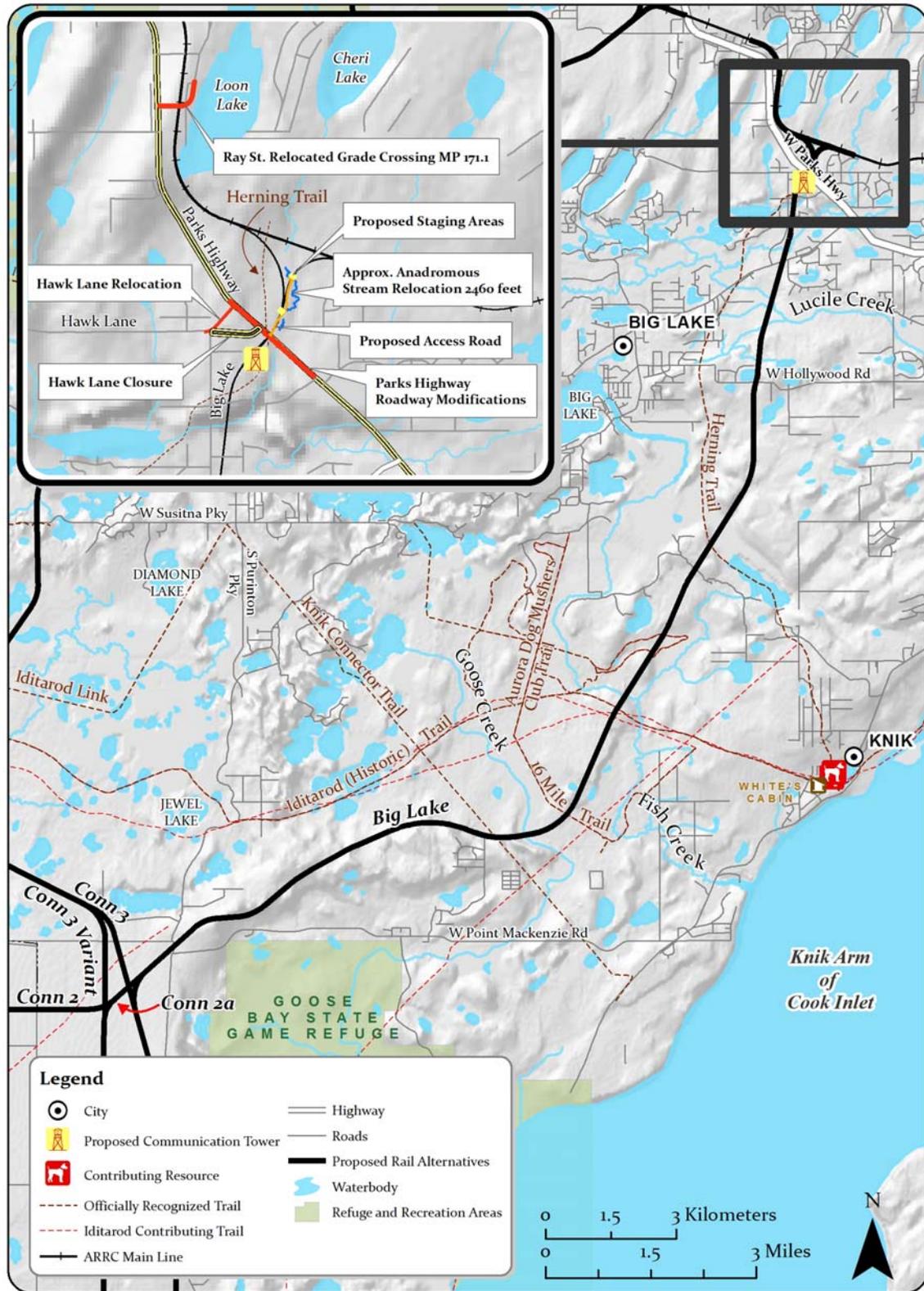


Figure M-3. Section 4(f) Resources along the Big Lake Segment

M.1.c.1 Parks and Recreation Areas

Three state recreation areas, a trailhead and parking lot, and 13 trails located within the project area are considered to qualify as section 4(f) resources as significant recreation resources that are publicly-owned and meet the criteria listed in M.1 above. These 13 trails also are considered to be *officially recognized* trails as defined in Section 13.2 of this Final EIS.⁶ In some cases, there are additional trails located within other section 4(f) properties in the project area. These trails are not discussed separately as individual 4(f) resources, instead, they are considered in this evaluation as a component of another section 4(f) property. In addition to these 13 trails, there are 6 additional trails that have been identified as contributing features of the *Iditarod Dog Sledding Historic District/Historical Vernacular Landscape*. Contributing trails are identified and discussed in M.1.c.3.

Little Susitna State Recreation River

Size and Location

The Little Susitna State Recreation River is located between the northeast corner of the Susitna Flats State Game Refuge and the City of Houston (see Figure M-1). The area includes the Little Susitna River and a corridor bordering the river (the corridor ranges from 0.5 mile to more than 2 miles wide in some sections). The area would be crossed by the Willow and Houston North segments. The Houston South Segment would cross the Little Susitna River on a new bridge to be constructed within the existing railroad main line ROW, adjacent to the existing main line rail bridge and the Little Susitna State Recreation River.

Ownership⁷ and Type of Section 4(f) Property

The Little Susitna State Recreation River is publicly-owned and managed by Alaska Department of Natural Resources (ADNR). The Little Susitna State Recreation River is a publicly-owned recreational area and therefore qualifies as a section 4(f) resource. Crossing the Little Susitna State Recreation River would require land conversion and conveyance to ARRC, which would constitute a use of a section 4(f) property.

Function of the Property and Available Activities

The Little Susitna State Recreation River functions as 1 of 6 designated “state recreation rivers” in the Susitna River Basin. The Little Susitna River offers public recreation opportunities, most notably boating, camping, fishing, hiking, and all-terrain vehicle use on trails along the banks of the river. The river is home to the second largest coho salmon harvest in Alaska (ADF&G 2004). The Little Susitna River is estimated to receive between 2,000 and 3,000 float trips per

⁶ An *officially recognized* trail is defined as a trail that has been specifically established within currently adopted plans by the ADNR and/or MSB, or is established within an ADNR or MSB plan at the time of rail line construction or rail line ROW acquisition by the Applicant (whichever occurs first). In addition, officially recognized trails listed in this Appendix and in this Final EIS are used primarily for recreational activities. In some cases, trails may be adopted by and mapped in a recognized trails plan, but an easement or recorded ROW instrument may not exist. Such trails would meet the definition of *officially recognized* because of their inclusion in a trails plan. Conversely, the presence of a recorded easement or ROW alone is not a sufficient condition to meet the criteria for *officially recognized* trails.

⁷ “Ownership” refers to the current owner of the property.

year, not counting motorized trips (ADNR 2007). The area is used for camping, with approximately 69 undeveloped campsites scattered throughout the corridor (ADNR 1991).

The river area also includes several “public use sites,” areas identified for public access, fishing, camping, or other recreation or public use. Three of these sites within the Little Susitna State Recreation River are of particular note due to proximity to potential rail crossings. The George Parks Highway Bridge Public Use Site is located downstream from the Parks Highway crossing of the Little Susitna River, and receives heavy use due to its easy accessibility. It is used for bank fishing, day use, and launching float boats. The Nancy Lake Creek Junction Public Use Site, another camping and fishing area, is located at the creek’s confluence with the Little Susitna River, approximately 4.5 miles west of the City of Houston. It would be potentially crossed by the Houston North Segment. The Iditarod Trail Crossing Public Use Site, located along the river immediately north of the point where the Willow Segment is proposed to cross, is a camping area.

Description of Existing and Planned Uses

The Little Susitna State Recreation River is managed to maintain multiple resources as described in the Susitna Basin Recreation Rivers Management Plan (ADNR 1991). However, the Recreation Rivers Act (Alaska Stat. § 41.23.500) states that the primary purpose for the establishment of the 6 recreation rivers is the maintenance and enhancement of the land and water for recreation. The Susitna Basin Recreational Rivers Management Plan identifies a Special Management Area where the MSB has indicated interest in the extension of South Big Lake Road/West Susitna Parkway to cross the Little Susitna River and provide access to lands to the west. This is part of the West Mat-Su Access Project to provide access to the Fish Creek Management Area. Three crossing locations are being studied by the MSB: the extension of the Susitna Parkway in the Big Lake area, a location approximately 0.8 mile north of where the Iditarod National Historic Trail crosses the river, and near the existing Little Susitna River access at the end of Ayrshire Road (MSB 2007). South Big Lake Road/West Susitna Parkway currently extends to within approximately 1.4 miles of the Little Susitna River, at present, terminating south of West Papoose Lake, while Ayrshire Road presently terminates at its junction with the Little Susitna Public Use Facility access road, approximately 1.5 miles east of the Little Susitna River.

Access

Access is available from the river mouth on the Cook Inlet by way of boat, at the Little Susitna Public Use Facility just south of the recreation river area, from Nancy Lake State Recreation Area via a portage trail at the Skeetna Lake Portage Public Use Facility, from the Miller’s Reach Road access and boat launch, and from Parks Highway where it crosses the Little Susitna River.

Relationship to other Similarly Used Lands in the Vicinity

Nearby facilities offering similar activities include the Nancy Lake State Recreation Area, the Willow Creek State Recreation Area, the Susitna Flats State Game Refuge, the Big Lake North and South state recreation sites, a City of Houston campground along the Little Susitna River north of Parks Highway, and numerous lakes and rivers throughout the project area. Willow

Creek, located within the Willow Creek State Recreation Area, is another sport fishing river with a large annual salmon harvest. The other 5 state recreation rivers outlined in the Susitna Basin Recreation Rivers Management Plan are also within relative proximity, though none are as easily accessible as the Little Susitna River.

Applicable Clauses Affecting the Ownership

The ADNR is bound by state law to provide access to and along public and navigable waterbodies (Alaska Stat. § 38.05.127 and Alaska Admin. Code 11 § 51.045, respectively) prior to granting a lease or conveying land. ADNR Regulation (Alaska Admin. Code 11 § 51.025) establishes that ADNR will reserve a 50- to 100-foot⁸ public easement along section lines before selling, leasing, or otherwise disposing of the surveyed land estate, unless and until it is vacated under Alaska Admin. Code 11 § 51.065. Section line easements leading to public or navigable water are not to be vacated.

Nancy Lake State Recreation Area

Size and Location

The Nancy Lake State Recreation Area is a 22,685-acre facility located west of Parks Highway and the City of Houston and south of the community of Willow. As illustrated in Figure M-1 and Figure M-4, the Willow Segment would cross through a small corner of the western-most segment of the Recreation Area near Red Shirt Lake.

Ownership and Type of Section 4(f) Property

The Nancy Lake State Recreation Area is publicly-owned and managed by ADNR. Because the Nancy Lake State Recreation Area is a publicly-owned recreation area, it qualifies as a section 4(f) resource. Crossing the Recreation Area with the proposed rail line would constitute a use of a section 4(f) property.

Function of the Property and Available Activities

The Recreation Area is characterized by interconnected lakes and rolling landscapes. Some of the recreation activities available include canoeing, picnicking, fishing, hiking, camping, dog sledding, skiing, snowshoeing, and snowmachining. Nancy Lake currently receives approximately 40,000 visitors per year, with the highest use in the summer (ADNR 2007).

Description of Existing and Planned Uses

The Nancy Lake State Recreation Area is a destination for outdoor recreation activities. The main objective identified within the Nancy Lake State Recreation Area Management Plan is “to provide a maximum level of outdoor recreation opportunities as long as the intensity of modification does not diminish the unit’s natural and cultural values” (ADNR 1983). ADNR has initiated a revision to the Management Plan, written in 1983 (ADNR 2008a). The intent of the

⁸ Width of the easement depends on whether the section line forms the boundary of the land being disposed (50-foot easement) or whether it runs through the land being disposed (100-foot easement).

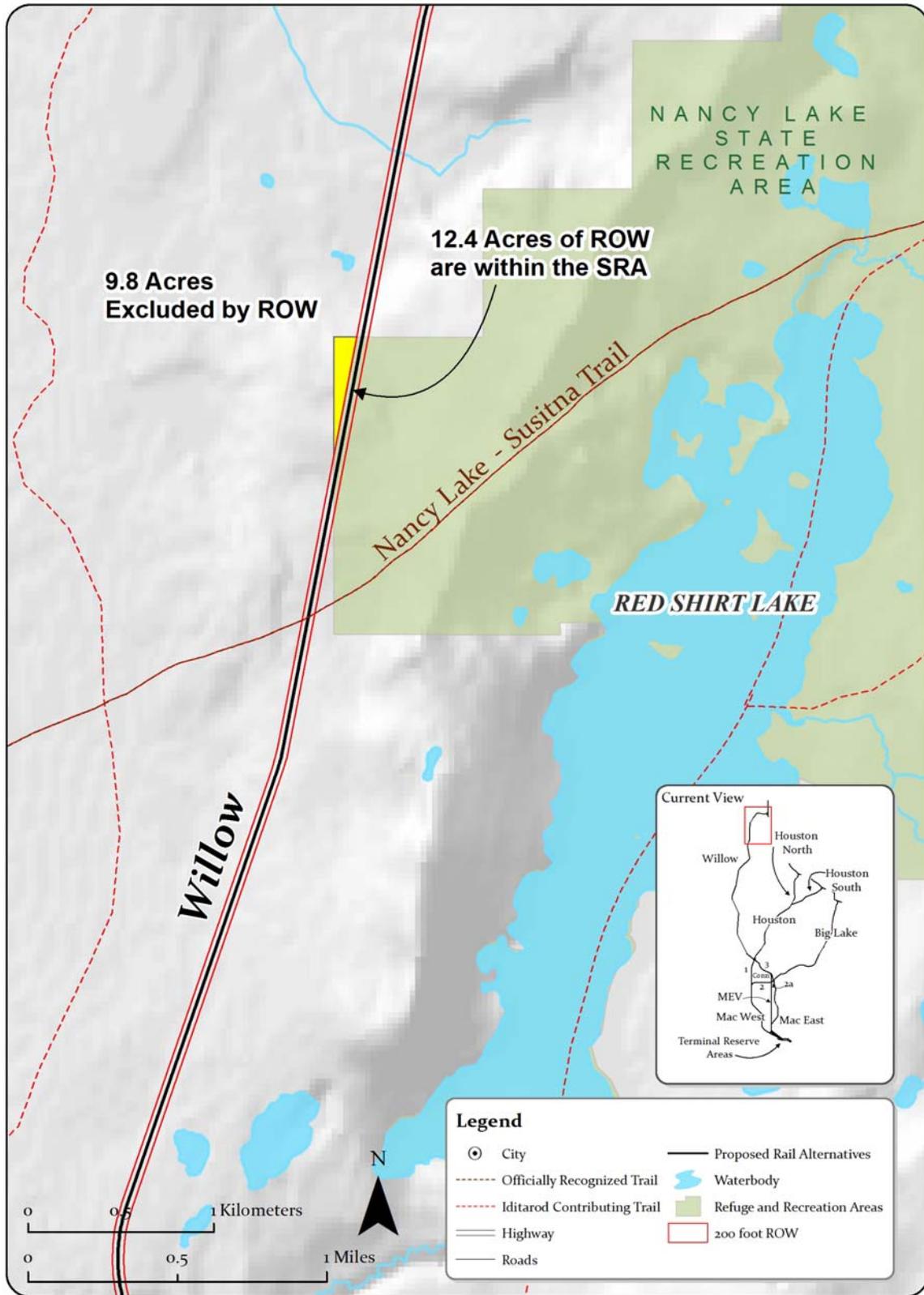


Figure M-4. Section 4(f) and 6(f) Resources

revision is to address the higher volume of users the park accommodates today versus when the management plan was drafted.

Access

Access is available directly off Parks Highway south of the community of Willow, via Nancy Lake Access Road. Access is also available from the Nancy Lake – Susitna Trailhead located at mile 67 of Parks Highway. The Little Susitna State Recreation River is located adjacent to the southeast portion of the Nancy Lake State Recreation Area, and canoeists can portage from the river to Nancy Lake to utilize the water trail system within the Recreation Area. The park is also accessible via numerous land and water trails.

Relationship to other Similarly Used Lands in the Vicinity

Nearby facilities offering similar activities include the Little Susitna State Recreation River, the Willow Creek State Recreation Area, the Susitna Flats State Game Refuge, the Big Lake North and South state recreation sites, a City of Houston campground along the Little Susitna River north of Parks Highway, and numerous lakes and rivers throughout the project area.

Applicable Clauses Affecting the Ownership

The ADNR is bound by state law to provide access to and along public and navigable waterbodies (Alaska Stat. § 38.05.127 and Alaska Admin. Code 11 § 51.045, respectively) prior to granting a lease or conveying land. ADNR Regulation (Alaska Admin. Code 11 § 51.025) establishes that ADNR will reserve a 50- to 100-foot public easement along section lines before selling, leasing, or otherwise disposing of the surveyed land estate, unless and until it is vacated under Alaska Admin. Code 11 § 51.065. Section line easements leading to public or navigable water are not to be vacated. The Nancy Lake State Recreation Area has received funding under the Land and Water Conservation Fund Act, 16 U.S.C. §§ 4601-4. Areas that have received such funds may not be converted to non-recreational uses without a determination by the Secretary of the Interior that the conversion is in accordance with the statewide outdoor recreation plan, and that non-recreation land of at least equal fair market value, usefulness, and location has been substituted for the land to be converted (see M.2 for the section 6(f) evaluation).

Willow Creek State Recreation Area

Size and Location

The Willow Creek State Recreation Area is an approximately 3,000-acre facility located northwest of the community of Willow. The majority of the Recreation Area is located west of Parks Highway, though a small part of the area is located east of the highway (see Figure M-1). As shown in Figure M-1, the Willow Segment would cross through approximately the center of the recreation area.

Ownership and Type of Section 4(f) Property

The Willow Creek State Recreation Area is publicly-owned and managed by ADNR. The Recreation Area is a publicly-owned recreational area and therefore qualifies as a section 4(f) resource. Crossing the Recreation Area would require land conversion and conveyance to ARRC, which would constitute a use of a section 4(f) property.

Function of the Property and Available Activities

The Recreation Area encompasses almost all of Willow Creek, from Parks Highway to its confluence with the Susitna River. Willow Creek is a site for sport fishing activity, especially during the king salmon season. Recreational activities available in the area include fishing, camping, floating/boating, hiking along winter trails, wildlife viewing, and hunting. Willow Creek receives approximately 42,000 visitors per year, with the majority of visits occurring during non-winter months. Winter usage focuses primarily on trail use (ADNR 2007).

The Lucky Shot Trail, which is located within the Willow Creek State Recreation Area, would be crossed by the Willow Segment. This trail is part of the West Gateway Trail System and is characterized as a multi-use winter trail intended to provide high quality recreational facilities to the public. Where the Willow Segment would cross the trail, the land is state-owned and managed by the ADNR. The trail supports mainly winter recreation activities including snowmachining, dog sledding, skijoring, and skiing. The trail is one of the oldest in the West Gateway Trails System and was originally cleared for freighting from the Hatcher Pass mines to the Susitna River approximately 100 years ago.

Description of Existing and Planned Uses

The Willow Creek State Recreation Area is a destination for outdoor recreation activities. No other planned uses are known at this time.

Access

Access is available directly off Parks Highway north of the community of Willow, via Willow Creek Parkway and Willow Fishhook Road. The Recreation Area is also accessible via numerous land trails including the West Gateway Trail System and Lucky Shot Trail and by water via the Willow Creek and Little Susitna River.

Relationship to other Similarly Used Lands in the Vicinity

Nearby facilities offering similar activities include the Little Susitna State Recreation River, Nancy Lake State Recreation Area, Susitna Flats State Game Refuge, Big Lake North and South state recreation sites, City of Houston campground along the Little Susitna River north of Parks Highway, and numerous lakes and rivers throughout the project area. The Little Susitna River is another easily accessible river that provides very high-quality salmon fishing, and 5 other state recreation rivers are in relatively close proximity.

Applicable Clauses Affecting the Ownership

The ADNR is bound by state law to provide access to and along public and navigable waterbodies (Alaska Stat. § 38.05.127 and Alaska Admin. Code 11 § 51.045, respectively) prior to granting a lease or conveying land. ADNR Regulation (Alaska Admin. Code 11 § 51.025) establishes that the ADNR will reserve a 50- to 100-foot public easement along section lines before selling, leasing, or otherwise disposing of the surveyed land estate, unless and until it is vacated under Alaska Admin. Code 11 § 51.065. Section line easements leading to public or navigable water are not to be vacated.

West Gateway Trail

Size and Location

The West Gateway Trail⁹ is located west of Parks Highway between the Willow Creek and Nancy Lake state recreation areas. The 5.9-mile-long West Gateway Trail is part of a network of trails that collectively total tens of miles. As illustrated in Figure M-1, the trail would be crossed by the Willow Segment.

Ownership and Type of Section 4(f) Property

| The MSB maintains a trail ROW at the location where the Willow Segment would cross the West Gateway Trail. The trail is included in the MSB Recreational Trails Plan (MSB 2008, as amended) and the Willow Area Trail Plan (Willow Area Community Organization 2006). The trail is considered a section 4(f) resource because its primary purpose is recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property where the trails are located on accessible public lands.

Function of the Property and Available Activities

The West Gateway Trail provides access from Parks Highway across Willow Lake to the larger West Gateway Trails System further west. The trails are meant to provide recreational opportunities to the public. The trails support mainly winter recreation activities, including snowmachining, dog sledding, skiing, and skijoring. The trails are used for competitions including the Klondike 400 and Aurora 200 snowmachine races, the Junior Iditarod, the Don Bowers 200/300 sled dog race, Klondike 300 sled dog race, and the Earl Norris Open Sled Dog Race (Willow Area Community Organization 2006). In recent years, the Iditarod Trail Sled Dog Race has used the West Gateway Trail for its official start location.

Description of Existing and Planned Uses

| The West Gateway Trail is a recreation resource within the community of Willow. The West Gateway Trail is an officially recognized trail with an easement reserved to the state (ADL 229107-A), which was acquired by the MSB. The trail is located on frozen lakes, sloughs, swamps, and overland.

| ⁹ The West Gateway Trail is part of a larger grouping of trails known as the “West Gateway Trails System.” The West Gateway Trail System is outlined in the Willow Area Trail Plan (Willow Area Community Organization 2006).

Access

Access is available from Willow Lake, just west of Parks Highway and south of the Willow Creek State Recreation Area.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including other trails of the West Gateway Trails System. Nearby, the Willow and Nancy Lake state recreation areas have many miles of trails within their park boundaries, and many other trails crisscross the project area. South of Big Lake, the Aurora Dog Musers Club Trail System serves a similar purpose as the West Gateway System; both are maintained loop trails that are suitable for dog sledding, racing, and training.

Applicable Clauses Affecting the Ownership

The West Gateway Trail is officially recognized with an easement held by the MSB where it would be crossed by the proposed rail line.

Mud Lake Trail

Size and Location

The Mud Lake Trail is a 2.8-mile-long multi-use winter trail located near the northwest corner of the Nancy Lake State Recreation Area, and trending northwest to southeast. It is part of the West Gateway Trail System and, as depicted in Figure M-1, the trail would be crossed by the Willow Segment near the northwest corner of the Nancy Lake State Recreation Area.

Ownership and Type of Section 4(f) Property

The Mud Lake Trail is publicly-owned and has been identified in the MSB Recreational Trails Plan (MSB 2008, as amended). Where the Willow Segment would intersect the trail, the land is owned by the state and managed by ADNR. The trail is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The Mud Lake Trail is a multi-use winter trail, and provides access between the Nancy Lake State Recreation Area and the West Gateway Trail System. Available activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Mud Lake Trail is part of a major recreational trail system within the community of Willow. The Mud Lake Trail is an officially recognized trail with an easement held by the state (ADL 229107-D). No planned uses are known at this time.

Access

Access is available from the trails within the Nancy Lake State Recreation Area and via the West Gateway Trail System trailhead near Parks Highway.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the West Gateway Trails System, Nancy Lake State Recreation Area trails, and Iron Dog and Crooked Lake trails to the south.

Applicable Clauses Affecting the Ownership

The Mud Lake Trail is an officially recognized trail with an easement held by the state (ADL 229107-D) where it would be crossed by the proposed rail line.

Nancy Lake – Susitna Trail

Size and Location

The Nancy Lake – Susitna Trail is a 26-mile multi-use winter trail located in and southwest of the Nancy Lake State Recreation Area (see Figure M-1). It begins at the Nancy Lake – Susitna Trailhead at mile 67 of Parks Highway. From there, it trends west-southwest past the south shore of Nancy Lake to Susitna Landing. The trail would be crossed by the Willow Segment west of Red Shirt Lake.

Ownership and Type of Section 4(f) Property

The Nancy Lake – Susitna Trail is owned by the state and managed by the ADNR at the location where it would be crossed by the Willow Segment. The trail is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The Nancy Lake – Susitna Trail is a multi-use winter trail, and provides access from Parks Highway to the Nancy Lake State Recreation Area and the Susitna River. Through connecting trails, the Nancy Lake – Susitna Trail can be used to access the Little Susitna State Recreation River.

Description of Existing and Planned Uses

The Nancy Lake – Susitna Trail is an officially recognized trail with an easement owned by the state (RST 149). No planned uses are known at this time.

Access

Access to the Nancy Lake – Susitna Trail is available from the trailhead at mile 67 of Parks Highway, from the Susitna River, and from the trails within the Nancy Lake State Recreation Area.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the trails found within the Nancy Lake State Recreation Area and Little Susitna State Recreation River, as well as the Iron Dog Trail and Iditarod National Historic Trail (INHT).

Applicable Clauses Affecting the Ownership

The Nancy Lake – Susitna Trail is an officially recognized trail with an easement held by the state (RST 149) where it would be crossed by the proposed rail line.

Iron Dog Trail

Size and Location

The Iron Dog Trail is a 16.9-mile multi-use winter trail located south of the Nancy Lake State Recreation Area and trending generally east to west, connecting the Big Lake area with the Susitna River (see Figure M-1). The trail would be crossed by the Willow Segment south of Cow Lake.

Ownership and Type of Section 4(f) Property

The Iron Dog Trail is publicly-owned and managed by the MSB at the location where the Willow Segment would cross the trail. It has also been identified in the MSB Recreational Trails Plan (MSB, 2008 as amended). The trail is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The Iron Dog Trail is a multi-use winter trail, and provides access between the Big Lake area and the Susitna River. Available activities are similar to those described for the Lucky Shot Trail. In addition, this trail hosts the annual Iron Dog Snowmobile Race, the longest such race in the world.

Description of Existing and Planned Uses

The Iron Dog Trail is part of a recreational trail system that supports a variety of winter sports in the MSB. The Iron Dog Trail is an officially recognized trail with easements held by the state, Division of Parks and Outdoor Recreation (ADL 227832-B), and the MSB. No planned uses are known at this time.

Access

Access is available from Flat Lake just west of Big Lake, and from the Crooked Lake Trail, which is accessible via Crooked Lake and South Big Lake Road/Papoose Twins Road.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the Crooked Lake Trail, Nancy Lake – Susitna Trail, other trails in the Nancy Lake State Recreation Area, and INHT. Many unrecorded and/or unofficial trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The Iron Dog Trail is an officially recognized trail with an easement held by the MSB where it would be crossed by the proposed rail line.

Crooked Lake Trail

Size and Location

The Crooked Lake Trail is a multi-use winter trail located west of the Big Lake area, generally trending east-west. As illustrated in Figure M-1, the trail would be crossed by the Willow Segment southwest of Hock Lake and by the Houston Segment southwest of Crooked Lake.

Ownership and Type of Section 4(f) Property

The 10.2-mile Crooked Lake Trail has been identified in the MSB Recreational Trails Plan (MSB, 2008 as amended) and is located on land owned by the MSB where the Willow Segment would cross the trail. Because its primary purpose is for recreation and it provides access to other publicly-owned recreation areas, the trail is considered a section 4(f) resource and crossing the trail would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The Crooked Lake Trail is a multi-use winter trail and provides access between the Big Lake area and the Susitna River. Available activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Crooked Lake Trail is part of a recreational trail system that supports a variety of winter sports in the MSB. The Crooked Lake Trail is an officially recognized trail with an easement held by the MSB (ADL 227921). Land management for this area is governed by the Fish Creek Management Plan (ADNR, 1984 as amended), which describes the MSB's intention to provide increased access and development opportunities for this area. A Draft Fish Creek Management Plan revision is currently under consideration by the MSB and ADNR.

Access

Access is available from roadside parking off of West Papoose Twins Road, west of the Big Lake area, and also from the Iron Dog Trail by way of the Flat Lake Connector Trail.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the Iron Dog Trail, Nancy Lake State Recreation Area trails, INHT, Flathorn Lake Trail, and Pipeline Trail. Many unrecorded and/or unofficial trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The Crooked Lake Trail is an officially recognized trail with an easement held by the MSB where it would be crossed by the proposed rail line.

Iditarod Link Trail

Size and Location

The Iditarod Link Trail is a 2.4-mile multi-use winter trail that follows a seismic line connecting the INHT and Flathorn Lake Trail, trending northeast-southwest (see Figure M-1). It is located north of Little Susitna Public Use Facility Access Road, just east of the Little Susitna River (see Figure M-2). The trail would be crossed by the Willow Segment or the Connector 1 Segment near where the 2 segments join northwest of My Lake.

Ownership and Type of Section 4(f) Property

The Iditarod Link Trail is publicly-owned and managed by the MSB where it would be crossed by the Willow Segment or the Connector 1 Segment. It has been identified in the MSB Recreational Trails Plan (MSB 2008, as amended). The trail is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The Iditarod Link Trail is a multi-use winter trail, and provides access between the INHT and the Flathorn Lake Trail. Available activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Iditarod Link Trail is part of a recreational trail system that supports a variety of winter sports in the MSB. The Iditarod Link Trail is an officially recognized trail with easements held by the MSB and the state (ADL 229108-G). The MSB collects trail fees at a maintained trailhead north of Ayrshire Road, approximately 2 miles southwest of the point where the trail would be crossed by the Willow Segment or the Connector 1 Segment.

Access

Access is available from a roadside parking area owned, operated, and maintained by the MSB, via the Little Susitna Public Use Facility Access Road, and via the Iditarod and Flathorn Lake trails (the Flathorn Lake Trail collocates with the Public Use Facility Access Road).

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the Iron Dog Trail, INHT, Flathorn Lake Trail, and Pipeline Trail. Many unofficial and/or unrecorded trails also exist throughout this area, including non-designated trails within the Little Susitna State Recreation River and the Susitna Flats State Game Refuge.

Applicable Clauses Affecting the Ownership

The Iditarod Link Trail is an officially recognized trail with an easement held by the MSB where it would be crossed by the proposed rail line.

Figure 8 Lake Loop Trail

Size and Location

The Figure 8 Lake Loop Trail is a 63.3-mile multi-use winter trail system originating near the Port MacKenzie area, and tracking to the west through the Susitna Flats State Game Refuge to the Susitna River (see Figure M-2). The trail would be crossed 4 times by the Mac West Segment. There would be 2 crossings at a bend of the trail where it passes by the northeast branch of Horseshoe Lake. The remaining 2 crossings would occur at another bend in the trail – one just east of and one just west of an unidentified stream at Mile Post 4.6 along the rail alignment. The trail would also be crossed by the Mac West Terminal Reserve.

Ownership and Type of Section 4(f) Property

The Figure 8 Lake Loop Trail is owned by the MSB, private landowners, and unknown landowners where the Mac West Segment crossings would occur, and by the MSB where the Mac West Terminal Reserve would overlap with the trail. The trail has been identified in the MSB Recreational Trails Plan (MSB 2008, as amended). The trail is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trail would be considered a use of a section 4(f) property where the trails are located on accessible public lands.

Function of the Property and Available Activities

The Figure 8 Lake Loop is a multi-use winter trail system. Available activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Figure 8 Lake Loop is part of a recreational trail system that supports a variety of winter sports in the MSB. The Figure 8 Lake Loop Trail does not have a recorded easement, but has been identified in the MSB Recreational Trails Plan (MSB, 2008 as amended). In addition, the MSB owns and maintains a public parking area at the trailhead, just south of Point MacKenzie Road near the southern terminus of the proposed project.

Access

Parking is available at a trailhead parking lot owned and maintained by the MSB, located south of Point MacKenzie Road near the southern terminus of the proposed project. Access is also available from the Little Susitna River, various non-designated trails throughout the area, and many trails within the Susitna Flats State Game Refuge.

Relationship to other Similarly Used Lands in the Vicinity

Although many trails exist to the north, as described here, the Point MacKenzie area has no officially recognized or recorded designated trails south of the Pipeline Trail. The Point MacKenzie area has numerous non-designated trails that are easily discernable from aerial photographs.

Applicable Clauses Affecting the Ownership

The Borough's Recreational Trails Plan (MSB, 2008 as amended) recommends the survey and acquisition of a recreational trails easement for the Figure 8 Lake Loop Trail. Therefore, the Figure 8 Lake Loop Trail meets the definition of an officially recognized trail by the MSB.

Point MacKenzie Recreational Trailhead Parking Area

Size and Location

The trailhead and associated parking area is south of Point MacKenzie Road, approximately one mile from the southern terminus of the proposed project (see Figure M-2). It is approximately 1 acre in size. The parking area would be crossed by and be within the terminal reserve area of the Mac West Segment.

Ownership and Type of Section 4(f) Property

The parking area is owned by the MSB at the crossing point. The trail has been identified and is associated with the Figure 8 Lake Loop Trail in the MSB Recreational Trails Plan (MSB, 2008 as amended). Construction of the Mac West Segment would require the conveyance of parking area land to ARRC and the conversion of the land to a different use. This would be considered a use of a section 4(f) property.

Function of the Property and Available Activities

The parking area is a main access point to the trailhead for individuals using the Figure 8 Lake Loop Trail, as well as numerous non-designated, unofficial, or unrecorded trails in the Point MacKenzie area.

Description of Existing and Planned Uses

The parking area is intended to provide recreational access to the public and is part of a major recreational trail system that supports a variety of winter sports in the MSB. No planned uses are known at this time.

Access

The parking area is directly accessible via Point MacKenzie Road.

Relationship to other Similarly Used Lands in the Vicinity

The MSB owns and maintains another trailhead parking area north of Ayrshire Road. The ADNR manages the Little Susitna Public Use Facility within the northeast region of the Susitna Flats State Game Refuge, where parking is also available for trail users.

Applicable Clauses Affecting the Ownership

No applicable clauses are known at this time.

Flathorn Lake Trail

Size and Location

The Flathorn Lake Trail is a 20-mile, multi-use winter trail that follows the Little Susitna Public Use Facility Access Road toward the Little Susitna River, before continuing west to Flathorn Lake (see Figure M-1 and Figure M-2). The trail would be crossed by the Connector 1 Segment at the Susitna Flats State Game Refuge boundary, where the trail collocates with the Public Use Facility Access Road.

Ownership and Type of Section 4(f) Property

The point where the Flathorn Lake Trail would be crossed by the Connector 1 Segment is publicly-owned and managed by the ADNR. The trail has been identified in the MSB Recreational Trails Plan (MSB, 2008 as amended). Crossing the trail would be considered a use of a section 4(f) property where the trail is located on public land that is accessible to the public.

Function of the Property and Available Activities

The Flathorn Lake Trail is a multi-use winter trail. Available activities are similar to those described for the Lucky Shot Trail. This trail is also used for the annual Iron Dog Snowmobile Race.

Description of Existing and Planned Uses

The Flathorn Lake Trail is part of a recreational trail system that supports a variety of winter sports in the MSB. The trail has a recorded easement reserved to the state and the MSB (ADL 229108-B).

Access

Access is available from Ayrshire Road/Little Susitna Public Use Facility Access Road, as well as the Iditarod-Pipeline Link Trail, Iditarod Link Trail, Pipeline Trail, Little Susitna River, Susitna River, and numerous non-designated trails throughout the area.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the INHT, Iditarod Link Trail, Iditarod-Pipeline Link Trail, Pipeline Trail, and trails within the Little Susitna State Recreation River. Many unofficial and/or unrecorded trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The Flathorn Lake Trail is an officially recognized trail with an easement held by the state (ADL 229108-B) where it would be crossed by the proposed rail line.

Pipeline Trail

Size and Location

The Pipeline Trail is a 16.1-mile multi-use winter trail that follows a large gas pipeline corridor toward the Susitna River from the Point MacKenzie area. As illustrated in Figure M-2, it leads directly west from Ayrshire Road and crosses into the Susitna Flats State Game Refuge. The trail potentially would be crossed by the Connector 1 Segment at the Susitna Flats State Game Refuge boundary, approximately 2 miles west of Guernsey Road.

Ownership and Type of Section 4(f) Property

The Pipeline Trail is publicly-owned and managed by the ADNR at the crossing point. The trail has been identified in the MSB Recreational Trails Plan (MSB 2008, as amended). Crossing the trail would be considered a use of a section 4(f) property where the trails are located on accessible public lands.

Function of the Property and Available Activities

The Pipeline Trail is a multi-use winter trail, and provides access to the Point MacKenzie area and the Susitna River. It is one of the main access points into the Susitna Flats State Game Refuge. Available activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Pipeline Trail is part of a major recreational trail system that supports a variety of winter sports in the MSB.

Access

Access is available from Ayrshire Road, the Flathorn Lake Trail, the Iditarod-Pipeline Link Trail, the Little Susitna River, the Susitna River, and other non-designated trails throughout the area.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the INHT, Flathorn Lake Trail, Iditarod-Pipeline Link Trail, Iditarod Link Trail, and trails within the Little Susitna State Recreation River and the

Susitna Flats State Game Refuge areas. Many unofficial and/or unrecorded trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The Pipeline Trail is an officially recognized trail with an easement held by the state (ADL 229108-A) where it would be crossed by the proposed rail line.

Knik Connector Trail

Size and Location

The Knik Connector Trail (also known as Big Lake Trail #13) is a multi-use winter trail that begins at a location on Susitna Parkway approximately 0.1 mile west of the intersection with S. Purinton Parkway, and travels southeast for approximately 6.9 miles where it meets the Power Line and Tugs trails. As depicted in Figure M-2, the Knik Connector Trail would be crossed by the Big Lake Segment approximately 0.4 miles west of where the segment would cross Goose Creek.

Ownership and Type of Section 4(f) Property

The Knik Connector Trail does not have a dedicated easement and is located on MSB property where it would be crossed by the Big Lake Segment. The trail has been identified in the MSB Recreational Trails Plan (MSB 2008, as amended). Crossing the trail would be considered a use of a section 4(f) property where the trail is located on accessible public lands.

Function of the Property and Available Activities

The Knik Connector Trail is a multi-use winter trail that, when considered with other trails in the area, provides access from Knik Township to the Susitna River. The trail mainly supports winter recreation activities.

Description of Existing and Planned Uses

The Knik Connector Trail is part of a series of trails in the Big Lake Area. No planned uses are known at this time.

Access

Access to the Knik Connector Trail is available from a trailhead on Susitna Parkway located approximately 0.1 mile west of the intersection with S. Purinton Parkway. The trail can also be accessed from the Power Line and Tug trails.

Relationship to other Similarly Used Lands in the Vicinity

Other trails exist in the vicinity including the INHT, Aurora Dog Musers Club Trail System, 16 Mile Trail, Flat Lake Connector Trail, and Crooked Lake Trail. Many unofficial and/or unrecorded trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The Knik Connector Trail is an officially recognized trail included in the MSB Recreation Trails Plan as amended. The trail does not have a dedicated easement, though the MSB owns the property where the trail would be crossed by the Big Lake Segment.

16 Mile Trail

Size and Location

The 16 Mile Trail is a heavily used multi-purpose trail located approximately 2.3 miles southwest of Knik Township. As depicted in Figure M-2, the 16 Mile Trail would be crossed by the Big Lake Segment.

Ownership and Type of Section 4(f) Property

The 16 Mile Trail is on state-owned land in locations where it would be crossed by the Big Lake Segment. The trail is considered a section 4(f) resource because it is used for recreation and it provides access to other publicly-owned recreation areas.

Function of the Property and Available Activities

The 16 Mile Trail is a multi-use trail that provides access from Goose Creek Highway to the INHT and the Aurora Dog Musers Club Trail System.

Description of Existing and Planned Uses

The 16 Mile Trail is one of many trails found in the Knik and Big Lake areas. No planned uses are known at this time.

Access

The 16 Mile Trail can be accessed from Goose Creek Highway, at a point approximately 2.3 miles southwest of Knik Township. It can also be accessed from the INHT and Aurora Dog Musers Club Trail System.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby including the INHT, Aurora Dog Musers Club Trail System, and Knik Connector Trail. Other unofficial and/or unrecorded trails also exist throughout this area.

Applicable Clauses Affecting the Ownership

The 16 Mile Trail is an officially recognized trail with a platted ROW. The state owns the property where the trail would be crossed by the Big Lake Segment.

Aurora Dog Musers Club Trail System

Size and Location

The Aurora Dog Musers Club Trail System is a series of non-motorized winter trails southeast of Big Lake (see Figure M-3), totaling 20.3 miles in length. It would be crossed twice by the Big Lake Segment south of Liten Lake.

Ownership and Type of Section 4(f) Property

The Aurora Dog Musers Club Trail System is publicly-owned by the ADNR in locations where it would be crossed by the Big Lake Segment. The trails have been identified in the MSB Recreational Trails Plan (MSB, 2008 as amended). The trail system is considered a section 4(f) resource since its primary purpose is for recreation and it provides access to other publicly-owned recreation areas. Crossing the trails would be considered a use of a section 4(f) property where the trails are located on public lands that are publicly available.

Function of the Property and Available Activities

The Aurora Dog Musers Club Trail System is a non-motorized winter trail system and provides training and racing opportunities for dog sledders, in particular. Other non-motorized activities are similar to those described for the Lucky Shot Trail.

Description of Existing and Planned Uses

The Aurora Dog Musers Club Trail System is part of a recreational trail system that supports a variety of winter sports in the MSB. These trails also provide training and racing resources for dog sledding. The trail system has a recorded easement with the state (ADL 228636); the MSB, the state, and Aurora Dog Musers Club have entered into a cooperative management agreement (Paulsen pers. comm., 2008).

Access

Parking is available at the Aurora Dog Musers clubhouse on Gonder Road, accessible via Echo Lake Drive S. from South Big Lake Road. Additional access is available off Lewis Loop Road, from Knik-Goose Bay Road along the Iditarod Trail, and via other non-designated trails throughout the area.

Relationship to other Similarly Used Lands in the Vicinity

Numerous trails exist nearby, including the INHT, 16 Mile Trail, Herning Trail, and many unofficial and/or unrecorded trails located throughout this area. The only similar loop system that is heavily used in the project area is the West Gateway Trail near Willow. No other trails in the project area are designated as non-motorized.

Applicable Clauses Affecting the Ownership

The Aurora Dog Musers Club Trail System has an established easement with the state (ADL 228636), and a cooperative management agreement exists between the MSB, state, and Aurora Dog Musers Club. In December 2008, the MSB adopted the “Knik Sled Dog and Recreational Special Land Use District” for the southeastern portion of Knik-Fairview Community Council Area, which seeks to preserve and protect the existing activities and lifestyle of the area by restricting land uses. A portion of the Aurora Dog Musers Club Trail System passes through the new district.

Herning Trail

Size and Location

The Herning Trail is a heavily used trail providing access from Knik Township to the ARRC mail line. This trail is multi-use and is an important transportation corridor. As depicted in Figure M-3, the Herning Trail would be crossed by the Big Lake Segment 4 times.

Ownership and Type of Section 4(f) Property

The Herning Trail is a publicly-owned RS2477 trail. The trail is considered a section 4(f) resource because it is used for recreation and at the southernmost point where it would be crossed by the Big Lake Segment, the land is owned by the MSB (in the other crossing locations, the land is owned by private owners).

Function of the Property and Available Activities

The Herning Trail provides transportation and recreation access between Knik Township and the ARRC mail line. It is a heavily used, multi-purpose trail that is used for recreational snowmachining and dog sledding.

Description of Existing and Planned Uses

The Herning Trail is a RS2477 trail with a recorded easement with the state (RST 1467). No planned uses are known at this time.

Access

Access to the Herning Trail is available from Knik – Goose Bay Road in Knik Township, as well as Parks Highway near the area where it would be crossed by the Big Lake Segment. Access is also available via other non-designated trails throughout the area.

Relationship to other Similarly Used Lands in the Vicinity

Other trails exist nearby, including the INHT, Aurora Dog Musers Club Trail System, and many unofficial and/or unrecorded trails located throughout this area.

Applicable Clauses Affecting the Ownership

The Herning Trail has an established easement (RST 1467) and the property located where the trail would be crossed by the Big Lake Segment is owned by the MSB.

M.1.c.2 Wildlife Refuges

One wildlife refuge is located within the project area.

Susitna Flats State Game Refuge

Size and Location

The Susitna Flats State Game Refuge (Refuge) is located west of the Port MacKenzie Agricultural Project and east of the Susitna River. The Refuge includes approximately 300,800 acres (see Figure M-2). It would be affected by the Connector 1, the Connector 2, the Mac West, and the Willow segments.

Ownership and Type of Section 4(f) Property

The Refuge is publicly-owned and managed by the Alaska Department of Fish and Game (ADF&G). Section 4(f) affords protection to publicly-owned wildlife refuges; therefore, this Refuge is considered a section 4(f) resource. Crossing the Refuge would constitute a use of a section 4(f) property.

Function of the Property and Available Activities

The Refuge provides habitat to a large migratory bird population, moose and bear habitat, and quality salmon rivers. It also provides public recreation opportunities including fishing, hunting, boating, wildlife viewing, and multi-use winter trails. The Refuge attracts sport fishermen, hunters, and trappers. The Little Susitna River runs north to south through the Refuge and offers opportunities for salmon harvest. Recreational users that engage in float trips that originate further upstream within the Little Susitna State Recreation River could also use the river within the Game Refuge. ADF&G estimates that approximately 10 percent of all Alaska waterfowl harvest takes place within the Refuge, and approximately 45,000 angling days¹⁰ are spent each year on the Little Susitna River (ADF&G, 1988).

The Susitna Flats State Game Refuge contains a public use facility that could be affected by the proposed rail line; a frequently used fishing, boating, and camping site on the river called the Little Susitna Public Use Facility. This facility is located approximately two miles south of the point where the Willow Segment would cross the Little Susitna River. The Connector 1 Segment would run directly adjacent to its eastern boundary and the Little Susitna River is its western boundary. Public camping is available at the Little Susitna Public Use Facility, in the northeast area of the Refuge, as well as at several developed campsites along the banks of the Little Susitna River and at remote sites elsewhere within the Refuge.

¹⁰ An angling day is the time spent fishing by 1 person for any part of a day.

Description of Existing and Planned Uses

The Susitna Flats State Game Refuge provides wildlife habitat and related recreation opportunities. No other known uses are planned at this time.

Access

The main access point to the Refuge is via the Little Susitna Public Use Facility from Ayrshire Road. Individuals also have access to the Refuge via the Little Susitna River from the north (boating south from the Little Susitna State Recreation River or Parks Highway) or the south (from the Little Susitna River or the Susitna River). A number of trails lead into the Refuge from the Point MacKenzie area. These include the Figure 8 Lake Loop, Pipeline, Flathorn Lake, Iditarod Link, and Iditarod-Pipeline Link trails. During the course of OEA's research, MSB representatives indicated that it is unlikely that section line easements would be used to access the Refuge due to the lack of public parking areas and the privately-owned agricultural parcels that would have to be crossed to enter the Refuge (Paulsen pers. comm., 2009a). However, because the public can legally park along existing Borough road ROWs or make parking arrangements with private owners, it is possible that section line easements could be used to access the Refuge. Another public access point to the Refuge is located at the western terminus of Holstein Avenue (Paulsen pers. comm., 2009b). Private aircraft also could fly into the Refuge, landing on its many lakes.

Relationship to other Similarly Used Lands in the Vicinity

There are 2 wildlife refuges in proximity. The Goose Bay State Game Refuge provides similar features several miles to the east, on the western shore of the Knik Arm. The Palmer Hay Flats State Game Refuge is located at the northeast end of the Knik Arm, north of Anchorage. Some of the recreation opportunities within the Susitna Flats State Game Refuge are available in adjacent public areas, including the Nancy Lake State Recreation Area, the Willow Creek State Recreation Area, and Little Susitna State Recreation River.

Applicable Clauses Affecting the Ownership

Though not commonly used for that purpose, section lines may provide access into the Refuge from the east. Alaska Admin. Code 11 § 51.025 establishes that the ADNR will reserve a 50- to 100-foot public easement along section lines before selling, leasing, or otherwise disposing of the surveyed land estate, unless and until it is vacated under Alaska Admin. Code 11 § 51.065. Section line easements leading to public or navigable water are not to be vacated.

M.1.c.3 Cultural Resource Areas

OEA considered the area of potential effects for cultural resources potentially affected, directly or indirectly, by the proposed project. Examination of potential impacts on cultural resources included consideration of aspects of the area's landscape as a whole, including several cultural and historical components that could constitute cultural landscapes or Traditional Cultural Properties (TCPs). These include homesteads, dog sledding, agriculture, and recreation. Cultural landscapes were researched and evaluated based on their potential eligibility for inclusion on the National Register as either districts or sites.

Based on a literature review, analysis of the Alaska Heritage Resources Survey (AHRS) database (ADNR 2008b), other databases, and fieldwork, OEA identified known cultural resources and mapped their location relative to the proposed rail line alternatives. APEs were defined to encompass the extent of potential direct, indirect, and cumulative effects of the proposed rail line that could cause alterations in the character or use of cultural resources that may be eligible for the National Register. OEA initiated government-to-government consultation with 10 Federally Recognized Tribes, tribal groups, and Alaska Native Regional Corporations for identification of any potential traditional cultural properties in the study area. Consultation letters and meetings asked interested parties to identify their concerns regarding cultural resources in the study area, as well as to identify any cultural resources in the study area not documented during the literature and AHRS review and OEA field surveys. A full description of cultural resources findings and the analysis process can be found in Chapter 6 and Appendix I of this Final EIS.

The area of potential effects for direct effects, other than for visual effects, included the ROW and areas with potential noise impacts and where the ground would be disturbed such as staging areas, cut and fill areas, material sources/gravel quarries, overburden disposal areas, associated buildings/structures (such as sidings, bridges), and associated infrastructure (such as communication towers, power lines). The area of potential effects considered for indirect effects, as well as for direct visual effects, included cultural resources within a mile on either side of the ROW centerline.

Research findings and surveys identified 56 known prehistoric sites and 18 historic cultural sites within 1 mile of the ROW. A determination of eligibility for inclusion in the National Register has not been made for any of the existing historic sites. Two railroad bridges, a 1917 ARRC bridge at Mile Post 180.8 (determined not eligible) and 1917 ARRC bridge at Mile Post 187.6 (determined eligible), have been replaced by newer bridges and are not included in this analysis. The National Register eligibility has not yet been determined for any prehistoric sites. Government-to-government or NHPA section 106 consultation did not identify any TCPs in the study area.

Research findings also identified the *Iditarod Dog Sledding Historic District/Historic Vernacular Landscape* (Iditarod Dog Sledding Historic District). In a letter dated September 1, 2010, the SHPO concurred with the finding that the Iditarod Dog Sledding Historic District is eligible for listing in the NRHP. All contributing elements of the historic district, including trails, kennels, and road houses, may be subject to section 4(f). During preliminary analysis, it was determined that properties used for homesteads, recreation, or agriculture are not considered to constitute a historic district or cultural landscape eligible for the National Register.

For the purpose of the EIS cultural resource analysis, all properties identified in the cultural resources analysis are presumed to be eligible for inclusion on the National Register unless otherwise specified or until a formal determination of eligibility is made. The NHPA section 106 Programmatic Agreement (PA) being developed for this project (see Appendix J of this Final EIS) would provide a mechanism to fully evaluate which properties are listed in or eligible for listing in the National Register, what their significant historic features are, and whether those properties would be adversely affected by the proposed project.

Iditarod Dog Sledding Historic District

The Iditarod Dog Sledding Historic District could include a variety of contributing resources and features. As described in Chapter 6 of this Final EIS, the preliminary boundary for the study area includes the trail network (including the historic trail and race) associated with the 1898 to 1925 and 1967 to 1978 periods of significance and the buildings, kennels, and locations that contribute to the significance of these periods, including the Aurora Dog Mushers Club, Knik Kennels, and Knik Museum and Dog Mushers Hall of Fame. For this analysis, trails and other properties (e.g., kennels, buildings, old roadhouses) are considered to be contributing elements subject to the provisions of section 4(f).

Contributing Trails

Trails associated with dog sledding that retain their integrity are contributing elements to the Iditarod Dog Sledding Historic District. The historic value and integrity of these trails are associated with their continued use for dog sledding enthusiasts and circulation within the larger landscape. Fifteen contributing trails were identified, including the INHT, Iditarod Sled Dog Race Trail, Lucky Shot Trail, Corral Hill Trail, Flat Horn Lake Trail, Nancy Lake – Susitna Trail, Red Shirt Lake-Nancy Lake Trail System,¹¹ Herning Trail, Aurora Dog Mushers Club Trail System, Base Map Transmission Line Trail, and 5 Base Map Winter Trails in the study area. Of these trails, it was determined that Corral Hill Trail and Base Map Winter Trail 3 would not be crossed by any segment of the proposed rail line. Several of these trails are included in official trails plans, are publicly-owned, and are used primarily for recreation. Trails meeting these criteria are subject to section 4(f) provisions as significant recreational resources and are identified in M.1.c.1. Of the remaining contributing trails, the INHT, Iditarod Sled Dog Race Trail, USGS Transmission Line Trail and 4 Base Map Winter Trails would be intersected by the rail line segments.

Contributing Properties

Other contributing resources include the Aurora Dog Mushers Club, Alaskan Kennels, Knik Kennels, Susitna Station, and Knik Museum and Dog Mushers Hall of Fame. The proposed rail line would not result in the direct use of any of these contributing properties.

M.1.d Impacts to Section 4(f) Resources

Potential impacts to section 4(f) resources were evaluated for each proposed rail line segment. This section describes the potential impacts to recreation and refuge properties and cultural resources as a result of the proposed project.

M.1.d.1 Parks and Recreation Areas

Impacts Common to All Areas

Some of the project's potential impacts would be common to all segments analyzed. Construction would result in a temporary suspension of recreational activities in the immediate

¹¹ One trail in this trail system, the Mud Lake Trail, would be crossed by the Willow Segment.

vicinity of the rail line as individuals attempting to access recreation areas and resources via trails and waterways would be temporarily impeded. Use of trails contributing to the Iditarod Dog Sledding Historic District could also be temporarily suspended in the immediate vicinity of the proposed rail line during construction. Areas of active construction work in proximity to section 4(f) resource areas could also result in increased dust. Construction activities could result in temporary impacts to water quality, which could affect recreational fishing. Construction activities could result in the temporary alteration of local distribution of wildlife, which could affect the experience of users engaging in recreational hunting and wildlife viewing. Construction and operation would result in the clearing and maintenance within the proposed 200-foot ROW. In forested areas, this would result in a visible line of deforestation within the ROW, and could reduce user enjoyment of recreation areas where cleared vegetation would be a discordant element of the landscape. Vegetation clearance could decrease the productivity of habitat for purposes of fishing, hunting, trapping, and wildlife viewing by removing or fragmenting habitat; however, there is sufficient habitat in the study area to absorb any displaced species. Operation of the railroad would introduce an additional source of intermittent noise. The finished ROW could act as a physical barrier across public lands and could only be legally crossed at designated crossing points (for roads, trails, and navigable waters).

A summary of the potential impacts under various alternatives is provided in Section M.1.d.4. For a detailed discussion of impacts on the section 4(f) resources, please see below.

Little Susitna State Recreation River

The Willow Segment would cross through the southwestern corner of the Little Susitna State Recreation River and would cross the Little Susitna River in the Susitna Flats State Game Refuge, just south of the Little Susitna State Recreation River. The Houston North Segment would also cross the Little Susitna River, though its crossing would be further upriver near the northern part of the Recreation River and George Parks Highway. The Houston North and Willow segments would introduce new crossings of the Little Susitna River, which could present visual intrusions on the landscape. In addition, the Houston South Segment would cross the Little Susitna River on a new bridge to be constructed within the existing ARRC main line ROW, adjacent to the Little Susitna State Recreation River. Although the new bridge crossings would not interfere with navigation of the river, they could affect sport fishing resources and recreational access (via boat and upland), and user enjoyment of the natural environment. In addition, the Houston North Segment would cross the Nancy Lake Creek Junction Public Use Site, a popular camping and fishing location. Within the 200-foot ROW, this site would require the conversion of any public-use facility land to other use. OEA estimated the area within the Little Susitna State Recreation River where the potential noise impact would be considered “severe” based on FRA criteria¹⁴ and compared the estimated affected area within this section 4(f) property to the total area of the property. The acreage of potential noise impacts within the Little Susitna Recreation River would range from 556 acres (for alternatives that include the Willow Segment) to 976 acres (for alternatives that include the Houston North Segment) of the

¹⁴ Based on FRA criteria, noise levels that would cause a “severe” impact depend on the ambient noise level and the type of land use. For this analysis, the section 4(f) properties were considered to be in land use Category 3 (for primarily daytime and evening use) except for camping areas, which were considered to be a Category 1 (where quiet is an essential element in their intended purpose). The increase in noise that would constitute a “severe” impact for each land use depends on the ambient noise level and is defined in Table 3-1 of the FRA impact assessment document (FRA, 2005)

total area of the recreation river. These areas of impact correspond to 3 percent to 6 percent of the total area of the recreation river.¹⁵

Direct Use

Permanent acquisition under various alternatives of the proposed rail line would result in the direct use of the section 4(f) resource, such as the Little Susitna State Recreation River. Permanent acquisition would include approximately 17 acres of the southern part of the Recreation River for the Willow Segment and approximately 66 acres in the northeastern part of the Recreation River for the Houston North Segment.

Temporary Use

Where practicable, ARRC would site construction staging areas inside the 200-foot ROW. Any disturbance outside this ROW due to construction activities would be for a short duration and would not result in change in ownership or require a permanent easement or property interest, and, therefore, would not amount to a use of the section 4(f) resource.

Finding

The ROW for the Houston North Segment would impact 0.4 percent of the Little Susitna State Recreation River's total area (17,459 acres) and potential severe noise impacts from rail operation would affect approximately 5.6 percent of the recreation river. The additional bridge crossing of the Little Susitna River required for the Houston North Segment within the Recreation River and the associated noise from train operation would detract from the qualities of float trips and other recreational uses of the Little Susitna River. Therefore, OEA and the FRA anticipate that the Houston North Segment would result in adverse impacts to the Little Susitna State Recreation River. In contrast, with the recommended preliminary measures to minimize harm and mitigate impacts (as described in Section M.1.f), OEA and the FRA have found that the Houston South Segment bridge over the Little Susitna River within the existing ARRC ROW would not adversely affect the Recreation River. The Willow Segment would not require a crossing of the Little Susitna River or any trails or know recreational facilities within the Little Susitna State Recreation River. The ROW for the Willow Segment would impact 0.1 percent of the recreation river and potential severe noise impacts from rail operation would affect approximately 3.3 percent of the recreation river. In their letter dated December 31, 2009, ADNR indicated that the Willow Segment would result in adverse impacts to the Little Susitna State Recreation River and that the measures designed to mitigate these impacts would not support a *de minimis* impact finding for this resource.

Nancy Lake State Recreation Area

The Willow Segment would cross approximately 12 acres of this area west of Red Shirt Lake (approximately 0.05 percent of total parkland). No known trails, campsites, or other active recreation sites are known within the ROW where it would cross the Nancy Lake Recreation Area; however the proposed rail line could affect enjoyment of the natural setting if users visit

¹⁵ See Section 9.2 of this Final EIS for additional explanation of the methodology used to evaluate noise impacts on section 4(f) properties.

this area. OEA estimated the area within the Nancy Lake State Recreation Area where the potential noise impact resulting from the operation of the Willow Segment would be considered “severe” based on FRA criteria, would be approximately 305 acres. This area constitutes approximately 1.3 percent of the total area. Approximately 9.8 acres within the Nancy Lake State Recreation Area (or 0.04 percent of total parkland) west of the railroad ROW would be separated from the rest of the park (see Figure M-4) unless rail crossings were provided. However, there are no facilities or specific resources within this area that would be adversely affected, according to park personnel (Biessel pers. comm., 2009).

Direct Use

Permanent acquisition of approximately 12 acres by the Willow Segment would constitute a direct use of the Nancy Lake State Recreation Area, a section 4(f) resource. This area would be located in a corner of the Recreation Area without known facilities or unique resources.

Temporary Use

Where practicable, ARRC would site construction staging areas inside the 200-foot ROW. Any disturbance outside this ROW due to construction activities would be for a short duration and would not result in a change in ownership or require a permanent easement or property interest, and, therefore, would not amount to use of the section 4(f) resource.

Finding

The ROW for the Willow Segment would affect 0.1 percent of the Nancy Lake State Recreation Area and potential severe noise impacts from train operation would affect approximately 1.4 percent of the State Recreation Area. No unique recreational opportunities would be lost. As indicated in their letter dated December 31, 2009, however, the ADNR has indicated that the Willow Segment would have an adverse impact on the Nancy Lake State Recreation Area that would not be rendered *de minimis* by mitigation.

Willow Creek State Recreation Area

The ROW for the Willow Segment would bisect the Willow Creek State Recreation Area north to south, affecting approximately 43 acres, approximately 1.4 percent of the recreation area. The Willow Segment could affect recreational activities within the park, including hiking along various trails, sport fishing, snowmachining, dog sledding, and general user enjoyment. The segment would cross the Willow Valley and Willow Creek by a bridge requiring in-stream pilings, which could adversely affect sport fishing resources via loss of spawning habitat. Such a structure would alter the landscape of the Willow Valley. Train traffic noise would be audible to users within the Willow Creek State Recreation Area if they are in the vicinity of the rail line when a train passes by. The estimated acreage of potential noise impacts within the Willow Creek State Recreation Area where the potential noise impact would be considered “severe” based on FRA criteria is 429 acres – approximately 14 percent of the total acreage. Within the park, the railroad would cross approximately 792 feet of the Lucky Shot Trail, which is an officially recognized trail that would receive a grade-separated crossing as proposed by ARRC. This trail is frequented by professional athletes in training, as well as recreational users and is an integral part of the Willow Creek State Recreation Area trails (Biessel pers. comm., 2009).

Direct Use

Permanent acquisition of approximately 43 acres for the Willow Segment would result in a direct use of the Willow Creek State Recreation Area, a section 4(f) resource.

Temporary Use

Where practicable, ARRC would site construction staging areas inside the 200-foot ROW. Any disturbance outside this ROW due to construction activities would be for a short duration and would not result in change in ownership or require a permanent easement or property interest. Therefore this would not amount to use of the section 4(f) resource.

Finding

The ROW of the Willow Segment would affect 1.4 percent of the recreation area and would potentially alter sportfishing access and resources. Potential noise impacts from train operation that would be considered “severe” based on FRA criteria, would affect approximately 14 percent of the recreation area. Measures could be implemented to minimize harm and mitigate impacts (as described in Section M.1.f). However, the presence of a rail line bisecting the Recreation Area would constitute a major feature that would change the attributes and character of the resource. Therefore, OEA and the FRA anticipate, consistent with the ADNR’s determination, that the potential impacts from the Willow Segment on the Willow Creek State Recreation Area not be *de minimis*.

Officially Recognized Trails

Where the proposed rail line would cross a trail whose status is officially recognized, ARRC proposes to provide continued public access by installing a grade-separated crossing where practicable, or the trail could be relocated to avoid crossing the rail line, providing continuity for these trails and minimizing the impact of the rail crossing. The design of the crossing would accommodate existing trail users at the time of construction or ROW acquisition by the Applicant (whichever occurs first). The Applicant would coordinate with the trail owner and consult with user groups as appropriate where the crossing location may have to be relocated to accommodate a grade-separation, or multiple crossings within a mile might be consolidated. ARRC does not propose to provide crossings for all trails. Some unofficial trails would be blocked, and ARRC’s trespassing regulations would prohibit the public from crossing the ROW without first obtaining approval from ARRC. Officially recognized section 4(f) trails where crossings would occur, depending on the rail segment, include the West Gateway Trail, Mud Lake Trail, Nancy Lake – Susitna Trail, Iron Dog Trail, Crooked Lake Trail, Iditarod Link Trail, Flathorn Lake Trail, Pipeline Trail, Knik Connector Trail, 16 Mile Trail, Aurora Dog Musers Club Trail System, Herning Trail, and Figure 8 Lake Loop Trail. With grade-separated crossings of these trails, recreational access would be retained after project-related construction. However, by altering the natural setting of the trails, crossings could affect user enjoyment of the trails.

These trails would be closed temporarily during construction and crossings could be relocated or consolidated with other trails if they exist nearby to reduce the number of crossings of the rail line in proximity to one another. Trail closures, though temporary, could affect user enjoyment though ARRC would conduct construction activities during the most appropriate timeframe to

limit impacts to trails. Table M-1 indicates which section 4(f) trails identified at this time would be crossed by the proposed rail line segments. Impacts such as closure of trails during construction would be temporary and would not result in permanent impairment of the features of the resource that qualify it as a section 4(f) resource.

**Table M-1
Officially Recognized Trails Identified as Section 4(f) Resources Crossed by Rail Line Segment Right-of-Ways**

Segment	Trails
Mac West	Figure 8 Lake Loop Trail
Mac East	None
Mac East Variant	None
Connector 1	Pipeline Trail; Flathorn Lake Trail; Iditarod Link Trail
Connector 2	None
Connector 3	None
Connector 2a	None
Connector 3 Variant	None
Willow	Iditarod Link Trail; Crooked Lake Trail; Iron Dog Trail; Nancy Lake – Susitna Trail; Mud Lake Trail; West Gateway Trail
Houston	Crooked Lake Trail
Houston North	None
Houston South	None
Big Lake	Knik Connector Trail; 16 Mile Trail; Aurora Dog Musers Club Trail; Herning Trail

Direct Use

The Willow Segment would cross approximately 205 feet of the West Gateway Trail, 202 feet of the Mud Lake Trail, 260 feet of the Nancy Lake – Susitna Trail, 218 feet of the Iron Dog Trail, 211 feet of the Crooked Lake Trail, and 206 feet of the Iditarod Link Trail. Connector 1 Segment would cross approximately 211 feet of the Flathorn Lake Trail, 101 feet of the Pipeline Trail, and 223 feet of the Iditarod Link Trail. The Big Lake Segment would cross approximately 206 feet of the 16 Mile Trail, 262 feet of the Knick Connector Trail, 457 feet of the Aurora Dog Musers Club Trail System,¹⁶ and 1,277 feet of the Herning Trail. The Mac West Segment (including the terminal reserve) would cross approximately 1,822 feet of the Figure 8 Lake Loop Trail. These crossings would result in a direct use of these section 4(f) resources.

Temporary Use

During construction for the project and the grade-separated crossings, temporary closure of these trails or detours could be necessary. This would not result in a change in ownership or require a

¹⁶ The Aurora Trails roughly collocate with the Iditarod National Historic Trail at one point. The potentially affected trail length would be the same for both trail systems at this point.

permanent easement or property interest. Therefore, construction would not constitute a use of the trails that are section 4(f) resources.

Finding

Based on the analysis of impacts, OEA and FRA anticipate that the project, including mitigation measures listed in M.1.f, would not have an adverse effect on the activities, features, and attributes of the trails, and therefore, these trails would experience *de minimis* impacts as a result of the proposed rail line.

Point MacKenzie Trailhead Parking Area

The parking area would be crossed by and located within the terminal reserve area of the Mac West Segment and, therefore, access to the Figure 8 Lake Loop and other area trails would be adversely affected due to diminished public parking.

Direct Use

Under the Mac West Segment, 0.84 acres of the parking area for the Point MacKenzie Trailhead would be permanently acquired. This would constitute direct use of the section 4(f) resource.

Temporary Use

During construction and relocation of the trailhead and parking area, a temporary closure of the existing trailhead and a temporary loss of public parking and access to the Figure 8 Lake Loop Trail could occur. This would only last for a short time and would not constitute a use of the section 4(f) resource.

Finding

If the Mac West Segment were constructed and the recommended preliminary measures to minimize harm described in Section M.1.f.1 were implemented, the parking lot and trailhead would be relocated and continued access to the Figure 8 Lake Loop Trail would be ensured. With this mitigation, OEA and the FRA anticipate, consistent with the MSB's determination (see letter dated February 1, 2010), that the proposed Mac West Segment would result in a *de minimis* impact to the Point MacKenzie Trailhead and Parking Lot. These findings include recommended preliminary measures to minimize harm and mitigate impacts (as described in Section M.1.f) to ensure that the project does not adversely affect the activities, features, and attributes that qualify the resource for protection under section 4(f).

M.1.d.2 Wildlife Refuges

Susitna Flats State Game Refuge

The common impacts listed above for recreation areas would also apply for the Susitna Flats State Game Refuge. The Mac West, Connector 1, Connector 2, and Willow segments would each require use of some Refuge land. The Willow Segment would cross the Little Susitna River within the Refuge boundary and could potentially affect sport fishing and recreational access, as

well as user enjoyment of the river in this location. The northern and western boundaries of the State Game Refuge are undeveloped, while the eastern boundary of the Refuge, which generally follows the Mac West Segment and Connector 1 Segment, includes several access points to the Refuge. The Iditarod Link, Pipeline, Flathorn Lake, and Figure 8 Lake Loop trails would continue to provide access to the Refuge via grade-separated trail crossings, as proposed by the Applicant. Other trails providing access to the Refuge that are not officially recognized trails – including the trail at the western end of Holstein Avenue – could be closed where they are crossed by a rail line ROW. These could include section line easements on the west side of the Point MacKenzie Agricultural Project. During the course of OEA’s research, consultation with MSB representatives indicated that it is unlikely that section line easements would be used to access the Game Refuge due to the lack of public parking areas and the privately-owned agricultural parcels that would have to be crossed to enter the Refuge (Paulsen pers. comm., 2009a). However, because the public can legally park along existing Borough road ROWs or make parking arrangements with private owners, it is possible that section line easements could be used to access the Refuge. Train traffic noise would be audible to users within the Susitna Flats State Game Refuge if they are in the vicinity of the rail line when a train passes by. The estimated acreage of potential noise impacts within the Susitna Flats State Game Refuge where the potential noise impact would be considered “severe” based on FRA criteria is less than 0.8 percent of the total acreage of the Refuge, though total acreage potentially affected would range from 0 to 2,331 acres, depending on the alternative. In addition to the area of the Refuge that the Mac West Segment would directly affect, it would also cut through and effectively separate 26.1 acres from 4 small corners of the Refuge located southeast of Horseshoe Lake (see Figure M-5). This area constitutes less than 0.01 percent of the Refuge and is not known to contain official trails, campsites, or other active recreational facilities.

Direct Use

The potentially affected acreage of crossing areas is estimated as follows: Connector 1 Segment – 36 acres; Connector 2 Segment – 1 acre; Mac West – 54 acres; Willow – 7 acres. Although this reduction in habitat could affect user experience and recreational enjoyment, the affected acreage is a small fraction of the total 300,800-acre Refuge. In terms of possible alternatives affecting the Refuge, the Mac West-Connector 1-Willow Alternative would include approximately 97 acres of Refuge land (0.03 percent of the total); the Mac West-Connector 2-Big Lake Alternative would include 55 acres (0.02 percent of the total); the Mac West-Connector 1-Houston-Houston North Alternative would include 43 acres (0.014 percent of the total); and the Mac West-Connector 1-Houston-Houston South Alternative would include 90 acres (0.03 percent of the total) of Refuge land. Permanent conversion of lands within the Refuge could negatively affect user enjoyment of the natural setting and would result in a direct use of the section 4(f) resource.

Temporary Use

Where practicable, ARRC would site construction staging areas inside the 200-foot ROW. Any disturbance outside this ROW due to construction activities would be for a short duration and though it could lead to negative, temporary impacts to user enjoyment of these areas, it would not result in a change in ownership or require a permanent easement or property interest and, therefore, would not amount to a use of the section 4(f) resource.

Findings

The maximum area of the Susitna Flats State Game Refuge that could be affected by the rail line ROW would constitute 0.03 percent of the total area and major access points would be retained. The Mac West Segment, Willow Segment, and Connector 1 Segment would not result in loss of unique recreational opportunities. Noise from rail operation on the Willow Segment that meet FRA's criteria for "severe" would affect approximately 388 acres, while the Connector 1 Segment would affect approximately 568 acres and the Mac West Segment would affect approximately 1,376 acres. OEA and the FRA have recommended preliminary measures intended to minimize harm and mitigate potential impacts (as described in Section M.1.f). In its letter dated December 31, 2009, the ADNR indicated that the Mac West, the Willow, and the Connector 1 segments would result in adverse impacts to the Susitna Flats State Game Refuge due to the limiting of access to the only legally constructed access road – Ayrshire Ave/Little Su River Road – while other informal access routes would be restricted. The ADNR also indicated that no conceivable assemblage of mitigation measures would decrease impacts from the Mac West, Connector 1, and Willow segments to a level that would be *de minimis*.

M.1.d.3 Cultural Resource Areas

Based on preliminary analysis and confirmed through consultation with the Alaska SHPO, the Iditarod Dog Sledding Historic District is eligible for inclusion in the National Register. Trails and other properties (such as kennels, buildings, old roadhouses) identified during the preliminary analysis that have integrity and are associated with the dog sledding district periods of significance are considered to be contributing elements subject to the provisions of section 4(f). Although no properties would be affected by any segment associated with the proposed rail line, contributing trails would be crossed by every rail line segment with the exception of the Mac East Segment. As described in M.1.c.3 above, the historic value and integrity of these trails are associated with their continued use for dog sledding enthusiasts and maintaining the connectivity of the larger landscape. Of the 15 contributing trails, several are included in official trails plans, are publicly-owned, and are used primarily for recreational purposes. Potential impacts to these section 4(f) resources are described in M.1.d.1. The remaining contributing trails that would be crossed by the proposed rail line include the INHT, Iditarod Sled Dog Race Trail, USGS Base Map Transmission Line Trail, and 5 USGS Base Map Winter trails.

The INHT and Iditarod Sled Dog Race Trail would be crossed by the Willow, Houston, and Big Lake segments. The USGS Transmission Line Trail, USGS Base Map Winter Trail 4, and USGS Base Map Winter Trail 5 would be crossed by the Mac West Segment. The USGS Base Map Winter Trail 1 would be crossed by the Mac West, Connector 1, Connector 2, and Willow segments. The USGS Base Map Winter Trail 2 would be crossed by the Mac West, Connector 2, Mac East Variant, and Connector 3 segments.

As described in Section 13.2 of this Final EIS, the INHT would be crossed using a grade-separated crossing as part of the Applicant's proposed action. Where the USGS Base Map Winter Trail 1 and USGS Base Map Winter Trail 2 would be crossed by the Mac West Segment, they appear to be collocated with the Figure 8 Lake Loop Trail. As part of the Applicant's proposed action, grade-separated crossings of the rail line would be constructed at these locations or the trail would be relocated to avoid the rail line. Where the Iditarod Sled Dog Race Trail,

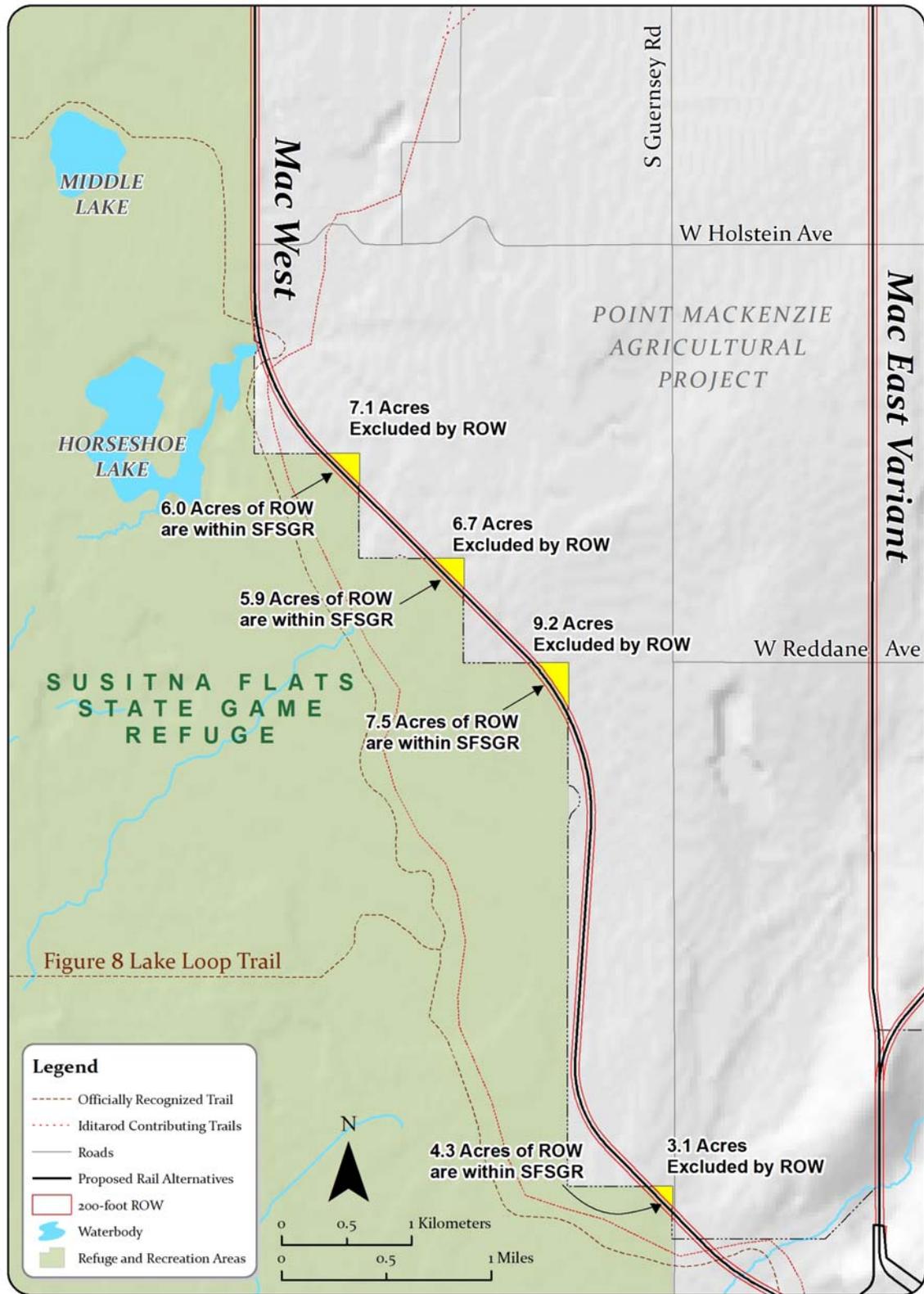


Figure M-5. Areas Dislocated from the Susitna Flats State Game Refuge by the Mac West Segment

USGS Transmission Line Trail, and USGS Base Map Winter trails would intersect a segment of the proposed rail line, recommended mitigation measure 55 in this Final EIS would provide for construction of grade-separated crossings to maintain the use of the trails for dog sledding and the connectivity of dog sledding in the larger landscape.

Table M-2 indicates which contributing trails (that are not officially recognized trails) identified at this time would be crossed by the proposed rail line segments.

Direct Use

The Willow Segment would cross approximately 1,092 feet of the USGS Base Map Winter Trail, 1,565 feet of the INHT, and 460 feet of the Iditarod Sled Dog Race Trail. The Houston Segment would cross approximately 207 feet of the INHT and 205 feet of the Iditarod Sled Dog Race Trail. The Big Lake Segment would cross approximately 200 feet of the INHT and 219 feet of the Iditarod Sled Dog Race Trail. The Connector 1 Segment would cross approximately 336 feet of the USGS Base Map Winter Trail 1. The Connector 2 Segment would cross approximately 200 feet of the USGS Base Map Winter Trail 1 and 255 feet of the USGS Base Map Winter Trail 2. The Connector 3 Segment would cross approximately 212 feet of the USGS Base Map Winter Trail 2 and 201 feet of the Iditarod Sled Dog Trail. The Connector 3 Variant Segment would cross approximately 201 feet of the Iditarod Sled Dog Trail and 270 feet of the USGS Base Map Winter Trail 2. The Mac West Segment would cross approximately 842 feet of the USGS Base Map Winter Trail 1 and 842 feet of the USGS Base Map Winter Trail 2. The Mac West Terminal Reserve would cross 1,879 feet of the Base Map Winter Trail 4, 3,999 feet of the USGS Base Map Winter Trail 5, and 1,620 feet of the USGS Base Map Transmission Line Trail. The Mac East Terminal Reserve would cross approximately 519 feet of the USGS Base Map Winter Trail 5. These trail crossings would result in a direct use of a section 4(f) resource.

Temporary Use

During construction for the project and for grade-separated crossings, temporary trail closures or trail detours could be necessary. Upon completion of construction, the contributing trails would be open and the connectivity of the historic district for dog sled activities would be restored. Therefore, construction would not constitute a use of the contributing trails that are section 4(f) resources.

Findings

Based on the analysis of impacts, OEA and the FRA anticipate that the project, including mitigation measures listed in M.1.f, would not have an adverse effect on the contributing trails or properties that constitute the Iditarod Dog Sledding Historic District and, therefore, the district would experience *de minimis* impacts as a result of the proposed rail line.

M.1.d.4 Summary of Impacts to Section 4(f) Resources

Table M-3 provides a comparison of impacts to section 4(f) resources by alternative. Effects to trails were measured in linear feet of impact and the number of recreation access route intersections and impacts to recreation areas was measured by the number of acres affected.

Cultural resource areas are presented by the number of confirmed historic sites potentially affected by the project.

Rail Line Segment	Trails
Mac West ^a	USGS Base Map Winter Trail 1; USGS Base Map Winter Trail 2; USGS Base Map Winter Trail 4; USGS Base Map Winter Trail 5; USGS Base Map Transmission Line Trail
Mac East ^a	USGS Base Map Winter Trail 5
Mac East Variant	None
Connector 1	USGS Base Map Winter Trail 1
Connector 2	USGS Base Map Winter Trail 1; USGS Base Map Winter Trail 2
Connector 3	USGS Base Map Winter Trail 2; Iditarod Sled Dog Race Trail
Connector 2a	None
Connector 3 Variant	USGS Base Map Winter Trail 2; Iditarod Sled Dog Race Trail
Willow	USGS Base Map Winter Trail 1; INHT; Iditarod Sled Dog Trail
Houston	INHT; Iditarod Sled Dog Race Trail
Houston North	None
Houston South	None
Big Lake	INHT; Iditarod Sled Dog Race Trail

^a Includes Terminal Reserves

M.1.e Avoidance Alternatives

This section provides a discussion of avoidance alternatives considered early in the project development process and potential avoidance techniques applied to the alternatives considered in detail in the EIS.

All alternatives considered in this analysis are considered feasible because they can be designed and built. An alternative that is not prudent could be eliminated from consideration for the following reasons:

- It would involve extraordinary operational or safety problems;
- There would be unique problems or truly unusual factors present with it;
- It would result in unacceptable and severe adverse social, economic or other environmental impacts;
- It would cause extraordinary community disruption;
- It would add construction costs of an extraordinary magnitude; or

**Table M-3
Comparison of Potential 4(f) Impacts by Alternative (page 1 of 3)**

Alternative	Section 4(f) Resources and Areas Potentially Affected ^{a,f}	Number of Known 4(f) Trails Crossed ^b	Total Potentially Impacted ROW Acreage - Recreation Areas ^c	Total Potentially Impacted ROW Acreage - Wildlife Refuge ^c	Total Potentially Impacted 4(f) Trail Length (feet) ^d	Estimated Potential Noise Impact to 4(f) Properties (Acres) ^e
Mac West-Connector 1-Willow	Parks & Recreation Areas: Willow Creek State Recreation Area (43.3 acres); Nancy Lake State Recreation Area (12.4 acres direct use, 9.8 acres constructive use); Little Susitna State Recreation River (17.3 acres); Point MacKenzie Trailhead and Parking Lot (0.84 acres); Recreational Trails: West Gateway Trail (205 feet); Mud Lake Trail (202 feet); Nancy Lake – Susitna Trail (260 feet); Iron Dog Trail (218 feet); Crooked Lake Trail (211 feet); Iditarod Link Trail (206 feet); Flathorn Lake Trail (211 feet); Pipeline Trail (101 feet); Figure 8 Lake Loop Trail (1,822 feet); Wildlife Refuges: Susitna Flats State Game Refuge (97.0 acres direct use, 26.1 acres constructive use); Contributing Trails: USGS Base Map Transmission Line Trail (1,620 feet), USGS Base Map Winter Trail 1 (2,270 feet), USGS Base Map Winter Trail 2 (842 feet), USGS Base Map Winter Trail 4 (1,879 feet), USGS Base Map Winter Trail 5 (3,999 feet), INHT (565 feet), Iditarod Sled Dog Race Trail (460 feet)	16	74	97	15,071	3,622
Mac West-Connector 1-Houston-Houston North	Parks & Recreation Areas: Little Susitna State Recreation River (65.8 acres); Point MacKenzie Trailhead and Parking Lot (0.84 acres); Recreational Trails: Crooked Lake Trail (204 feet); Flathorn Lake Trail (211 feet); Pipeline Trail (101 feet); Figure 8 Lake Loop Trail (1,822 feet); Wildlife Refuges: Susitna Flats State Game Refuge (90.5 acres direct use, 26.1 acres constructive use); Contributing Trails: USGS Base Map Transmission Line Trail (1,620 feet), USGS Base Map Winter Trail 1 (1,178 feet), USGS Base Map Winter Trail 2 (842 feet), USGS Base Map Winter Trail 4 (1,879 feet), USGS Base Map Winter Trail 5 (3,999 feet), INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	11	67	91	12,268	2,920
Mac West-Connector 1-Houston-Houston South	Parks & Recreation Areas: Point MacKenzie Trailhead and Parking Lot (0.84 acres); Recreational Trails: Crooked Lake Trail (204 feet); Flathorn Lake Trail (211 feet); Pipeline Trail (101 feet); Figure 8 Lake Loop Trail (1,822 feet); Wildlife Refuges: Susitna Flats State Game Refuge (90.5 acres direct use, 26.1 acres constructive use); Contributing Trails: USGS Base Map Transmission Line Trail (1,620 feet), USGS Base Map Winter Trail 1 (1,178 feet), USGS Base Map Winter Trail 2 (842 feet), USGS Base Map Winter Trail 4 (1,879 feet), USGS Base Map Winter Trail 5 (3,999 feet), INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	11	1	91	12,268	1,944

**Table M-3
Comparison of Potential 4(f) Impacts by Alternative (page 2 of 3)**

Alternative	Section 4(f) Resources and Areas Potentially Affected ^{a,f}	Number of Known 4(f) Trails Crossed ^b	Total Potentially Impacted ROW Acreage - Recreation Areas ^c	Total Potentially Impacted ROW Acreage - Wildlife Refuge ^c	Total Potentially Impacted 4(f) Trail Length (feet) ^d	Estimated Potential Noise Impact to 4(f) Properties (Acres) ^e
Mac West-Connector 2-Big Lake	Parks & Recreation Areas: Point MacKenzie Trailhead and Parking Lot (0.84 acres); Recreational Trails: Knik Connector Trail (262 feet); 16 Mile Trail (206 feet); Aurora Dog Musher's Club Trails (457 feet); Herning Trail (1,277 feet); Figure 8 Lake Loop Trail (1,822 feet); Wildlife Refuges: Susitna Flats State Game Refuge (55.5 acres direct use, 26.1 acres constructive use); Contributing Trails: USGS Base Map Transmission Line Trail (1,620 feet), USGS Base Map Winter Trail 1 (1,043 feet), USGS Base Map Winter Trail 2 (1,097 feet), USGS Base Map Winter Trail 4 (1,879 feet), USGS Base Map Winter Trail 5 (3,999 feet), INHT (200 feet), Iditarod Sled Dog Race Trail (219 feet)	12	1	56	14,081	1,376
Mac East-Connector 3-Willow	Parks & Recreation Areas: Willow Creek State Recreation Area (43.3 acres); Nancy Lake State Recreation Area (12.4 acres direct use, 9.8 acres constructive use); Little Susitna State Recreation River (17.3 acres); Recreational Trails: West Gateway Trail (205 feet); Mud Lake Trail (202 feet); Nancy Lake – Susitna Trail (260 feet); Iron Dog Trail (218 feet); Crooked Lake Trail 211 feet); Iditarod Link Trail (206 feet); Wildlife Refuges: Susitna Flats State Game Refuge (7.3 acres); Contributing Trails: USGS Base Map Winter Trail 1 (1,092 feet), USGS Base Map Winter Trail 2 (212 feet), USGS Base Map Winter Trail 5 (519 feet), INHT (565 feet), Iditarod Sled Dog Race Trail (460 feet)	11	73	7	4,150	1,678
Mac East-Connector 3-Houston-Houston North	Parks & Recreation Areas: Little Susitna State Recreation River (65.8 acres); Recreational Trails: Crooked Lake Trail (204 feet); Contributing Trails: USGS Base Map Winter Trail 2 (212 feet), USGS Base Map Winter Trail 5 (519 feet), INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	5	66	0	1,347	976
Mac East-Connector 3-Houston-Houston South	Recreational Trails: Crooked Lake Trail (204 feet); Contributing Trails: USGS Base Map Winter Trail 2 (212 feet), USGS Base Map Winter Trail 5 (519 feet) INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	5	0	0	1,347	0
Mac East- Big Lake	Recreational Trails: Knik Connector Trail (262 feet); 16 Mile Trail (206 feet); Aurora Dog Musher's Club Trails (457 feet); Herning Trail (1,277 feet); Contributing Trails: USGS Base Map Winter Trail 5 (519 feet), INHT (200 feet), Iditarod Sled Dog Race Trail (219 feet)	7	0	0	3,140	0

**Table M-3
Comparison of Potential 4(f) Impacts by Alternative (page 3 of 3)**

Alternative	Section 4(f) Resources and Areas Potentially Affected ^{a,f}	Number of Known 4(f) Trails Crossed ^b	Total Potentially Impacted ROW Acreage - Recreation Areas ^c	Total Potentially Impacted ROW Acreage - Wildlife Refuge ^c	Total Potentially Impacted 4(f) Trail Length (feet) ^d	Estimated Potential Noise Impact to 4(f) Properties (Acres) ^e
Mac East Variant-Connector 2a- Big Lake	Recreational Trails: Knik Connector Trail (262 feet); 16 Mile Trail (206 feet); Aurora Dog Musers Club Trails (457 feet); Herning Trail (1,277 feet); Contributing Trails: USGS Base Map Winter Trail 2 (255 feet), USGS Base Map Winter Trail 5 (519 feet), INHT (200 feet), Iditarod Sled Dog Race Trail (219 feet)	8	0	0	3,395	0
Mac East Variant-Connector 3 Variant- Willow	Parks & Recreation Areas: Willow Creek State Recreation Area (43.3 acres); Nancy Lake State Recreation Area (12.4 acres direct use, 9.8 acres constructive use); Little Susitna State Recreation River (17.3 acres); Recreational Trails: West Gateway Trail (205 feet); Mud Lake Trail (202 feet); Nancy Lake – Susitna Trail (260 feet); Iron Dog Trail (218 feet); Crooked Lake Trail (211 feet); Iditarod Link Trail (206 feet); Wildlife Refuges: Susitna Flats State Game Refuge (6.5 acres); Contributing Trails: USGS Base Map Winter Trail 1 (1,092 feet), USGS Base Map Winter Trail 2 (297 feet), USGS Base Map Trail 5 (519 feet) INHT (565 feet), Iditarod Sled Dog Race Trail (460 feet)	11	73	7	4,235	1,678
Mac East Variant-Connector 3 Variant- Houston-Houston North	Parks & Recreation Areas: Little Susitna State Recreation River (65.8 acres); Recreational Trails: Crooked Lake Trail (204 feet); Contributing Trails: USGS Base Map Winter Trail 2 (297 feet), USGS Base Map Trail 5 (519 feet), INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	5	66	0	1,432	976
Mac East Variant-Connector 3 Variant- Houston-Houston South	Recreational Trails: Crooked Lake Trail (204 feet); Contributing Trails: USGS Base Map Winter Trail 2 (297 feet), USGS Base Map Trail 5 (519 feet), INHT (207 feet), Iditarod Sled Dog Race Trail (205 feet)	5	0	0	1,432	0

- a At this time, no cultural resources that would be affected and would qualify for protection under section 4(f) have been identified with the exception of the contributing trails to the Iditarod Dog Sledding Historic District. Cultural resources identified in the future would be addressed as stipulated in the Programmatic Agreement.
- b Some segments cross a trail or trail system multiple times. Multiple crossings of a trail by an alternative are counted only once in this table. Furthermore, some trails are collocated where they would be crossed by an alternative. These are counted as 1 crossing in this table.
- c Acreage in these columns denote the direct impacts to the recreation areas and wildlife refuge resulting from the rail line and ROW.
- d Trails are also associated with an easement width (generally ranging from 50 to 400 feet for the trails discussed here), so the affected area of a trail would include the acreage of the easement to either side of the trail centerline, in addition to the trail length. Because some contributing trails may be collocated with recreational trails, the values presented in this column may be overestimates of the total length of trails crossed.
- e Includes areas where potential noise impacts would be considered "severe" based on FRA criteria.
- f Includes area of direct impact unless noted otherwise.
- g As described in M.1.c.1 above, several contributing trails were identified and analyzed as section 4(f) resources on the basis of their significant recreational value. For the purposes of this summary table, identification if those contributing trails is not duplicated in the "Contributing Trails" heading of the table.

- There would be an accumulation of factors that would collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes.

OEA and the FRA anticipate, based on analysis of potential impacts and consultation with owning agencies, that the construction and operation of the proposed rail line – in conjunction with the implementation of the recommended mitigation measures in Chapter 19 of this Final EIS – would result in *de minimis* impacts to: the West Gateway Trail, Mud Lake Trail, Iron Dog Trail, Flathorn Lake Trail, Pipeline Trail, Nancy Lake – Susitna Trail, Herning Trail, Knik Connector Trail, 16 Mile Trail, Crooked Lake Trail, Iditarod Link Trail, Aurora Dog Musers Club Trail, Port MacKenzie Trailhead and Parking Lot, and Figure 8 Lake Loop Trail. Therefore, an analysis of alternatives that would avoid these particular 4(f) resources is not required in accordance with section 009(a) of the SAFETEA-LU. One or more segments of the proposed rail line would adversely affect the Susitna Flats State Game Refuge, Nancy Lake State Recreation Area, Willow Creek State Recreation Area, and Little Susitna State Recreation River. Avoidance of these 4(f) resources is described in M.1.e.2.

M.1.e.1 Alternatives Eliminated from Detailed Study

A number of alternatives were considered early in the NEPA process but were eliminated from further consideration. Chapter 2 of this Final EIS discusses the process of narrowing the alternatives and Table 2-1 summarizes alternatives eliminated from consideration. None of those alternatives provide a clear advantage under the criteria of section 4(f) for avoidance or minimization of section 4(f) uses.

M.1.e.2 Avoidance Techniques

OEA and the FRA anticipate, as a result of analyses and consultation with owning agencies that the Mac West, Willow, and Connector 1 segments would result in *adverse* impacts to the Susitna Flats State Game Refuge; the Willow Segment also would result in *adverse* impacts to the Little Susitna Recreation River, Nancy Lake State Recreation Area, and Willow Creek State Recreation Area; and the Houston North Segment would result in *adverse* impacts to the Little Susitna State Recreation River. Alternatives that exclude the Mac West, Connector 1, Willow, and Houston North segments would avoid other than *de minimis* impacts to these resources with the implementation of the measures to minimize harm described below.

M.1.f Measures to Minimize Harm

OEA has identified recommended measures and the Applicant has volunteered certain measures to minimize harm to section 4(f) resources (see Chapter 19, Mitigation). As described in M.1 above, transportation project use of a park, recreation area, or wildlife and waterfowl refuge that qualifies for section 4(f) protection may be determined to be *de minimis* though the incorporation of mitigation measures and written concurrence of officials with jurisdiction over the section 4(f) properties.

Sections M.1.f.1 through M.1.f.3 describe measures to minimize impacts to section 4(f) resources. While implementation of these measures would result in a decrease in potential

impacts on the section 4(f) properties, certain properties would experience impacts that would not be *de minimis* based on consultation with the owning agency.

M.1.f.1 Mitigation and Measures to Minimize Harm Common to All Parks, Recreation Areas, and Trails

To minimize fugitive dust emissions created during project-related construction activities, the Applicant shall implement appropriate fugitive dust suppression controls, such as spraying water or other established measures. The Applicant shall also operate water trucks on haul roads as necessary to reduce dust (mitigation measure VM-22).

In coordination with the U.S. Coast Guard, the Applicant shall provide adequate clearances for navigation of recreational boats on navigable rivers (mitigation measure VM-34).

In conjunction with final engineering design, the Applicant shall consult with the Alaska Department of Natural Resources (ADNR) and the Alaska Department of Fish and Game (ADF&G) and develop and implement a plan to ensure that project-related bridges and culverts placed on navigable or public waters are designed and installed to accommodate:

- Navigation by recreational boat users in a manner that shall not impede existing uses, to the extent practicable, and
- Public access and use of the statutory easements as established by the reasonable requirements of Alaska Statute (Alaska Stat. § 38.05.127), Access to Navigable or Public Water (OEA additional mitigation measure 38).

Prior to project-related construction, the Applicant shall consult with Alaska Department of Natural Resources (ADNR) and other appropriate agencies, including the Alaska Department of Fish and Game (ADF&G), and user groups to develop a plan to ensure construction activities occur during the most appropriate timeframe to limit, to the extent practicable, potential impacts on recreation activities:

- The plan shall be developed prior to completion of final engineering plans and following consultation with the ADNR, the ADF&G, other appropriate government agencies, and user groups to determine the location of all officially recognized trails that would be crossed by the rail line.
- The plan shall designate temporary access points if main access routes must be obstructed during project-related construction and include an agreed upon number and location of access points as determined during consultation with applicable agencies (OEA additional mitigation measure 39).

The Applicant shall consult with the appropriate management agencies, including the Alaska Department of Natural Resources and the Alaska Department of Fish and Game to ensure that project-related bridges and culverts are designed, constructed, and maintained to accommodate travel by winter modes of transportation (snow machine, dog sled, etc.) on streams and rivers used for recreational access and subject to the provisions of Alaska Statute (Alaska Stat. § 38.05.127, Access to Navigable or Public Water) (OEA additional mitigation measure 40).

Willow Creek State Recreation Area, Nancy Lake State Recreation Area, and Little Susitna State Recreation River

If the Surface Transportation Board authorizes the Willow Segment, the Applicant shall consult with the Alaska Department of Fish and Game and the Alaska Department of Natural Resources to develop and implement measures to minimize, to the extent practicable, impacts to the Nancy Lake State Recreation Area, the Little Susitna State Recreation River, and the Willow Creek State Recreation Area. Such measures could include replacing recreation area acreage needed for rail line right-of-way with new acreage adjacent to the affected recreation area (OEA additional mitigation measure 48).

If the Surface Transportation Board authorizes the Houston North Segment, the Applicant shall consult with the Alaska Department of Natural Resources (ADNR) and the Alaska Department of Fish and Game to develop and implement appropriate measures to minimize impacts to the Little Susitna State Recreation River and the Nancy Lake Creek Junction public use site. The Applicant shall replace any camping or other facilities within the ROW in accordance with reasonable recommendations from ADNR (OEA additional mitigation measure 49).

Point MacKenzie Trailhead Parking Area and Figure 8 Lake Loop Trail

If the Surface Transportation Board authorizes the Mac West Segment, the Applicant shall consult with the Alaska Department of Natural Resources and the Matanuska-Susitna Borough to determine an appropriate location of and relocate the Point MacKenzie Trailhead, Parking Lot, and the eastern end of the Figure 8 Lake Loop Trail to another site (OEA additional mitigation measure 47).

Officially Recognized Trails

The Applicant shall consult with resource management agencies, including the Alaska Department of Natural Resources (ADNR) and the Alaska Department of Fish and Game, appropriate user groups, and property owners regarding the location and design of crossings for trail easements that intersect with the proposed rail line.

- a. At a minimum, the Applicant shall provide grade-separated crossings of all officially recognized trails crossed by the proposed rail line. As of the date of this Final EIS, a total of 21 officially recognized trails had been identified that intersect the 12 build alternatives. This number could change due to various factors including updates to trail plans, route selection, and final engineering. For the purposes of this mitigation measure, the Applicant shall adhere to the definition of an officially recognized trail provided below.

An officially recognized trail is one that is specifically established within currently adopted plans by ADNR and/or the Matanuska Susitna Borough (MSB), or are established within these plans at the time of construction or right-of-way (ROW) acquisition by the Applicant or the MSB (whichever occurs first). In addition, an officially recognized trail is used primarily for recreational purposes. The locations of officially recognized trails may or may not be provided for by recorded easements or

ROW instruments. In some cases, officially recognized trails may be adopted by or mapped in a recognized trail plan, but a recorded easement or ROW instrument may not exist. The presence of a recorded easement or ROW easement is not sufficient alone to make the property an officially recognized trail.

As of January 2008, the Applicant identified the following officially recognized trails:

Aurora Dog Mushers Club Trail	Iditarod National Historic Trail
Crooked Lake Trail	Iron Dog Trail
Figure 8 Lake Loop Trail	Lucky Shot Trail
Flat Lake Connector Trail	Mud Lake Trail
Flathorn Lake Trail	Pipeline Trail
Herning Trail	West Gateway Trail
Houston Lake Loop Trail	Nancy Lake – Susitna Trail
Iditarod Link Trail	16 Mile Trail
Knik Connector Trail	

As part of the environmental impact statement process, the Board’s Office of Environmental Analysis identified the following additional officially recognized trails:

- Big Lake Trail #1
 - Big Lake Trail #2
 - Big Lake Trail #5
 - Big Lake Trail #14
- b. The Applicant shall design each crossing to accommodate existing trail users as determined at the time of construction, or ROW acquisition by the Applicant or MSB (whichever comes first).
- c. The Applicant shall provide a sufficient number of grade-separated trail crossings to ensure that the average distance between grade-separated trail crossings over the length of the proposed rail line is not greater than 3.0 miles (i.e., length of the new rail line divided by total number of Applicant-supplied, grade-separated trail crossings). Trail crossings provided by the Applicant to meet this minimum crossing frequency may be collocated with project-related stream and road crossings if the collocated trail reasonably and safely accommodates existing trail users as determined at the time of construction, or ROW acquisition by the Applicant or MSB (whichever comes first). Any trails that the Applicant proposes to combine at 1 grade-separated trail crossing under mitigation measure 54 shall count as 1 trail in calculating the average crossing distance of 3.0 miles. Each grade-separated trail crossing provided by the Applicant under mitigation measure 55 (i.e., the trails that contribute to the integrity of the Iditarod Dog Sledding Historic District) can be included in the calculation of the average crossing distance of 3.0 miles, regardless of officially recognized status (OEA additional mitigation measure 41).

M.1.f.2 Mitigation for Wildlife Refuges

Susitna Flats State Game Refuge

If the Surface Transportation Board authorizes the Mac West Segment, the Applicant shall consult with the Alaska Department of Fish and Game and the Alaska Department of Natural Resources to develop and implement measures, including consideration of replacing refuge acreage used for rail right-of-way, to minimize impacts to the Susitna Flats State Game Refuge to the extent practicable (OEA additional mitigation measure 46).

M.1.f.3 Mitigation for Cultural Resources

The Applicant shall develop protocols to inform and prepare project-related construction supervisors of the importance of protecting archaeological resources, graves, and other cultural resources and how to recognize and treat the resources (mitigation measure VM-20).

The Applicant shall comply with the Programmatic Agreement developed through the section 106 process under the National Historic Preservation Act (mitigation measure VM-21). Prior to completing final project design, the Applicant shall prepare a draft report that identifies the location and use of all trails contributing to the Iditarod Dog Sledding Historic District. The draft report shall identify the contributing trails, state of current use for dog sledding (if any), and information on sources and parties consulted pertaining to trail use. The Office of Environmental Analysis (OEA) and all consulted parties shall be provided a copy of the draft report for review and comment for a period not to exceed 30 calendar days. The Applicant shall prepare a final report and submit the final report to OEA and the parties. In addition to the contents required in the draft report, the final report shall summarize all substantive comments from the parties and the Applicant's comment responses. Based on the final report, all trails that are determined to be contributing to the integrity of the historic district, are in use for dog sledding, and are necessary to maintain the connectivity of the district, shall be provided with grade-separated crossings to allow for continued use. (OEA additional mitigation measure 55).

M.1.g Coordination

M.1.g.1 Parks and Recreation Areas

The location and status of recreational features was determined through a review of scoping comments from public agencies and land managers, analysis of land management plans and other publicly available resources regarding public parks and recreation areas in the study area, and data requests to the ADNR, MSB, Alaska Department of Transportation & Public Facilities, and Bureau of Land Management. During the scoping process, the ADNR and ADF&G submitted comments that highlighted specific consideration of resource areas for analysis that identified routing and design considerations, and that indicated their preferred rail line route. These agencies also provided information regarding many of the section 4(f) resources identified in this evaluation, including the Susitna Flats State Game Refuge, Nancy Lake State Recreation Area, Little Susitna State Recreation River, and Willow Creek State Recreation Area. The ADF&G submitted comments during scoping of a similar nature. OEA has also coordinated with the MSB, ADNR, and Alaska State Mental Health Trust Authority. Discussions included

characterization of recreational access and available activities and possible impacts that could result from the selection of various alternatives. Section 4(f) applicability, impact avoidance, and possible mitigation were also subjects of discussion.

Prior to publishing the Draft EIS, OEA presented a preliminary determination of section 4(f) resources and requested that affected agencies provide their formal response to the significance of the resources. On December 31, 2009, ADNR responded in writing and on February 1, 2010, the MSB responded in writing to OEA's preliminary determination of section 4(f) resources. The section 4(f) resources identified in their responses as well as their determination of impacts to those resources have been included in this section 4(f) evaluation.

M.1.g.2 Wildlife Refuges

OEA met with the ADF&G to discuss recreational and section 4(f) impacts in October 2008, with subsequent communications regarding Susitna Flats State Game Refuge, recreational uses, and trail access.

Prior to publishing the Draft EIS, OEA presented a preliminary determination of section 4(f) resources and requested that the affected agencies provide their formal response to the significance of the resources. The ADNR indicated in their letter dated December 31, 2009 that the impacts to the Susitna Flats State Game Reserve would not be *de minimis* and could not be made *de minimis* through mitigation measures.

M.1.g.3 Cultural Resources

Following consultation with the Alaska SHPO, a cultural resources field survey was performed by OEA. This survey was limited to areas within the proposed 200-foot ROW (the area where direct effects to cultural resources would most likely occur) and where land entry was available (such as excluding private and Native land) to identify cultural historical resources and characterize the affected environment. By agreement with the SHPO, OEA focused on identification, and did not conduct systematic excavation to determine the extent of potential sites identified. Therefore, systematic survey and testing was shifted to a later phase of the project (such as during pre-construction surveys).

OEA has developed a draft PA for the Port MacKenzie Rail Extension that would govern the completion of the section 106 process (see Appendix J of this Final EIS). The regulations implementing section 106 allow for the development of a PA when the effects on historic properties cannot be fully determined prior to approval of an undertaking (36 C.F.R. § 800.14.). The PA for the Port MacKenzie Rail Extension provides for the completion of the Level 2 identification survey if the Board authorizes the project. Additionally, the PA stipulates specific cultural resource considerations for administration, definitions of terms, tribal consultation, identification and evaluation of historic properties and assessment of adverse effects, treatment of historic properties and human remains, monitoring, curation, annual review and reports, training for ARRC employees, procedures for inadvertent discoveries, consultation, dispute resolution, amendment or termination of the Agreement, failure to carry out the Agreement, duration, and execution and implementation.

OEA held a meeting and teleconference for interested parties on October 21, 2010 to discuss the draft PA, which had been published in the Draft EIS. In response to comments received during and after this meeting, as well as on the Draft EIS, OEA revised the PA accordingly. On February 10, 2011, OEA distributed the revised PA to the consulting parties for comment and held a teleconference on February 24, 2011 to discuss comments on the revised PA. OEA accepted comments on the revised PA until March 10, 2011 and anticipates distributing the PA for signature on April 1, 2011.

Execution and implementation of a final PA would evidence that the STB has satisfied its responsibilities under section 106 of the NHPA pursuant to 36 C.F.R. part 800, and that the state has satisfied responsibilities under the Alaska Historic Preservation Act pursuant to Alaska Statute (Alaska Stat. § 41.35). Coordination with the involved parties will be ongoing during the implementation of the PA to determine the proper handling of identified section 4(f) resources.

M.1.h Section 4(f) Conclusion

All proposed rail line alternatives would cross resources protected by section 4(f) of the Department of Transportation Act of 1966 as identified in M.1.c. All of the proposed rail line segments evaluated in this Final EIS and discussed in the Draft Section 4(f) Evaluation are technically feasible to build and any combination of the segments that would connect the existing main line to Port MacKenzie would satisfy the project's purpose and need. However, there are 4 combinations of segments that would result in *de minimis* impacts on section 4(f) resources: the Mac East Variant-Connector 2a-Big Lake, the Mac East Variant-Connector 3 Variant-Houston-Houston South, the Mac East-Big Lake, and the Mac East-Connector 3-Houston-Houston South alternatives. Of these 4 alternatives, the Mac East-Connector 3-Houston-Houston South Alternative would intersect the fewest number (5) and length¹⁷ (1,347 feet) of section 4(f) trails, while the Mac East Variant-Connector 2a-Big Lake Alternative would intersect the greatest number (8) and length (3,395 feet) of section 4(f) trails. None of these 4 alternatives would affect the Susitna Flats State Game Refuge, Little Susitna State Recreation River, Nancy Lake State Recreation Area, or Willow Creek State Recreation Area.

Of the remaining alternatives that would cross section 4(f) resources, the Mac West-Connector 1-Willow Alternative would intersect the greatest number of section 4(f) trails (16) and the longest length of section 4(f) trails (15,071 feet). The operation of trains along this alternative would result in severe noise impacts, as defined by the FRA, to an estimated 3,622 acres of section 4(f) properties—the most of any alternative. The ROW from the Mac West-Connector 1-Willow Alternative would affect the greatest acreage of parks and recreation areas and the Refuge (171 acres). Of these remaining alternatives, the Mac East Variant-Connector 3 Variant-Houston-Houston North Alternative would intersect the lowest number of trails (5) and length of trail (1,347 feet). The Mac West-Connector 2-Big Lake Alternative would have the lowest impact on acreage of parks and recreational areas and of Refuge affected by the ROW (57 acres).

Recommended measures for minimizing impacts to section 4(f) recreational resources include timing construction to minimize impacts on recreation, designing water crossings to

¹⁷ Because some recreational trails may be collocated with contributing trails, total lengths of section 4(f) trails as indicated in M.1.h may identify a greater length crossed than would actually occur.

accommodate recreational navigation and access to waterbodies, ensuring adequate trail crossings, minimizing impacts to recreation areas and refuges, relocating the Port MacKenzie Trailhead and Parking Lot, and incorporating practices for management of fugitive dust during construction activities. Implementation of the recommended measures to minimize harm and consultations with the managing agencies for eligible section 4(f) resources described in Section M.1.f would reduce overall impacts to certain section 4(f) resources and properties, including officially recognized trails, to a level that is considered *de minimis*. The construction and operation of the proposed rail line could result in adverse impacts to the Willow Creek State Recreation Area, Nancy Lake State Recreation Area, Little Susitna State Recreation River, and Susitna Flats State Game Refuge depending on the alternative authorized, if any.

M.2 Section 6(f) Evaluation

M.2.a Introduction

Section 6(f) of the Land and Water Conservation Fund Act (LWCF), 16 U.S.C. §§ 4601-4, stipulates that:

No property acquired or developed with assistance under [the Land and Water Conservation Fund Act], without the approval of the Secretary [Interior], be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

The statute is applicable to a property as a whole that has received funding from LWCF, regardless of where the resources were spent within an area.

M.2.b Section 6(f) Requirements

Section 6(f) of the LWCF is intended to protect parks and other recreation resources from conversion to other uses. The section 6(f) parkland conversion process applies only to those state, county, or local recreation resources that have received funding through LWCF. The ADNR Division of Parks and Outdoor Recreation serves as a liaison with the National Park Service (NPS) for purposes of administering the LWCF program, including distribution of funds and monitoring the state's compliance with LWCF requirements. The NPS makes the ultimate decision on whether to approve a conversion of land that has received LWCF funds.

The NPS will consider conversion of public outdoor recreation areas to another use, if the following prerequisites have been met:

- All practicable alternatives to the conversion have been evaluated and rejected on a sound basis;
- The property proposed for substitution is of at least fair market value as that of the property to be converted; and
- The property proposed for replacement is of reasonably equivalent usefulness and location for recreational purposes as that being converted.

The replacement property need not provide identical recreational activities or resources, but it must meet public outdoor recreation needs as indicated in the Statewide Comprehensive Outdoor Recreation Plan.

M.2.c Section 6(f) Resources Potentially Affected by the Proposed Project

The Nancy Lake State Recreation Area is the only potentially affected property that has received funding from the LWCF. It would be crossed by the Willow Segment, and would therefore be potentially affected by the Mac West-Connector 1-Willow, Mac East-Connector 3-Willow, and Mac East Variant-Connector 3 Variant-Willow alternatives. Twelve acres would be potentially directly impacted on the western side of the park (directly west of Red Shirt Lake) and 9.8 acres could be separated from the Recreation Area and indirectly impacted west of the rail line ROW. Figure M-4 illustrates the crossing area.

The Nancy Lake State Recreation Area is a popular and easily accessible recreation area, characterized by interconnected lakes and rolling landscapes. Some of the recreation activities available include canoeing, picnicking, fishing, hiking, camping, dog sledding, skiing, snowshoeing, and snowmachining. The Little Susitna State Recreation River passes through the southeast portion of Nancy Lake State Recreation Area and canoers can portage to Nancy Lake to utilize the ample water trail system within the park. Nancy Lake currently receives approximately 40,000 visitors per year, with the highest use in the summer (ADNR 2007).

M.2.d Description of Alternatives

In addition to the 3 alternatives that would potentially affect Nancy Lake State Recreation Area, this Final EIS evaluates 9 other rail alternatives and a No-Action Alternative. They include:

- Mac West-Connector 1-Houston-Houston North
- Mac West-Connector 1-Houston-Houston South
- Mac East-Connector 3-Houston-Houston North
- Mac East-Connector 3-Houston-Houston South
- Mac West-Connector 2-Big Lake
- Mac East-Big Lake
- Mac East Variant-Connector 2a-Big Lake
- Mac East Variant-Connector 3 Variant-Houston-Houston North
- Mac East Variant-Connector 3 Variant-Houston-Houston South
- No Action

None of these alternatives, including the No-Action Alternative, would affect section 6(f) properties.

M.2.e NPS/ADNR Determination

Conversations were held with the ADNR Division of Parks and Outdoor Recreation (DPOR) on December 18, 2008 to determine which areas have received LWCF funding and would require a potential conversion of land. ADNR confirmed that the Nancy Lake State Recreation Area was

the sole recipient of LWCF funds in the project area. This was verified with the NPS database of LWCF recipient properties for the MSB (NPS 2008).

| The ADNR indicated that, were ARRC to decide that 1 of the 3 alternatives affecting Nancy Lake State Recreation Area would be considered its preferred project alternative, the DPOR would need to be formally contacted. DPOR would first approve a conversion plan, relate the conversion concept to NPS, and NPS would have to agree to the conversion before proceeding. OEA's recommended mitigation measures regarding conversion would require that the railroad provide land of equal or greater value in substitution for all converted land as identified in consultation and agreement with DPOR. For 6(f) land conversions, DPOR typically informs the project proponent of the land it would like to acquire. Replacement land need not be onsite, but would have to be in a use other than public recreation. Following approval of a conversion concept, NPS requires that a series of formal appraisals be conducted both for the land to be taken for the project and of the replacement land (Gray pers. comm., 2008, 2009).

M.2.f Section 6(f) Conclusion

| A portion of Nancy Lake State Recreation Area, which has received funding from LWCF, would be permanently converted from recreational to non-recreational uses in the event that either the Mac West-Connector 1-Willow, the Mac East Variant-Connector 3 Variant-Willow, or the Mac East-Connector 3-Willow alternatives is authorized by the Board. No properties protected by LWCF section 6(f) would be affected by any other alternative.

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