

## 6. CULTURAL AND HISTORIC RESOURCES

### 6.1 Regulatory Setting

Applicable Federal, state, and local regulations are discussed below.

#### 6.1.1 Federal Regulations

The most relevant Federal laws for the evaluation of effects to cultural and historic resources are the National Environmental Policy Act (NEPA), 42 United States Code (U.S.C.) § 4321 and section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470 and its implementing regulations (36 Code of Federal Regulations [C.F.R.] part 800). NEPA requires a review of major Federal actions for impacts on the cultural environment. The NHPA requires Federal agencies to consider the effects of their undertakings on cultural resources that are listed on, or eligible for listing on the *National Register of Historic Places* (National Register). Section 106 applies when a project has been determined to be an undertaking, which includes a project, activity, or program funded in whole or part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on the behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency (36 C.F.R. § 800.16(y)). If the undertaking would have an adverse effect on historic properties, the agency must continue to consult to resolve the adverse effects. Federal agencies follow the section 106 process in reviewing project activities and prescribing appropriate actions to meet the requirements for compliance.

The section 106 regulations define historic property as:

any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register maintained by the Secretary of Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term also includes properties of traditional religious and cultural importance to an Indian Tribe or Native Hawaiian organization and that meet the National Register criteria (36 C.F.R. § 800.16(l)(1)).

In nominating a historic property to the National Register, consideration is given to both the significance and integrity of the property's historic qualities. For a cultural resource (such as districts, sites, buildings, structures and objects) to be eligible for listing on the National Register, it must possess integrity of location, design, setting, materials, workmanship, feeling, and/or association (36 C.F.R. § 60.4).

Other relevant legislation that applies to cultural resources includes the Antiquities Act of 1906, 16 U.S.C. § 431; the Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470; the National Trails System Act, 16 U.S.C. § 1241; the American Indian Religious Freedom Act of 1978, 42 U.S.C. § 1996; section 4(f) of the U.S. Department of Transportation Act of 1966, 49 U.S.C. § 303; the Archaeological and Historic Preservation Act of 1974 ("Moss-Bennett" Act), 16 U.S.C. § 469; *Indian Sacred Sites*, Executive Order 13007, 61 *Federal Register* 25131 (May 17, 1996); and the Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001-3013.

## 6.1.2 State Regulations

Alaska Statute (Alaska Stat. § 41.35), addresses historic preservation issues on state-owned lands. If no Federal permits were required, this statute would be the prevailing legal authority for cultural resources in the undertaking.

## 6.1.3 Local Regulations

The Matanuska-Susitna Borough (MSB or the Borough) is an interested party in consultation, and has a regulatory responsibility under the NHPA. The MSB is a certified local government under the NHPA (16 U.S.C. § 470a(c)) and therefore has the ability to manage its own historic resources. As part of its duties, the Borough must enforce the appropriate state or local historic property legislation; establish and maintain an adequate and qualified historic preservation review commission; maintain a system for survey, inventory, and review of historic properties in its jurisdiction; provide for adequate public participation in the local historic preservation program, including the process of recommending properties for nomination to the National Register; and satisfactorily perform the responsibilities delegated under the NHPA.

## 6.2 Study Area

The study area includes the area from the Susitna River east to Point MacKenzie, Knik, and the Parks Highway, including Houston and the area just north of Willow (Figure 6-1). This area encompasses historic trails and resource users, including dog sledgers, all-terrain-vehicle users, and snowmachiners who travel within and beyond the area to hunt, trap, camp, and participate in other recreational activities. For cultural resources, the study area may be broader than the area of potential effects in order to identify the context within which cultural resources may be evaluated for significance.

The area of potential effects is defined in the section 106 regulations as:

the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking (36 C.F.R. § 800.16(d)).

The proposed rail line could directly alter the character or use of a cultural resource primarily within the rail line footprint (the area of ground disturbance). Examples of direct alterations to cultural resources from proposed rail line construction or operation include physical destruction of or damage to all or part of the resource; removal of the resource from its original location; change in the character of the resource's use or of physical features within the resource's setting that contribute to its historic significance; or change in user access to traditional use sites or loss of cultural identity with a resource.

The geographic area within which the proposed rail line could indirectly alter the character or use of a cultural resource, labeled "Project Area" on Figure 6-1, was set at a maximum of 1 mile on either side of the rail line centerline to establish a study area for the identification of historic properties that could be sensitive to visual or noise effects. One mile broadly encompasses the anticipated maximum potential extent for visual elements that have the potential to diminish the

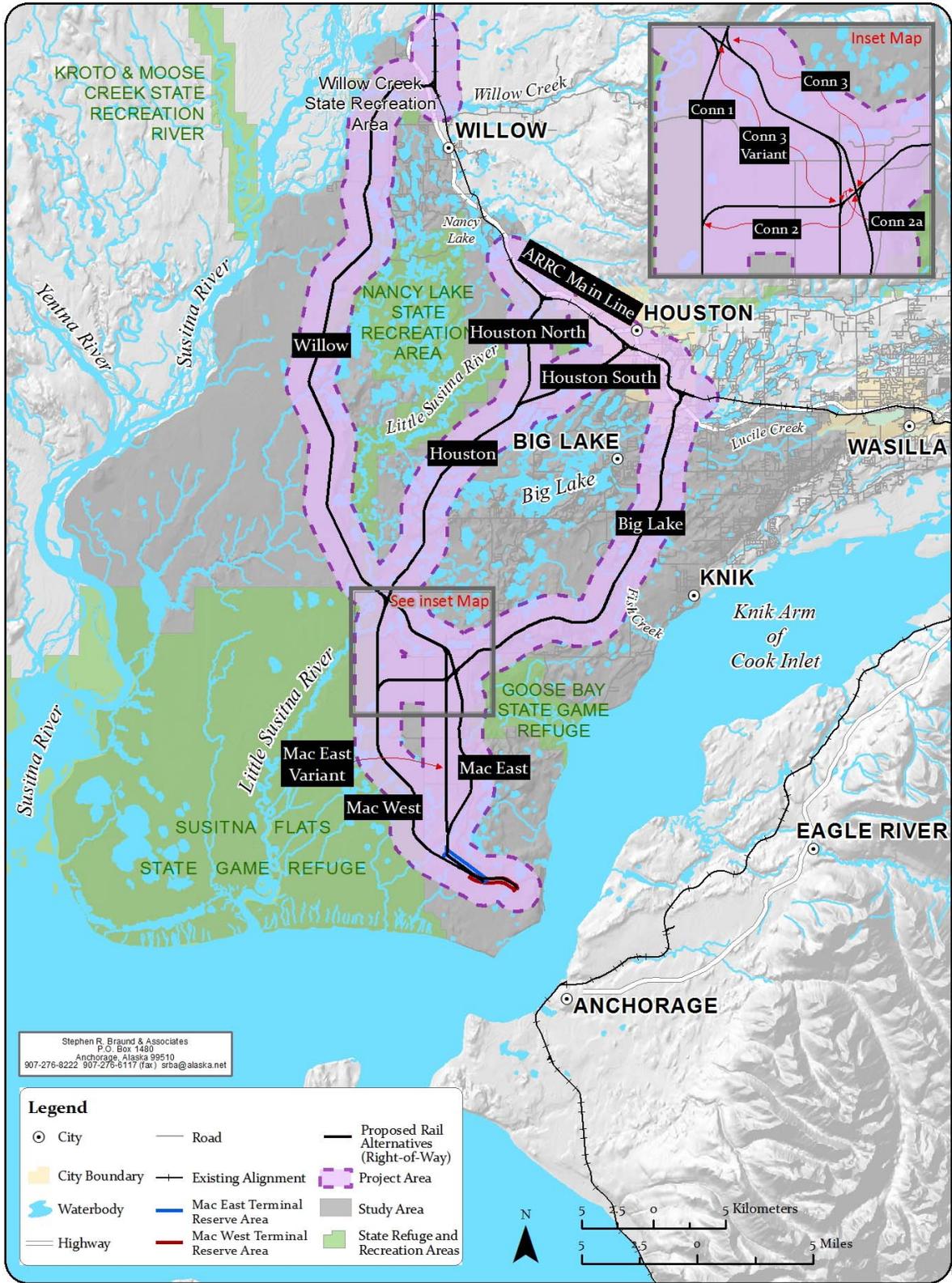


Figure 6-1. Port MacKenzie Rail Extension Study Area

integrity of a property's significant historic features, particularly in areas of low vegetation and flat topography. Other indirect alterations would typically have the potential to alter the character or use of a cultural resource much closer to the rail line centerline than 1 mile. Such alterations could be caused by vulnerability to erosion and the introduction of vibration, noise, or atmospheric elements.

### **6.3 Analysis Methodology**

The Board's Office of Environmental Analysis (OEA) performed an initial literature review and consulted the Alaska Heritage Resources Survey database and other databases to identify known cultural resources in the study area (ADNR OHA, 2008a). A review of scoping documents indicated the prominence of snowmachine and all-terrain-vehicle use, which combines the trails historically used for dog sledding and skiing with modern recreational use. Some users described a history of all-terrain-vehicle and snowmachine use that goes back to 1960.

A cultural resources field survey by OEA in 2008 was limited to areas within the proposed 200-foot right-of-way (ROW), where direct effects to cultural resources would be most likely (SRB&A, 2008). OEA developed a probability model for guiding cultural resource surveys along the various rail line alternatives using available Geographic Information System (GIS) data inputs (such as previously documented cultural resource locations, historic trails, waterways, and Dena'ina place names) to generate maps identifying areas of low, moderate, and high probability for cultural resources. OEA used this probability model and information from the field survey to identify the alternatives that would have the least potential impact to cultural and historic resources. Areas with a greater likelihood of having cultural resources nearby include banks along streams, lakes, and other waterways; ridges and other promontories; other known sites and Dena'ina place names; and trails. Wetland areas are considered to have the lowest potential to have cultural resources. OEA selected a sample of the total number of miles of the proposed rail line alternatives for the cultural resources survey.

A 3-person survey crew performed the OEA field surveys. Crew members were spaced 20 meters (about 65 feet) apart and used handheld Global Positioning System units to guide them along transect routes following or paralleling the centerline of the rail line. The areas surveyed included all probability levels (low, moderate, and high) along the ROW to focus on high- and medium-probability levels and include a sampling of low-probability areas. The field crew surveyed 25.5 of the 115 miles of proposed alternatives (Figure 6-2). The survey resulted in the discovery of 36 cultural resources within 1 mile of the rail line centerline that were deemed appropriate for inclusion in the Alaska Heritage Resources Survey. The State Historic Preservation Office (SHPO) reviewed the field research design before the survey.

The analysis of impacts to cultural resources for the Mac East Variant, Connector 2a, and Connector 3 Variant segments was based on the aforementioned literature review and Alaska Heritage Resources Survey database review, as well as the probability model (Figure 6-2). No portion of the Mac East Variant, Connector 2a, or Connector 3 Variant segments was surveyed in 2008; however, several sites were found nearby along the surveyed portion of the Mac East Segment, which encompasses portions of the new segments.

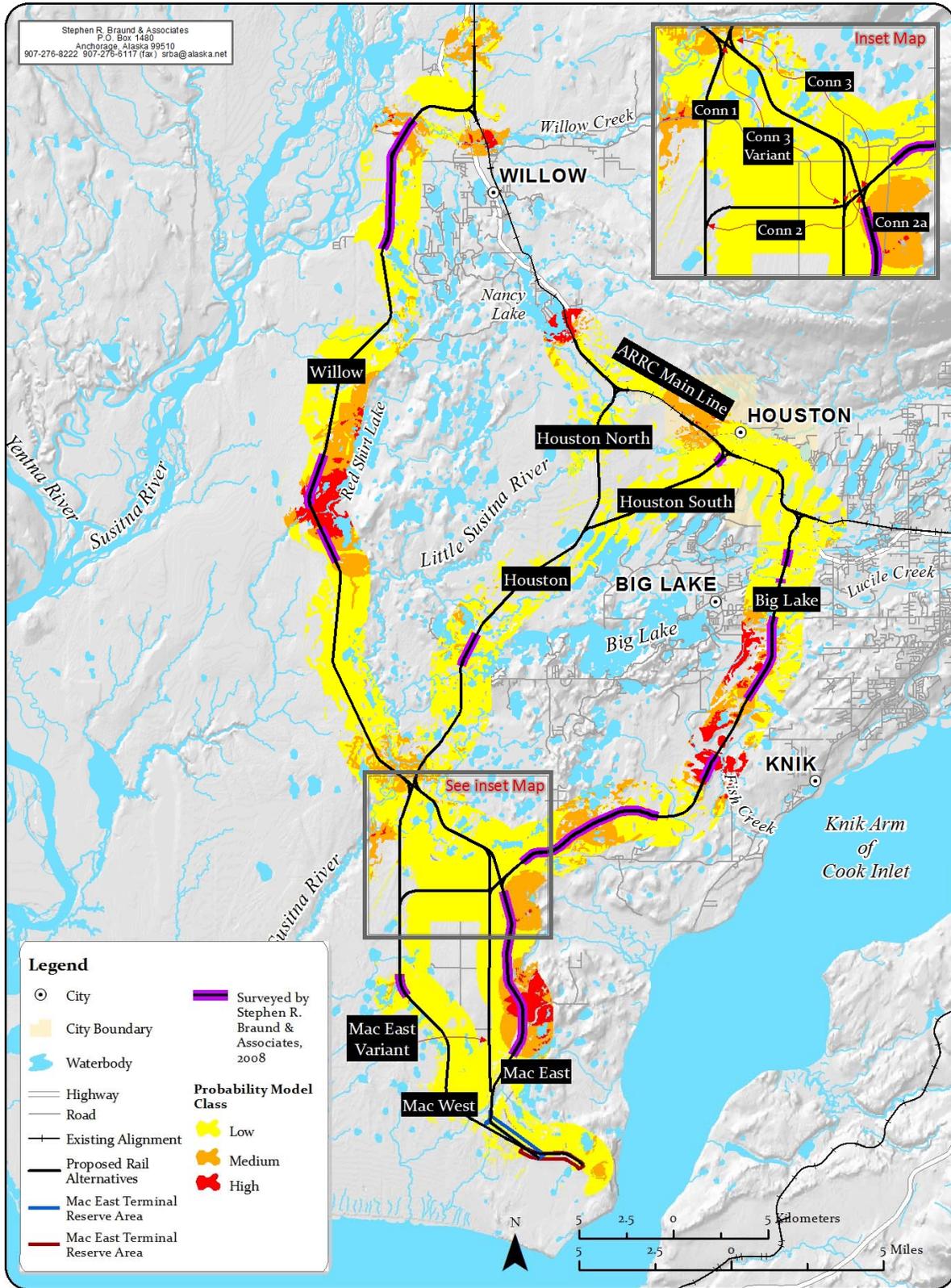


Figure 6-2. Probability Levels for Cultural Resources and 2008 Survey Areas

OEA also initiated government-to-government consultation with 10 Federally Recognized Tribes, tribal groups, and Alaska Native Regional Corporations. Consultation letters and meetings asked interested parties to report their concerns regarding cultural resources in the study area, as well as identify any cultural resources in the study area not documented during the literature review, the Alaska Heritage Resources Survey review, and OEA field surveys. Cultural resource consultation included identification of any potential cultural landscapes or traditional cultural properties in the study area. Based on the literature review and information from the Alaska Heritage Resources Survey, consultation, and fieldwork, OEA identified cultural resources and mapped their locations in relation to the proposed alternatives. To encompass the extent of direct and indirect impacts that could affect the eligibility of cultural resources for inclusion on the National Register, OEA defined multiple areas of potential effect. The organization of the discussion of impacts is by northern and southern rail line segments and includes a description of any potential short-term (such as construction), long-term, and operation impacts on cultural resources.

All unsurveyed areas in the proposed ROW could contain cultural resources eligible for listing on the National Register, and surveyed areas could have buried archaeological or paleontological sites that are eligible but undiscovered.

## **6.4 Affected Environment**

### **6.4.1 Prehistory**

The study area was transformed by glaciers that retreated approximately 12,000 years ago, leaving behind a landscape dominated by postglacial landforms including complex ridge systems, outwash gullies and lakes, kettle lakes, moraines, eskers, and streams. The ridge systems consist of resistant rock and are connected to a system of moraines, kames, and eskers (formations of gravel, silt, and sand formed by ice or water movement in a glacier and left behind when the ice melted and the glacier retreated) (Dilley and Dilley, 2000).

After the ice retreated, the area was likely a desert-like zone with blowing dunes of glacially-produced silt, large blocks of ice partially buried in glacial debris, and a landscape of exposed rock and gravel with windblown loess deposits in the lee of winds coming off the retreating glaciers and up the rapidly forming Cook Inlet. Soon, however, a succession of plant types already present in the region would colonize the desert-like area and stabilize the soils. It is likely that mosses and lichens first colonized the area, stabilizing the soils and drawing in animals that consume these primitive life forms. Later, willows, alders, and other woody shrubs became established, created wind blocks, and entrained soil beneath vegetation and in root mats (Reger and Bundtzen, 1990).

After plants pioneered the region, it is likely that a variety of mammals and fish colonized the land and waters. People followed the large animals into the area and hunted them on the margins of the retreating glaciers. These peoples were already accustomed to life in the glacial margins and arrived with a sophisticated suite of stone and organic tools, clothing, housing, social structure, and language (Reger and Bundtzen, 1990; Reger and Pinney, 1996).

### 6.4.1.1 Prehistoric Sites

Known sites in the Upper Cook Inlet area include Beluga Point on Turnagain Arm (Reger, 1996, 1998), sites in the Kenai Mountains (Reger and Pipkin, 1996), several sites in the Matanuska Canyon (West, 1996), a series of sites along the upper Susitna River (Dixon *et al.*, 1985), and 2 localities near Long and Ravine lakes (Reger and Bacon, 1996; Robinson *et al.*, 1996). These sites evidence an early core-and-blade technology in which stone blades were struck from a core material and later worked and retouched into finished form. There have been no Paleo-Indian sites found in Southcentral Alaska with diagnostic type artifacts, such as fluted points (chipped tools notched near the base for hafting) and burins (stone tools with a characteristic flaked end used for engraving).

People using early core-and-blade technology likely hunted land animals in the Cook Inlet region. Elsewhere, core-and-blade technologies are found on the coast, probably the tools of marine-mammal hunters. Analogous to other radiocarbon dated sites in Alaska, Cook Inlet core-and-blade technologies date from 7,500 to 10,000 years ago (Reger, 2003). The interpretation of the period after these core-and-blade occupations is not clear, probably because several different culture groups with various stone-tool technologies were in the area at the same time. Some 4,000 to 5,000 years ago, notched stone points were used in the upper Susitna River basin. Reger (2003) describes a “distinctive, stemmed, chipped stone projectile point and a high-shoulder form of knife” from Beluga Point during this time. There are no slate tools, ground, polished, or pecked, in the core-and-blade assemblages.

Approximately 4,200 years ago, people with ground slate spear points and knives camped at Beluga Point and probably in the Upper Yentna River Drainage (Dixon, 1993; Reger, 1981). Kachemak Culture people with a marine-oriented harvest technology spread over much of the Cook Inlet basin during the period of 2,500-1,000 years ago. The Kachemak Culture was comprised of Eskimo people that originated in the Kodiak Archipelago and was characterized by elaborate and distinctive burial practices, notched cylindrical stones, fishing hooks, and other utilitarian items that allowed them to harvest from a marine environment (Langdon, 2002). Inland, the stratified Hewitt Lake site has a Riverine Kachemak component in the lower levels, while upper levels contain later Dena’ina components (Dixon, 1996). Riverine Kachemak people relied on salmon harvests, as evidenced by numerous small, notched pebble net sinkers. Ground slate was used for ulus (semi-lunate knives) and spear points. Chipped stone arrow points are common in these assemblages. These people were likely hunters and gatherers who followed game and plant resources with the seasons to support themselves. The Dena’ina, an Athabascan speaking culture, occupied the Cook Inlet area approximately 1,500 years ago, and were characterized by semi-subterranean houses, tools of primarily bone and wood, and exploitation of both a marine and terrestrial subsistence environment (Reger, 2003).

### 6.4.1.2 Prehistoric Cultural Sequences

Based on the description of the known sites in Upper Cook Inlet, it is likely that prehistoric sites in the study area fall into one of the cultural sequences listed in Table 6-1. The description of the Hewitt Lake site (Dixon, 2003), indicates the possibility that beneath the Dena’ina sites-nestled among the lakes, swamps, and streams of the Susitna lowland-are older sites from Kachemak and earlier peoples who preceded them centuries and even millennia before.

**Table 6-1  
Prehistoric Cultural Sequences in Upper Cook Inlet**

<b>Archaeological Phase/ Culture Group</b>	<b>Period</b>	<b>Description</b>	<b>Source</b>
Early Core and Blade	7,500 to 10,000 years before present	Large core and blade technology.	West, 1996
Notched points	4,000 to 5,000 years before present	Notched points from Upper Susitna, stemmed projectile points and a high shouldered knife at Beluga Point.	Reger, 1996, 1998
Ground Slate	4,200 years before present	Ground slate spear points found at Beluga Point and the Upper Yentna River drainage.	Reger, 2003
Riverine Kachemak	2,500-1,000 years before present	Ground slate points, knives, and spears; notched pebble net sinkers, and some chipped stone points.	Dixon, 1993; Reger, 1981
Dena'ina	1,500 years before present	Organic tool technology with little stone used. Copper pins and projectile points.	Dixon, 1996; Reger, 2003
Chugach	800 years before present	Polished slate projectiles, knives, spear points. Occurs contemporaneously with Dena'ina materials.	Reger, 2003

## 6.4.2 History

European contact in the study area began in the late 18<sup>th</sup> century. During this time, Upper Cook Inlet was occupied by the Dena'ina, a group of Athabascan-speaking people, related by language and lifeways to groups in Interior Alaska and more distantly to the Tlingit and Eyak of the northwest coast of North America (Townsend, 1981). The Athabascan languages originated in Central Siberia and spread throughout Interior Canada and as far south as the Navajo and Apache in Arizona and New Mexico (Vajda, 2008). Outer Cook Inlet and the surrounding coasts and islands were the home of the Chugach Eskimo or *Sugpiat* people, more recent arrivals to the area and related to the *Yup'it* of Southwest Alaska. These groups had complex relationships that combined some peaceful interactions with occasional warfare, slave and wife raiding, and sneak attacks on other groups (DeLaguna, 1975; Osgood, 1966).

### 6.4.2.1 Dena'ina Place Names and Trails

There are a number of Dena'ina trails and numerous Dena'ina language place names in the study area. Place names indicate the history of Dena'ina land use for those who used the lands and survived to be interviewed by linguists (Kari and Kari, 1982; Kari and Fall, 2003). Trails in the study area also include later Euro-American trails, which often were based on Dena'ina trails that preceded them. Trails to mineral lodes and claims often branched off existing Dena'ina trails, but in some cases were completely new trails cut and improved by miners and explorers. Appendix I, Table I-1, lists 88 Dena'ina place names, their English translations, a description of the sites and their associations, and code numbers corresponding to a map (Figure 6-3).

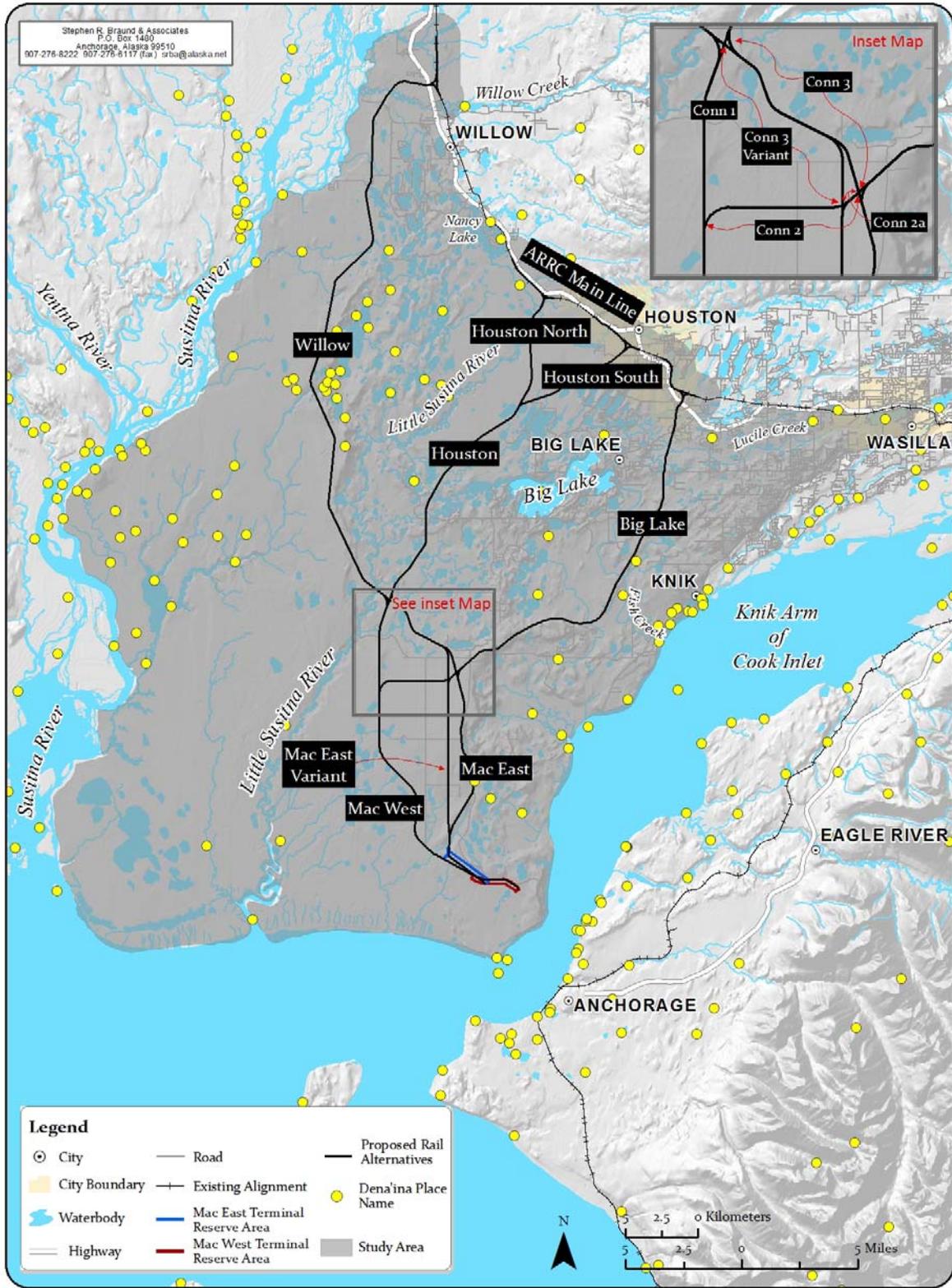


Figure 6-3. Locations of Dena'ina Place Names in and near the Study Area

#### 6.4.2.2 Russian America, 1740 to 1867

Early interactions in the late 1700s between the Dena'ina, the Russians, and other European groups were limited by the intense interest elsewhere in Alaska for sea otter pelts that were traded to China in exchange for tea, spices, chinaware, cotton, and silk. There were few sea otters in the Outer Cook Inlet and in Upper Cook Inlet when British explorers James Cook and George Vancouver visited in the 1770s (Beaglehole, 1967; Cook, 1967). French, British, Spanish, and American traders and explorers were encroaching on Russian territory by the 1790s and trading for otter and other pelts both in the waters of the Pacific and inland, where the Northwest Company, Hudson's Bay Company, and other fur traders had trading posts. After the limited number of sea otters in Cook Inlet were depleted, the Russians proceeded down the coast, building a base in California and taking crews of Aleut hunters as far south as Chile until the sea otters were depleted along the entire coast (Black, 2004; Solovjova and Vovnyanko, 2002; Wrangell, 1980).

With the sea otters depleted, the Russians began a period of otter management in their territory, designed to rebuild the population and shifted their trading efforts to land furs, especially beaver but also including mink, bear, river otter, moose, and caribou hides (Black 2004; Wrangell 1980). These were traded within Alaska, with Russians serving as intermediaries for trade between Indians and Eskimos, and with China and Britain. The Russian fur trade companies designated local residents in each village to serve as managers for trade, or "toions," who kept track of the pelts stored for trade to the Russians and encouraged men to hunt for fur animals (Black, 2004; Solovjova and Vovnyanko, 2002). Once a year, groups would come out of the Interior by boat and trade pelts to the Russians in exchange for tea, sugar, flour, cloth, beads, axes, knives, and other goods, such as pots, pans, and tea ware. People frequently converted sugar and flour to alcoholic beverages and held a party until these novel luxuries were depleted and then people followed long-established trails back to their home territories. The Dena'ina used their central geographic position and network of trails to serve as intermediary traders between the Russians and the groups farther in the Interior, gathering relatively great wealth in a short time (DeLaguna, 1975; Osgood, 1965; Townsend, 1981; Stafeev, 1985).

From 1741 to 1838, Europeans inadvertently introduced the first of many epidemic diseases that devastated Native populations throughout the Arctic (Fortune, 1992). Smallpox, tuberculosis, measles, mumps, chicken pox, influenza, and other diseases would flare up and spread widely due to poor hygiene, wide travel, and winter crowding, with one such epidemic that started in 1838 killing perhaps more than half of all Native people in Alaska. The periodic epidemics that caused numerous deaths and long-term debilitating illnesses were ameliorated in the 1840s with the first vaccines and in the 1940s with the introduction of antibiotics.

During the late 18<sup>th</sup> Century, the Dena'ina and two neighboring groups occupied the Susitna Valley. Dena'ina from Cook Inlet had established trails through the Alaska Range to trade marine mammal fat with interior Dena'ina people and possibly the Upper Kuskokwim people on the western side of the Alaska Range. The neighboring Ahtna people of the Copper River basin were closely related to some Dena'ina bands and shared some territory near Talkeetna and in the Matanuska Valley past King Mountain with the Upper Cook Inlet Dena'ina (Kari and Fall, 2003). From these areas, the Ahtna would venture to Cook Inlet to trade with the Russians. The Russians called them Mednovtsie, people of the copper, for the native copper they often brought

for trading. Many Ahtna people strategically married into Dena'ina families, as the Dena'ina were considered wealthy for their proximity to both marine mammal fat sources and European trade goods. The Russian Orthodox Church eagerly sought to incorporate the Ahtna into the church but failed several times and lost clergy in conflicts with Ahtna bands (Kari, 1986; Znamenski, 2003). Farther up the Susitna Valley, Broad Pass connected to the Upper Tanana people, recipients of trade goods and marine mammal fat from the Dena'ina, but who were rarely inclined to travel through Dena'ina territory for trade.

### **6.4.2.3 Alaska Purchase and Territory, 1867 to 1958**

#### **Early Settlement, 1867 to 1915**

In 1867, the United States purchased Alaska from Russia. Under the Treaty of Cession, the Dena'ina were to be treated as semi-settled peoples, equivalent to contemporary Indians (Black, 2004). However, during much of the early days of American administration, there was no direct supervision or provision for government, schools, or other services. The U.S. Army had several small posts in Alaska, then the U.S. Navy administered the territory, and finally the Revenue Cutter Service, precursor to the U.S. Coast Guard, conducted court and provided medical care during cruises around the coast. Only after the first gold rushes in Canada, which spilled over into Alaska, was a territorial government formed to record land claims for mineral development (Bancroft, 1886; Naske and Slotnick, 1987). Ivan Petroff, an assistant to the noted American historian, Hubert Bancroft, was hired to perform a Census and summarize the resources of the territory in 1879 (Bancroft, 1886; Petroff, 1881, 1884).

Dena'ina people continued to interact primarily with fur traders who lived at widely spaced trading posts, including O. G. Herning, a fur trader at Knik. The Russian Orthodox Church, which had flourished among the Dena'ina, maintained a limited presence at Kenai, from where a traveling priest would sometimes make visits to the Susitna River villages (Kari and Fall, 2003; Potter, 1967; Znamenski, 2003). There were several conflicts between the fur traders, priests, and Dena'ina, and early officers of the court did not like to intervene (Znamenski, 2003).

The Gold Rush in the Klondike in 1898 was the first of several events that would change Alaska from an isolated, ignored outpost to an organized territory with allure for hunters, adventurers, and sportsmen. Government explorers like Herron (1901), Mendenhall (1900), Brooks (1911), and Glenn were accompanied by private explorers, hunters, and mountain climbers like Browne (1913), Hawthorne (McKeown, 1951), and Studley (1911).

Gold prospecting created the next great influx of Euro-Americans into Upper Cook Inlet, beginning with discoveries in the Kenai Peninsula and Turnagain areas in 1891 (Buzzell, 1986). Soon, communities began to spring up to serve the provisioning needs of the Klondike and other gold rushes taking place throughout Alaska. In some cases, existing trading posts filled this need; in other cases, towns such as Knik and Susitna Station grew up along Cook Inlet. The community of Knik was the largest settlement in the Matanuska-Susitna Valley in the 1890s. At one time it had a population of 500 and included stores, hotels, restaurants, and churches. Knik served as a transfer point for passengers and freight from ocean-going steamers to smaller vessels or for overland travel. Some homesteads were established around Knik and the western end of the Matanuska-Susitna Valley during the first 20 years of the 20<sup>th</sup> Century. Fortner-

Welch (2002) described the life of several prominent homesteading families, including bachelor homesteader, Herman Gronwoldt, who homesteaded at the east end of Big Lake. The establishment of Anchorage in 1915 as the Alaska Railroad construction headquarters and ship anchorage spelled the end of Knik's prosperity. By 1917, it was virtually abandoned.

### **Establishing Government, 1915 to 1939**

The American government did not reach Upper Cook Inlet with any lasting authority until the 1915 establishment of Anchorage at the mouth of Ship Creek at the site of what was then known as Knik Anchorage. From there, the farthest point of navigability for ocean-going ships in Knik Arm, materials for construction of the Alaska Railroad were unloaded and barged to shore. Connections were soon built to existing rail lines of the former Alaska Northern Railroad in Turnagain Arm. The government purchased the failed private railroad to create the Alaska Railroad system, which reached the coal fields of the Matanuska Valley, the ice-free port at Seward, and the interior river ports of Nenana and Fairbanks (Wilson, 1977). Many Dena'ina people living in the Susitna Valley sought employment on railroad construction crews because fur prices had crashed after the Alaska Commercial Company monopolized the trade and bought out competitors like the Western Fur and Trading Company. One advantage of working for the railroad was access to commissary goods brought in for the comfort and support of railroad workers, which were familiar as trade goods to the Dena'ina. Another advantage was the employee rail pass, which allowed free travel on the railroad. Workers could spend the summer laying track along the line, then use their rail passes to travel to Talkeetna and beyond, to which they formerly had to walk or paddle (Kari and Fall, 2003). Others lived near the Matanuska Valley coal mines and worked there seasonally, but the coal mines closed when oil became the fuel of choice for Navy ships and when better, hotter burning coal was found and mined near Nenana (Wade, 2002).

After the 1918 Spanish influenza devastated the remaining Native population of Upper Cook Inlet, the survivors resettled at what is today Tyonek. There had been several Tyonek village sites along that stretch of coast before then. The last Tyonek people settled around a miner's community, which was used as a port site for barging miner's gear to shore and boasted a post office and became the refuge and orphanage for survivors of the worldwide epidemic (Kari and Fall, 2003). Families settled at Tyonek or in the Susitna Valley at or near traditional sites intersected by the railroad, where many men continued to work until the 1923 completion of the line to Fairbanks and where some stayed on as maintenance-of-way workers. This allowed seasonal travel through their homeland and integration into the cash economy for access to luxuries and necessities. Commercial fishing was another compromise between the need for money, the desire for gender-appropriate work, and the strong desire to maintain cultural traditions, practices, and connections to their lands. A Native industrial school was built at Eklutna along the railroad, near the site of a former Dena'ina village, and Native people from all over the state attended and learned contemporary academic and industrial skills. Other Dena'ina people began to attend Indian schools at Wrangell and Sitka and the Chemawa Indian School in Salem, Oregon. After schooling, many did not return to their communities due to disease, death, or pressure to assimilate Native peoples into contemporary urban society (Barnhardt, 2001; La Belle and Smith, 2005; Hirshberg and Sharp, 2005).

Increasing populations of European Americans in the Upper Cook Inlet area made it equally difficult for Native people to maintain their traditional land use patterns because homesteaders, settlers, and farmers began to colonize the promising lands of the Susitna and Matanuska valleys. Following the construction of the railroad, the Federal government subdivided lands for homesteads and farms and, in the 1930s, began a New Deal-era program to resettle farmers from Minnesota to the area as a poverty reduction effort (Miller, 1975). The 1930s saw two ethnographic and archaeological surveys of the Dena'ina conducted by Frederica DeLaguna and Cornelius Osgood with some observations by Aleš Hrdlička, who traveled through Alaska several times studying the physical anthropology of its Native and immigrant people (DeLaguna, 1975, 1996; Hrdlička, 1943; Osgood, 1966).

### **World War II to Statehood, 1939 to 1958**

The entry of the United States into World War II on December 7, 1941, caused far-reaching consequences throughout the Alaska Territory. Before the war, the Federal government underestimated the Territory's strategic importance. By the end of the war, after the Japanese had attacked, occupied, bombed, and been routed from the Aleutian Islands, the Federal government better understood the Territory's location and importance. Tens of thousands of military personnel served in the Territory, dozens of airfields were built, the AICan (Alaska) Highway was constructed, and billions of dollars were spent on other civilian and military projects (Bush, 1984).

World War II also affected the area across from Anchorage on the west side of Knik Arm, the effect of which still lingers. The Susitna Gunnery Range is an area with munitions and explosives of concern and unexploded ordnance. The military fired munitions from the vicinity of Cairn Point westward across Knik Arm. The area from Lake Lorraine and the shoreline, inland and northward along the Point MacKenzie access road, is reported to have had confirmed finds of munitions and explosives of concern and unexploded ordnance. The military also conducted various other training activities across the inlet, including survival training (Delkettie, 2008). During this period, military personnel used the area across the inlet, particularly the Big Lake area, as a recreational location for soldiers from Elmendorf Air Force Base and the U.S. Army's Fort Richardson.

Urbanization in Anchorage continued slowly, with Dena'ina people being pushed away from their former home sites in and near the city by development pressure, lack of property rights, and race-based discrimination. Dena'ina people were displaced from Anchorage before and during World War II, when a traditional fish camp near Ship Creek (Tak'at), a location for the First Salmon ceremony and gathering place and potlatch site for local and non-local Native people, was buried by debris pushed over the bluff during the construction of Elmendorf Field beginning in 1940 (SRB&A, 2006). The expansion of Anchorage and additional removal of lands withdrawn for the military further displaced the Dena'ina people from long-used fish camps along Chester Creek, Ship Creek, Point Campbell, and Point Woronzof (Fall, 1981). Some Dena'ina continued to fish from Fire Island and others from near Eklutna, but Anchorage was considered a dangerous and unfriendly place by its former seasonal residents (Kari and Fall, 2003).

#### **6.4.2.4 Statehood, 1959 to 2008**

Alaska officially became the 49<sup>th</sup> state on January 3, 1959. In 1964, voters created the MSB, which covers an area the size of the Commonwealth of Virginia, and Palmer became the Borough seat. Roads continued to be improved, with a major upgrade completed in 1965 when the new Knik River Bridge (now Glenn Highway) was completed. Houston was incorporated as a Third Class City in 1966. The Anchorage to Fairbanks road (Parks Highway) was completed in 1971, shortening the distance between the cities by more than 100 miles (Glenn Richardson Highway Route) and creating a year-round all-weather road up the Susitna River valley to Cantwell and north. With these improvements in transportation and because of the large tracts of land available for subdivision, the Matanuska-Susitna Valley began to grow into a major population center, increasing from 6,509 people in 1970 to 59,322 in 2000 (ADOLWD, undated).

Among the last Dena'ina people to live a mixed traditional life on the land was Shem Pete, who lived in a cabin on Nancy Lake. He and his son Billy Pete were informants for a book documenting what the men recalled of traditional life as they had lived it. Numerous Dena'ina place names are applied to the landscape in the project area based on this and other books documenting the Dena'ina presence in Upper Cook Inlet. Shem and Billy Pete were eventually forced off their land by land speculators who tricked them out of their rights to the land; they settled in Tyonek (Kari and Fall, 2003).

The Alaska Native Claims Settlement Act of 1971, 33 U.S.C. §1601 and the Alaska National Interest Lands Conservation Act of 1980, 16 U.S.C. §§ 410hh - 410hh-5 and 43 U.S.C. §§ 1631-1642, changed Dena'ina land access and use permanently. The Alaska Native Claims Settlement Act was designed to transfer rights to lands taken by the Federal government to Native people, to organize Alaska Natives into a suite of corporate entities instead of dependent but sovereign tribal entities, and to extinguish their aboriginal land rights with the Federal government. The Claims Settlement Act was enacted to settle the long-standing conflicts over land rights of Alaska Native people in the face of the discovery of the Prudhoe Bay oil deposits and the pending construction of the Trans-Alaska Pipeline System. The Alaska National Interest Land Claims Act was enacted to finalize land claims in Alaska, to claim lands for parks and national monuments, to extinguish the right of the President of the United States to select additional national monuments in Alaska, and to adjust some terms of the Claims Settlement Act to ease some Native concerns and facilitate land management by Federal and state agencies (Williss, 1985). Some aspects of these acts continue to be points of contention between Federal, state, and Native parties, particularly land rights, subsistence preferences for rural residents, and access rights to different parcels using modern conveyances such as four-wheelers, tracked vehicles, amphibious vehicles, snowmachines, and aircraft (STB, 2008).

With the residential development of the Matanuska-Susitna Valley continuing to increase, private property holdings and land use access in the Susitna Valley are growing issues. Since the 2000 Census, the Knik-Fairview Census Designated Place, a portion of which is in the study area, has had the greatest average annual growth rate (7.5 percent) of places in Alaska with 2,000 or more people, and the MSB continues to be the fastest growing area in the state, with an average annual growth rate of 4.1 percent (ADOLWD, 2008). Numerous subdivisions have been and are being built, and access to public land is being cut off by these developments and by

landowners who want to maintain the rural character of the landscape in the face of residential and commercial development in the area. In recognition of the growing access and land use issues created by development, the MSB Assembly voted unanimously in December 2008 to create a special Knik Sled Dog and Recreation Special Land Use District to protect sled dog trails, some of which connect to the Iditarod National Historic Trail, from future development projects (Wellner, 2008).

### **6.4.3 Cultural Resources in the Project Area**

Archaeological sites, historic sites, cultural landscapes, and traditional cultural properties were analyzed within the study area, project area, and ROW in the course of research for the proposed rail line. If these types of cultural resources are eligible for or listed on the National Register, they are considered historic properties. Details on this designation are available in Section 6.1.1.

Archaeological sites consist of historic and prehistoric sites and structures and deposits of material culture on the surface or buried with few or no written accounts of their existence.

Historic sites are trails, buildings, and structures (cabins, houses, and other purposed structures) that have gained historic significance in and of themselves for design or other reasons, from association with famous or historically significant persons or events, or for representing specific architectural styles. As stated in the National Register Federal Program Regulations (36 C.F.R. § 60.4) the historic site must be more than 50 years old to be eligible for inclusion in the National Register, unless there are exceptionally significant attributes that contribute to the significance of the site.

Cultural landscapes and traditional cultural properties are properties that are definable to a delimited area or definable space and are significant to the cultural and historical practices of a community. The connection to and use of the property must be ongoing and continuing for it to be considered eligible for inclusion on the National Register. A cultural landscape is “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or that exhibit other cultural or aesthetic values” (Page, Gilbert, and Dolan, 1998). Cultural landscapes represent a reflection of human adaptation and use of natural resources expressed through land organization, settlement patterns, land use, systems of circulation, and physical structures (NPS, 1998a). Examples of documented cultural landscapes include the Kennecott Mill Town landscape in Wrangell-St. Elias National Park, the Cedar Pass Developed Area in Badlands National Park, and the Tallgrass Prairie National Preserve cultural landscape. Traditional cultural properties are associated with living Native peoples who have a tradition of using the landscape that is continuous and presently active, and might be religious or secular in practice. Two key components of traditional cultural properties are that they are rooted in a community’s history and are important in maintaining the continuing cultural identity of the community (NPS, 1998b). For traditional cultural properties, if the long-term, continuous practices are blocked or made impracticable, the property can be delisted or made ineligible for listing when the practice no longer continues. Consulting parties did not identify any traditional cultural properties in the study area during government-to-government or NHPA section 106 consultation for the proposed action.

### 6.4.3.1 Documented Cultural Resources

#### Prehistoric Cultural Resources

Figure 6-4 shows the documented cultural resources in the project area and their generalized locations in relation to the proposed rail line alternatives. There are 56 known prehistoric sites within 1 mile of the ROW, 29 of which were discovered during OEA’s field surveys in September and October 2008 (Table 6-2). Most of the sites consist of what are called cache pits, which were used for storage, processing, or freezing foods, and large semi-subterranean house pits, called *nichil* in Dena’ina, used for permanent or winter homes. A determination of eligibility for inclusion in the National Register has not been conducted for any of the prehistoric sites. For more detailed descriptions of these prehistoric sites, see Appendix I.

**Table 6-2  
Alaska Heritage Resources Survey Sites in the Project Area**

	Prehistoric	Historic	Total
Previously Documented Alaska Heritage Resources Survey Sites <sup>a</sup>	27	13	40
2008 Port MacKenzie Rail Extension Survey Documented Alaska Heritage Resource Sites	29	5	34
Totals	56	18	74

<sup>a</sup> Source: ADNR OHA, 2008a.

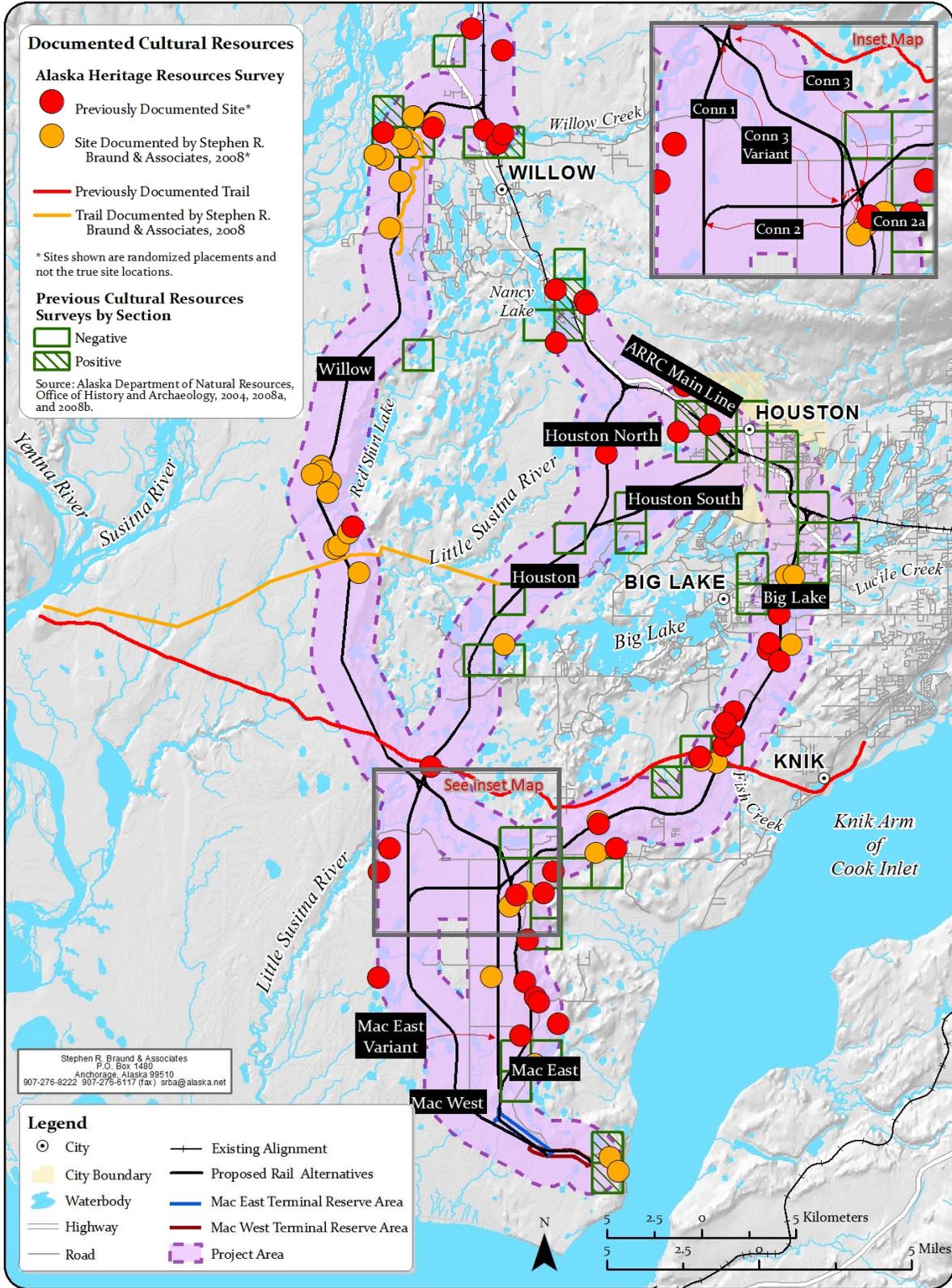
#### Historic Cultural Resources

There are 18 historic cultural resources within 1 mile of the proposed ROW (Table 6-2). Most of the historic cultural resources consist of historic structures, including bridges, roadhouses, cabins, and railroad stations. Five of the historic sites listed were discovered during OEA’s surveys for the proposed rail line.<sup>1</sup> These sites include 2 cabins, 1 shooting blind, and 2 trails. 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 Alaska Railroad Corporation (ARRC) bridge at Mile Post 180.8 (ANC-02777, determined not eligible) and a 1917 ARRC bridge at Mile Post 187.6 (TYO-00096, determined eligible) have been replaced by new structures and are thus not included in this analysis. For more detailed descriptions of these historic sites, see Appendix I.

### 6.4.3.2 Cultural Landscapes

During a March 5, 2008 meeting with OEA, the State Historic Preservation Officer recommended that the assessment of cultural resources for the proposed rail line include an analysis of potential cultural landscapes for dog sledding, recreation, homesteading, and agriculture. The following sections briefly summarize the historical context of each of these potential cultural landscapes and, based on the detailed review, provide a preliminary evaluation of their eligibility for inclusion in the National Register. OEA further evaluated the integrity of

<sup>1</sup> Surveys conducted for OEA by Stephen R. Braund & Associates.



**Figure 6-4. Documented Cultural Resources within the Proposed Port MacKenzie Rail Extension Project Area**

the dog sledding cultural landscape during the summer of 2009 through additional literature and archival reviews, a series of dog sledding-related interviews, and site visits to kennels and dog sledding clubs in the study area.

## **Dog Sledding**

### **Description**

Dog sledding first appeared in Cook Inlet with the Russian fur traders in the late 1700s and early 1800s. Before the arrival of the Russian fur companies in Cook Inlet, the Dena'ina hauled their belongings by packs or with sleds in the winter and only adopted the practice of using dogs to pull their gear on sleds after the Russian's arrival. The use of dog sleds for transportation and movement of supplies increased dramatically in Alaska, including in the Upper Cook Inlet area, with the gold rush in the late 19<sup>th</sup> Century and proved to be much more efficient than using horses or mules to haul supplies and mail during long winter months. As the miners came into the Cook Inlet area, small towns and trading posts grew as locations for miners to purchase supplies and to sell their gold and furs. Prospectors would often purchase their supplies of equipment and food in winter and transport them by dog sled to their mining claims farther north. Many miners also trapped for furs to support their prospecting pursuits and families. Knik and Susitna Station were hubs that appeared in the Upper Cook Inlet area during the late 1800s and early 1900s. During this gold rush era, besides using dogs to transport supplies or mail, dog races and freight-pulling contests first appeared, the most famous being the All-Alaska Sweepstakes, which first ran in 1908 and began and finished in Nome (Dean, 2005).

As more and more miners came into the Cook Inlet area, a network of dog sled trails, often following early Dena'ina footpaths or natural contours of the land, began to expand across the landscape. Transportation over the numerous wetlands, creeks, lakes, and ponds that cover much of the area between Knik Arm and the Susitna River was feasible and efficient by dog sled during winter months when the waters froze and snow blanketed the landscape. In response to the need for an overland route to connect Nome to the "Outside" during winter months and in light of gold discoveries over 200 miles to the northwest of Knik in Interior Alaska's Innoko District, the U.S. Army's Alaska Road Commission appointed Walter Goodwin to blaze a trail in 1908 from Seward through Cook Inlet at Knik and on to Nome (BLM, 1986). After the discovery of gold in the Iditarod District, located just southwest of the Innoko District, in 1909, this trail later became known as the Iditarod Trail. By the end of the 1920s, the gold rush into the Interior had ended and the airplane had begun to replace the dog sled as the major transporter of mail and supplies in Alaska (BLM, 1986). The advent and increasing popularity of snowmachines during the 1960s resulted in the mass abandonment of dog teams across Alaska and loss of much of dog sledding lore (Bowers, undated). Not until the 1970s and the emergence of the world famous Iditarod Race would dog sledding as a recreational activity transition from a local pastime to the official state sport and a focus of winter tourism in Alaska.

The emergence of dog sledding as a popular winter recreational and sporting activity in Alaska and other areas of the world can in part be attributed to certain people living in the Upper Cook Inlet area, including the study area, and associated events beginning in the 1940s. In 1948, Joe Redington Sr., later called the "Father of the Iditarod," moved to Alaska and filed for a homestead near Knik where he started "Knik Kennels" (Page, 2000). In 1967, Joe Redington

Sr., Dorothy Page, and the Aurora Dog Mushers Club organized the first Iditarod Trail Seppala Memorial Race. The first running of the race ran between Knik and Big Lake for approximately 27 miles, of which 9 miles ran along the old Iditarod Trail (Iditarod Trail Committee, 2008). By 1973, the race extended from Anchorage to Nome, increased in popularity each year to become the premiere dog sled racing event it is today, and earned itself the name as the “Last Great Race on Earth”. Without the contributions of people like Joe Redington Sr., Dorothy Page, and other early dog sledding enthusiasts and events like the Iditarod Race, the existence of dog sledding as a popular recreational Alaskan pastime would likely not be what it is today, and dog sledding would merely be another chapter in the history of Alaska’s development.

In the study area today, dog sledding continues to be a major winter recreational and sporting activity. A number of dog sled kennels operate in the study area, including Knik Kennels, originally started by Joe Redington, Sr., and Happy Trails Kennels, operated out of Big Lake by four-time Iditarod champion Martin Buser. A broad network of trails transecting the study area, both maintained and unmaintained, are used by a variety of users, including dog sledders, for winter recreational and sporting activities. The fame of the Iditarod Dog Sled Race, which originated in and still goes through the study area, has spread from its first Anchorage to Nome race in 1973, comprised of 35 all-Alaskan residents, to 96 contestants in 2008, representing people from Alaska, the Lower 48, and other countries.

The importance of the study area to the dog sledding landscape lies not only in the people and in the series of events related to dog sledding that occurred there, but also to the trails and other historical remains in the study area associated with dog sledding. These events, people, and trails link the historic period of the Iditarod Trail and the mail drivers, prospectors, and adventurers that traveled its route to the world-renowned Iditarod Dog Sled Race of today and the dog racers, recreational sledders, and fans from worldwide, national, and state locations who come to participate in and watch the “Last Great Race on Earth”.

### **Consideration of Eligibility**

Dog sledding, its associated trails, and other contributing resources (i.e., dog sledding features such as kennels, clubs, and old roadhouses that have integrity and relate to the periods of significance) in the study area have national, state, and local significance as a cultural landscape under National Register Criterion A, B, and Criterion Consideration G for events and people related to the Iditarod National Historic Trail and Iditarod Race during the periods of 1898 to 1925 and of 1967 to 1978. A property can be eligible for the National Register under Criterion A if it was associated with events that have made a significant contribution to the broad patterns of our history and under Criterion B if it was associated with the lives of persons significant in our past. A property achieving significance within the past 50 years is eligible under Criteria Consideration G if it is of exceptional importance. Based on the results of OEA’s 2009 dog sledding-related interviews and site visits to the study area, the recommended dog sledding cultural landscape has integrity because the landscape characteristics are present enough to convey the significance of dog sledding related to the Iditarod National Historic Trail and Iditarod Race.

For purposes of this analysis, dog sledding associated with the Iditarod National Historic Trail and Iditarod Race is considered a cultural landscape assumed eligible for inclusion in the

National Register, and is referred to as the *Iditarod Dog Sledding Historic District/Historical Vernacular Landscape* (Iditarod Dog Sledding Historic District). The boundary for contributing resources to the dog sledding landscape extends beyond the study area and would include the remainder of the Iditarod National Historic Trail and other trails, kennels, and locations associated with the landscape's periods of significance. For the EIS however, the dog sledding landscape analysis was limited to the study area (the area east of the Susitna River and south and west of Parks Highway). Thus, a preliminary boundary for this landscape in 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 Musher's Club, Knik Kennels, and Knik Museum and Dog Musher's Hall of Fame. Figure 6-5 shows the contributing trails and other contributing resources (such as kennels, buildings, old roadhouses) identified during the course of OEA's analysis that have integrity and are associated with the dog sledding landscape periods of significance. These 15 contributing trails include the Iditarod National Historic Trail, Iditarod Sled Dog Race Trail, Lucky Shot Trail, Corral Hill Trail, Flathorn Lake Trail, Nancy Lake-Susitna Trail, Red Shirt Lake-Nancy Lake Trail System, Herning Trail, Aurora Dog Mushing Club Trail System, the USGS Transmission Line Trail, and 5 USGS Basemap Winter Trails in the study area. Non-contributing resources on Figure 6-5 include trails and other features which are associated with dog sledding, but it is unknown at this stage of the research whether they relate to either period of significance or whether they retain integrity.

## Recreation

### Description

Long before the arrival of Europeans, Alaska Natives participated in cultural games, dancing, storytelling, and other recreational activities requiring strength, endurance, agility, and concentration (ANKN, 2006). These activities reflected the skills and knowledge used on a daily basis by Native people to survive Alaska's harsh environment. Russians, and later Americans, brought with them their own forms of recreation. By the time of the great Alaska gold rush in the late 1890s, saloons and gambling halls provided miners an escape from the difficulties and often monotonous daily responsibilities of the miner's life. Dog sled races also appeared during this era as a form of winter recreation. Sporting activities such as baseball, tennis, and hockey became popular recreational activities. Rifle clubs also became popular during this time.

Knik, the largest town site in the study area during the gold rush era, offered many of the same recreational activities found in similar gold rush towns throughout Alaska. By 1915, recreational opportunities in Knik included 3 saloons, 4 hotels, a movie house, and a pool hall (MSB, 1985). The pool hall is only 1 of 2 buildings remaining from the original Knik town site and now serves as the Knik Museum and Dog Musher's Hall of Fame.

Another area popular with recreational users today and in the past is the Big Lake area. Construction of the U.S. Army's Fort Richardson near Anchorage began in 1940. The Fort served as an important staging area for military operations in Alaska during World War II. In addition to serving as a training area, the Big Lake area quickly became a favorite recreational location for Army and Air Force personnel, particularly for the excellent fishing opportunities.

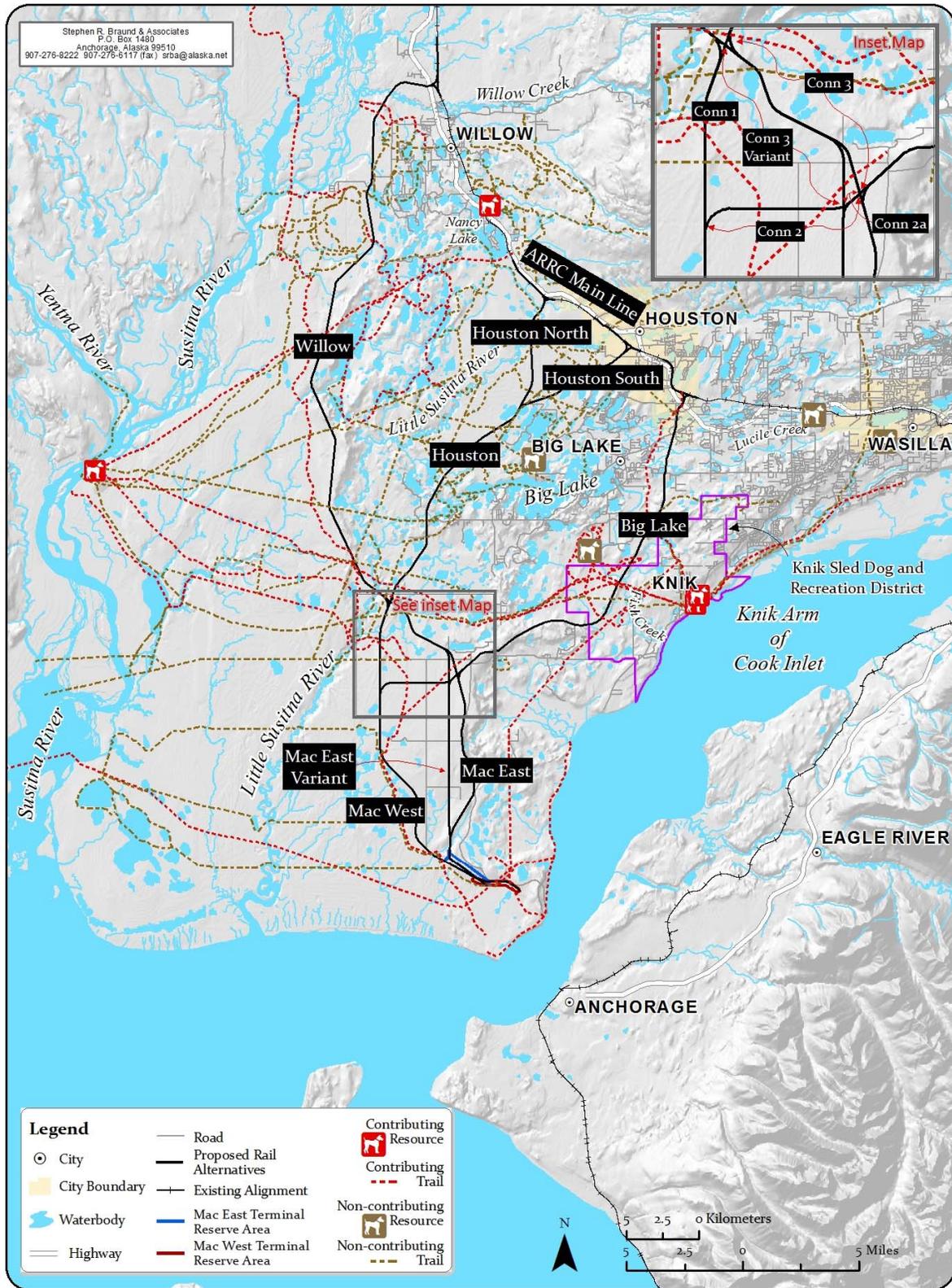


Figure 6-5. Dog Sledding Cultural Landscape

Beginning in the late 1940s and 1950s, several bars and lodges opened in the Big Lake area to cater to weekend recreationalists. During the 1960s, the study area saw a large influx of recreational users. Paving the road from Wasilla to Big Lake allowed more and more people to easily access Big Lake and enjoy the recreational opportunities the area provided. Popular summer and winter recreational activities included fishing, boating, water skiing, dog sledding, cross-country skiing, and snowmachining.

Soon, Anchorage and Matanuska-Susitna Valley residents were also enjoying recreational opportunities in other nearby areas, such as the Nancy Lake State Recreation Area established in 1966. Too wet for cultivation and lacking an abundance of minerals, the Nancy Lake area escaped large-scale settlement and development and quickly became another prime location for recreation and nature enjoyment (ADNR DOPR, 2008).

Today, winter and summer recreational opportunities in the study area continue to draw residents and tourists. The 2,000-mile-long Iron Dog snowmachine race, which began in 1984, starts in Big Lake, continues to Nome, and ends in Fairbanks. In recent years, the Iditarod Sled Dog Race has also moved its official start location from Wasilla to Willow due to lack of snow cover. The Aurora Dog Musher Club, which hosted the first Iditarod Dog Sled Race, continues to operate in the study area and dog sledding kennels are found in all the communities in the study area, including Knik, Big Lake, Houston, and Willow. Ski, snowmachine, and dog sled trails crisscross the study area and ice fishing continues to be a popular winter activity on many of the lakes. In summer, recreational use shifts toward fishing the lakes, rivers, and creeks for salmon and other fish, and to camping, boating, and other outdoor activities. Willow Creek and the Little Susitna River are two of the most popular salmon fisheries in the area. As the population in the Matanuska-Susitna area continues to grow, it is likely that recreational use in the study area will continue to grow and more individuals discover the multiple recreational opportunities available in the study area. The diversity of recreational activities that interest a broad range of users sustains the popularity of this region as a recreational location for Matanuska-Susitna and Anchorage residents. As long as this quality remains, this area will continue to be one of the primary recreational areas in Southcentral Alaska.

### **Consideration of Eligibility**

Other than the potential Iditarod Dog Sledding Historic District identified above, there do not appear to be other recreational cultural landscapes in the study area that are eligible for inclusion in the National Register. The recreational historical context of the study area does not appear to have national or state significance. Many of the properties in the area that might be locally significant to the theme of recreation in the Big Lake area have existed for fewer than 50 years and do not show “exceptional importance.” Eligibility for exceptional importance requires a property to be associated with the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual (NPS, 1997). Furthermore, should any recreational properties be determined to have exceptional importance, the integrity of many of these locations is likely low due to residential developments over the past 50 years. The Nancy Lake State Recreation Area, while likely retaining much of its historical integrity due to prohibitions on development in the area, is fewer than 50 years old.

For purposes of this analysis, recreation is not considered a cultural landscape eligible for inclusion in the National Register.

## Homesteading

### Description

As settlement of the United States Territories spread westward into less-populated and developed areas, American families sought to own and work these lands to support families and to grow profitable crops. Congress rejected a number of homestead bills for more than a decade until May 20, 1862, when President Lincoln signed the Homestead Bill into law (Hibbard, 1965). The purpose of the Homestead Act of 1862 was to stimulate growth and development of agricultural regions throughout the United States (BLM, 1954). On May 14, 1898, Congress extended homesteading rights to Alaska.

During the gold rush to the Matanuska and Susitna valleys in 1903, settlers and disheartened gold seekers began settling in the valleys (MSB, 1994). The community of Knik, once a small Dena'ina Athabascan village, became the site of a trade center in Cook Inlet when entrepreneur George Palmer established a trading post there in 1887. Knik, having Upper Cook Inlet's northernmost port and a direct link to the Interior along the historic Iditarod Trail, supplied gold seekers with needed goods and services during the gold rush. By 1915, the population of the Knik area had diminished from a one-time high of 500 individuals to only 132 settlers (MSB, 1985). Although there were a number of homesteaders in the area, after the railroad bypassed the community in 1915, many settlers abandoned Knik and moved to other communities or established new communities along the proposed rail line, including Wasilla, Palmer, and Ship Creek located to the north and east of Knik Arm. By 1917, Knik was nearly empty.

With the exception of the then-bustling town of Knik, few settlers inhabited the Matanuska and Susitna valleys between 1898 and 1915. After development of the railroad and establishment of Anchorage in 1915, homesteaders with forethought and marketable agricultural products tried to situate themselves near large market areas or along railroad stops to have a means to transport their products. Anchorage was the largest local market for fresh items from the Matanuska Valley, and with the railroad passing through the Wasilla and Palmer areas, they grew quickly into sizable communities. Figure 6-6 shows the Public Land Survey System sections between and immediately adjacent to the proposed rail line alternatives in which homesteaders received title to their land. The title or homestead patent was granted after the homesteader had fulfilled all the requirements of the Homestead Act. The first homesteader in this area received title to their land beginning in 1920, with only an additional 8 homesteaders receiving title between 1920 and 1948 (BLM, 2008). Although Wasilla and Palmer increased in population due to access along the railroad, the study area experienced less of a settlement influx. The study area had few roads which settlers could access the land and access to most areas was limited to dog sled trails. The few settlers who did establish homesteads settled in rail-stop communities such as Willow and Houston. It is not known how many settlers established homesteads in the study area and either never applied for or failed to receive title to the land.

There was an increase in homesteaders in the area claiming title to their land between 1949 and 1970 (Figure 6-7). The numbers in Figure 6-7 reflect the years in which settlers received title to

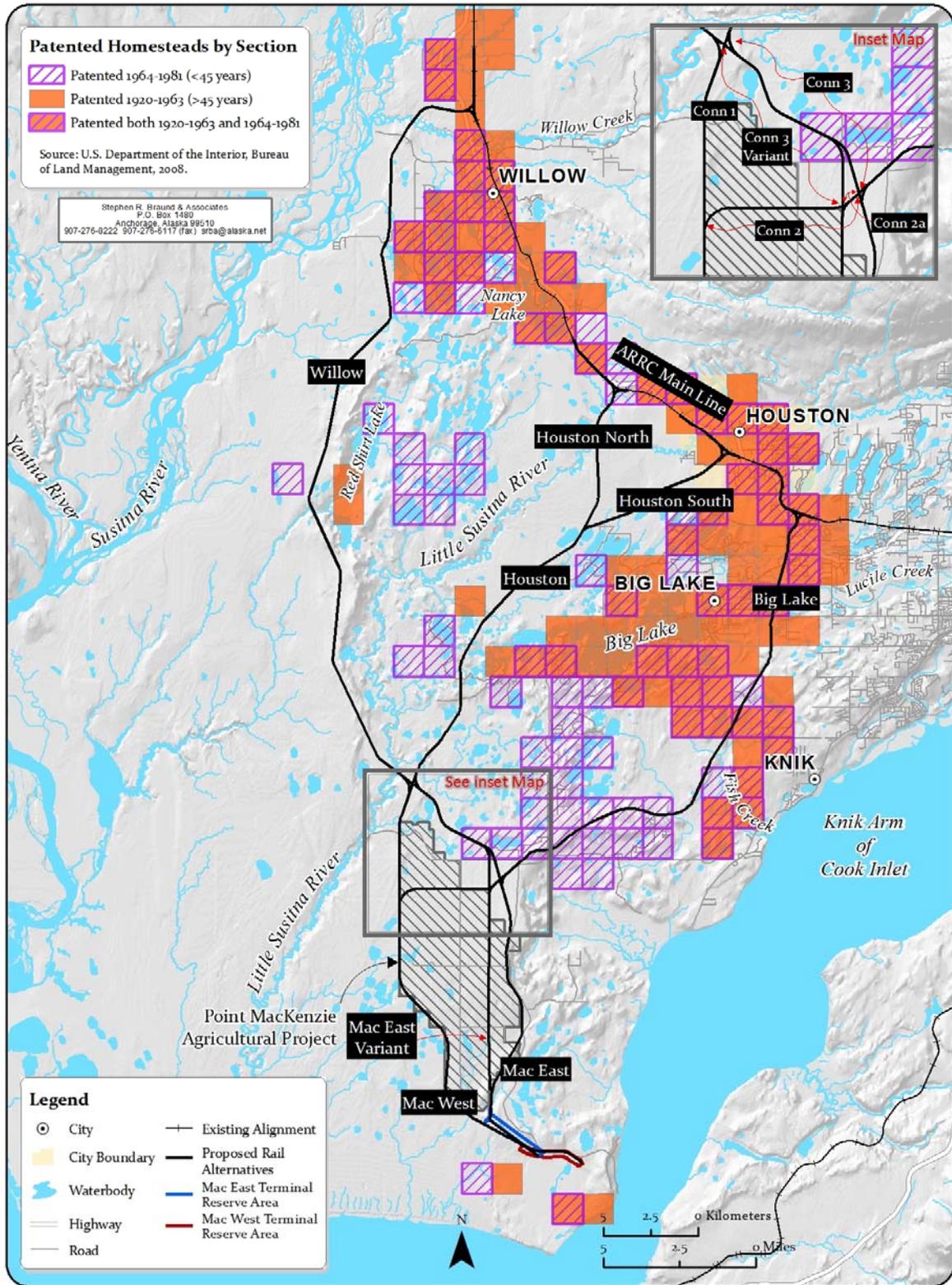
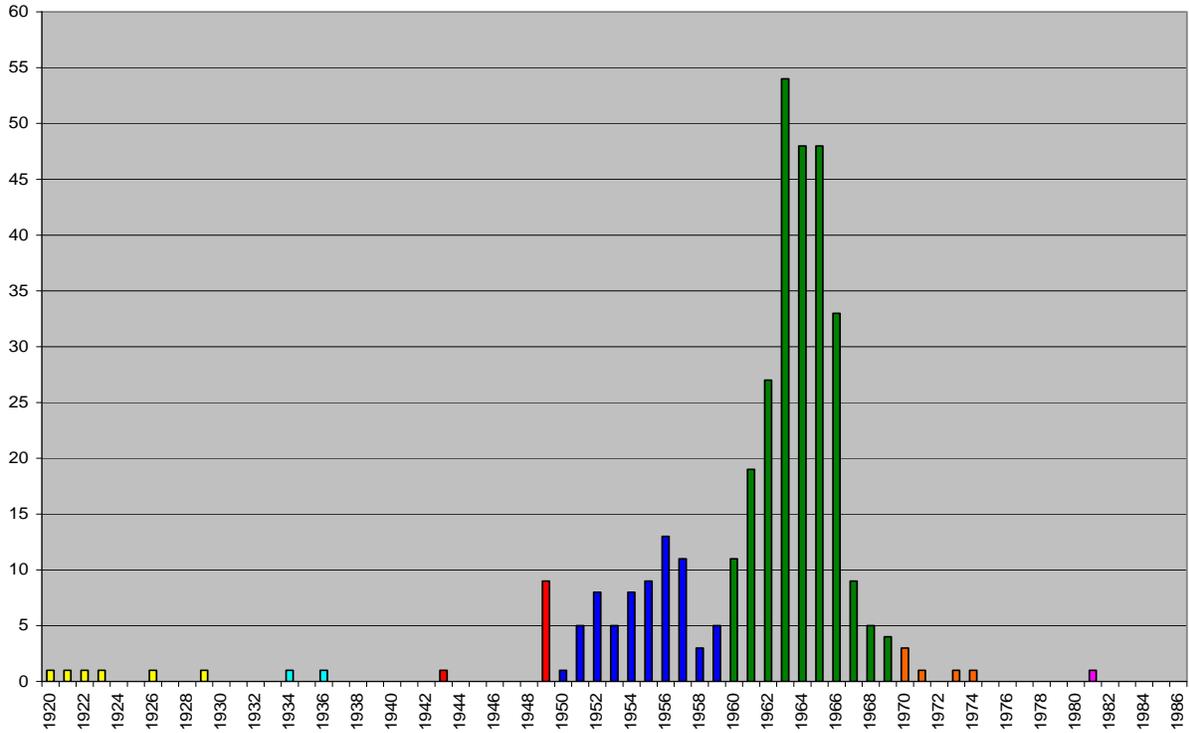


Figure 6-6. Patented Homesteads by Public Land Survey System Section, 1920 to 1981



**Figure 6-7. Patented Homesteads in the Study Area by Year**

the land, being at least 3 years beyond the time of arrival. This figure shows a notable increase in patented homesteads in the study area in 1949 and during the 1950s, with a substantial increase in the early to mid-1960s. The year 1963 represents the peak homestead activity in the study area, with 54 patents. The beginning of the increase in homesteads coincided with the end of World War II and an influx of veteran soldiers returning to homestead in the area. Increased access to Alaska and the Matanuska-Susitna Valley became available via the Alcan Highway and Glenn and George Parks Highways during this time. Access to the Big Lake area was upgraded in 1951 from a bumpy jeep trail to a rough gravel road that was eventually paved in 1961. The improvements to the Big Lake road in both 1951 and 1961 increased access to the area for settlement and recreation.

Homesteading in the area shown on Figure 6-6 decreased toward the end of the 1960s and into the 1970s. In 1967, only 9 homesteads received patents, down from 33 the previous year. The numbers of patented homesteads decreased each year until 1974. From that time, no homesteads received patents until 1981, the last year any homestead received a patent in the area between and immediately adjacent to the proposed rail line alternatives. The decline in homesteading coincided with the diminishing availability of large acre parcels along roads and the existing rail line.

Although the number of roads increased and homesteads extended farther beyond the railroad as the state built more roads in the Matanuska-Susitna Valley, much of the study area remained remote and inaccessible. The increase in the use of small airplanes aided homesteaders in

reaching more remote areas. In 1977, Congress repealed the Homestead Act; however, Alaska was exempt from the repeal of the Homestead Act until 1986 (BLM, 2001).

In total, 351 homesteads received patents in the Public Land Survey System sections between and immediately adjacent to the proposed rail line alternatives between 1920 and 1981. Of the 351 homesteads, 258 received patents during the 1960s. Today, as the Matanuska-Susitna Valley has developed into a suburb for people working in Anchorage; owners of homesteads and agricultural lands have sold and subdivided their land to accommodate the population growth. The economic returns are greater for selling the land for subdivision and development than selling the land as an intact homestead or developing it for agricultural purposes (Fowler, 1992).

### **Consideration of Eligibility**

Preliminary analysis indicates that the homesteads in the area (shown in Figure 6-6) do not appear eligible for inclusion in the National Register as a cultural landscape having national or state significance. When comparing the homestead settlement patterns in this area to those in the nearby Wasilla and Palmer areas, the Wasilla and Palmer areas are more representative of the United States and Alaska settlement patterns. Settlers claimed homesteads throughout the study area, built homes, and cultivated the land; however, these homesteads do not significantly contribute to the national or state historic contexts.

Individual homesteads in the study area might be eligible for inclusion in the National Register as a cultural landscape under Criterion A for their significance in the local historical context. These homesteads might be important in understanding the settlements of the Matanuska-Susitna Valley from 1948 through 1966, when a large number of homesteads received title. However, many homesteads and agricultural lands have since been sold and subdivided to accommodate population growth in the Matanuska-Susitna Valley. Thus, it is likely that the integrity of many homesteads in the study area is diminished.

For purposes of this analysis, homesteads are not considered a cultural landscape eligible for inclusion in the National Register.

## **Agriculture**

### **Description**

There has been little agriculture in the study area aside from the required cultivation of homestead lands. During Russian settlement of Alaska in the late 1700s and early 1800s, agriculture existed on a small scale to supplement Russian food needs. However, even with this agriculture, these settlers remained dependent on imported foods throughout their time in Alaska (Miller, 1975).

The building of the Alaska Railroad through the Matanuska-Susitna Valley, which began in 1915, brought an influx of settlers into the region. The railroad followed the northern reaches of the valleys from Wasilla to Houston to Willow, leaving large expanses of available homestead and agricultural lands to the south with no rail access. During these early years, most settlers in the study area established their homesteads along the railroad between Willow and Houston and eventually around Big Lake after access to that area improved. With inadequate transportation to

move produce or crops to markets, commercial farmers were unable to make a profit. Aside from homesteaders growing small crops to feed themselves and their families, agriculture did not play any large role in the settlement of the study area. Agriculture did appear on a large scale in the Matanuska Valley in the mid 1930s with the creation of President Roosevelt's New Deal program. The New Deal, however, set aside most of these agricultural areas in the Matanuska Valley area around present-day Palmer and Wasilla.

In the early 1980s, the Point MacKenzie area eventually became host to the Point MacKenzie Agricultural Project (Figure 6-6), where 15,000 acres were divided into tracts for dairy farms, feed crops, and cattle ranches (Snodgrass *et al.*, 1982). Many of the farmers participated in the Point MacKenzie Dairy Project and sold their product to the Matanuska Maid milk processor in Anchorage. Between 1985 and 1987, however, the state experienced a recession that adversely affected the farms when the price of milk dropped. Many farms eventually filed bankruptcy. Only two dairy producers in the Point MacKenzie Dairy Project were in business by 1992 (Fowler, 1992).

### **Consideration of Eligibility**

Agriculture did not play an important role in the settlement and history of the study area. Aside from the agricultural project at Point MacKenzie in the 1980s, no substantial agricultural community ever became established in the study area. Most agricultural activities in the Matanuska and Susitna valleys occurred and flourished in the Palmer and Wasilla areas to the east of the study area.

Because agriculture in the study area is not significant in the national, state, or local historic context, properties used for agriculture are not eligible for inclusion in the National Register as a cultural landscape. For purposes of this analysis, agricultural properties are not considered a cultural landscape eligible for inclusion on the National Register.

## **6.5 Environmental Consequences**

For purpose of the cultural resources analysis presented here, all cultural resources found in the study area are assumed to be eligible for inclusion on the National Register unless otherwise noted. The determination of potential adverse impacts is based on whether the undertaking would result in effects to cultural resources sufficient to make the properties ineligible for inclusion in the National Register. This includes effects that would change the property's integrity of location, design, setting, materials, workmanship, feeling, and/or association (36 C.F.R. § 60.4). As described in Section 6.4.3, there are several categories of cultural resources the project could affect, including archaeological sites, historic trails, buildings, structures and sites, and cultural landscapes. For those cultural resources found to meet National Register criteria within the area of potential effects, compliance with section 106 regulations would also include an application of the criteria of adverse effect (36 C.F.R. § 800.5), as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the

National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Adverse effects on historic properties include, but are not limited to:

- (i) Physical destruction of or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long term preservation of the property's historic significance.

The NHPA section 106 Programmatic Agreement (PA) being developed for this proposed rail line (see Appendix J) 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 rail line.

## **6.5.1 Proposed Action**

### **6.5.1.1 Common Impacts**

#### **Archaeological Sites**

Archaeological sites in the rail line ROW and footprint could be inadvertently or purposefully destroyed through surface and subsurface disturbances, primarily during rail construction. Therefore, these sites would lose their eligibility for listing in the National Register. Such disturbances would include soil disturbance or other operations that could cause erosion or contamination and could destroy the context of the archaeological site and its overall integrity. The numerous salmon streams in the area are host to archaeological sites in and adjacent to the stream beds. Proposed rail crossings of these streams, and changes in stream flow, could affect those archaeological sites.

#### **Historic Trails, Structures, and Sites**

Cabins, other structures, and historic sites within the rail line ROW and footprint would be disturbed or destroyed. Historic and potentially historic trails could be blocked if they are not officially recognized trails. Officially recognized trails would be grade-separated or relocated, facilitating free passage; however, the integrity of any historic trails could be adversely affected through the introduction of auditory and visual effects depending on the resource and location.

Historic structures within 1 mile of the ROW could be adversely affected and lose their context and integrity through visual and audible effects. The sight of a railroad in the viewscape would be an adverse effect, as would the noise of passing trains, and construction and support vehicles. However, many of the historic structures that could experience visual or audible effects are either associated with the railroad (such as the railroad station or bridge) and thus would not be affected by the introduction of railroad-associated visual or audible elements or are located near the existing rail line along Parks Highway and already experience visual and audible effects associated with rail line operation. The remaining historic structures are generally within 0.5 mile of the rail line alternatives and could experience visual and audible effects. For any of these potential effects to be considered adverse, however, the introduction of visual, atmospheric, or audible elements would have to diminish the integrity of the property's significant historic features (36 C.F.R. § 800.5(2)(v)).

Trail blockage of officially recognized and unofficial trails could occur during construction, and unofficial trails would be blocked during rail line operation. Depending on the timing of construction activities and/or locations of installed crossings, some trail routes could be altered. Changes to dog sled, snowmachine, and all-terrain vehicle routes could cause the loss of access to or use of the trails and associated historic landscapes and properties. All of the alternatives would cross the Iditarod National Historic Trail, thereby increasing the visual and auditory effects on the trail and its ancillary network.

### **Cultural Landscapes**

The Iditarod Dog Sledding Historic District would be adversely affected to varying degrees through loss of visual integrity, cultural privacy, potential loss of or changes to access, increased numbers of visitors or users, and changes to traditional or culturally significant use of and connection to the property. It is likely that the proposed rail line would affect the Iditarod Dog Sledding Historic District, because noise and visual effects would reduce the quality of this landscape for users. Officially recognized trails would be grade-separated, thereby reducing impediments to free passage. However, the integrity of historic trails could still be adversely affected through the introduction of auditory and visual effects when a trail user encounters a train. Access across the study area by dog sledders who travel across unofficial trails that are contributing resources to the dog sledding landscape also would be altered unless grade-separated crossings were provided. Furthermore, contributing trails (such as the Corral Hill Trail) that would not be crossed could be adversely affected by the proposed rail line if the rail line blocks non-contributing trails (such as parts of the West Gateway Trail System) that are used to access the contributing trails (see Figure 6-5). Recreation, homesteading, and agriculture landscapes are not considered eligible for inclusion in the National Register; therefore no effects analysis is provided in this section because they are not historic properties.

## 6.5.1.2 Impacts by Rail Line Segment and Segment Combination

### Southern Segments and Segment Combinations

#### Mac West-Connector 1 Segment Combination

There are 6 known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline (Table 6-3). Much of this segment combination would cross wetlands and agricultural fields. Relatively little field survey was performed along this segment combination because wetlands and agricultural fields are considered to have a low probability of possessing cultural resources (Figure 6-2). Potential adverse effects could include potential indirect effects to 6 known sites. An indirect impact to cultural resources would be one caused by proximity of the proposed rail line to cultural resources, which would result in the cultural resource being more vulnerable to damage by rail line personnel and/or rail line construction and operation. Six trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW for this segment combination (Table 6-3; Figure 6-5). One trail would be intersected more than once by this segment combination. Types of potential impacts to the contributing resources of the Iditarod Dog Sledding Historic District are discussed in 6.5.1.1 under *Cultural Landscapes* and would be the same for each segment combination except for the number of trails potentially affected.

#### Mac West-Connector 2 Segment Combination

There are 5 known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline (Table 6-3). Much of this segment combination would cross wetlands and agricultural fields. Relatively little field survey was performed along this segment combination because wetlands and agricultural fields are considered to have a low probability of possessing cultural resources (Figure 6-2). Potential adverse effects could include potentially indirectly effecting 5 known sites. Five trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW for this segment combination (Table 6-3; Figure 6-5). One trail would be crossed multiple times by this segment combination.

#### Mac East-Connector 3 Segment Combination

This segment combination would intersect 4 known cultural resources within the proposed ROW, and approach 11 known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline. Across the southern segments and segment combinations, this segment combination was surveyed the most because it has a relatively high probability for archaeological and historic sites (Figure 6-2). Potential adverse effects could include destroying or disturbing 4 known archaeological sites during construction and potentially indirectly impacting 11 additional known cultural resources. One trail considered to be a contributing resource to the dog sledding landscape would be intersected by the ROW for this segment combination (Table 6-3; Figure 6-5).

#### Mac East

This segment would intersect 4 known cultural resources within the proposed ROW, and approach 10 known cultural resources outside the proposed ROW but within 1 mile of the rail

line centerline (Table 6-3). Potential adverse effects could include indirectly impacting 10 additional known cultural resources.

**Mac East Variant-Connector 2a Segment Combination**

This segment combination would approach 6 known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline (Table 6-3). Potential adverse effects could include indirectly impacting 6 additional known cultural resources.

**Table 6-3  
Known Cultural Resources within the Project Area and Right-of-Way for Southern Segments and Segment Combinations**

Segment and Segment Combinations	Historic Trails Intersected by Right-of-Way	Known Cultural Resources within 200-Foot Right-of-Way	Additional Known Cultural Resources within Project Area <sup>a</sup>	Known Dog Sledding Contributing Resource Trails Intersected by Right-of-Way	Total
Mac West-Connector 1	0	0	6	6	12
Mac West-Connector 2	0	0	5	5	10
Mac East-Connector 3	0	4	11	1	16
Mac East	0	4	10	0	14
Mac East Var-Connector 2a	0	0	6	0	6
Mac East Var-Connector 3 Var	0	0	7	1	8

<sup>a</sup> Outside the 200-foot ROW but within 1 mile of the rail line centerline. One mile equals the maximum extent for potential indirect auditory and direct visual effects, as described in Section 6.2.

**Mac East Variant-Connector 3 Variant Segment Combination**

This segment combination would approach 7 known cultural resources outside the proposed ROW but within 1 mile of the centerline (Table 6-3). Potential adverse effects could include potentially indirectly impacting 7 additional known cultural resources. One trail considered to be a contributing resource to the dog sledding landscape would be intersected by the ROW for this segment combination (Table 6-3; Figure 6-5).

**Northern Segment and Segment Combinations**

**Willow Segment**

The Willow Segment would cross the Iditarod National Historic Trail and 2 other trail systems, intersect 13 known cultural resources within the proposed ROW, and would approach an additional 12 known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline (Table 6-4). Field archaeology crews surveyed relatively few miles of this segment. However, the survey revealed numerous cultural resources within and near the ROW.

**Table 6-4  
Known Cultural Resources within the Project Area and Right-of-Way for Northern Segments and Segment Combinations**

Segment and Segment Combination	Historic Trails Intersected by Right-of-Way	Known Cultural Resources within 200-Foot Right-of-Way	Additional Known Cultural Resources within Project Area <sup>a</sup>	Known Dog Sledding Contributing Resource Trails Intersected by Right-of-Way <sup>b</sup>	Total
Willow	3	13	12	6	34
Big Lake	1	6	16	4	27
Houston-Houston North	1	0	6	2	9
Houston-Houston South	1	1	4	2	8

<sup>a</sup> Outside the 200-foot ROW but within 1 mile of the rail line centerline. One mile equals the maximum extent for indirect auditory and direct visual effects, as described in Section 6.2.

<sup>b</sup> Number may include historic trails identified under "Historic Trails Intersected by Right-of-Way" column

This segment also is considered to have a high probability for containing cultural resources because it would cross relatively few wetland areas (considered to have low potential for cultural resources) and would be near areas considered to have a high probability for cultural resources, such as areas with previously documented cultural resources, Dena'ina place names, trails, streams, lake shores, and ridgelines (Figure 6-2). Potential adverse effects could include diminishing the integrity of 3 historic trail crossings, disturbing or destroying 13 known archaeological sites during construction, and potentially indirectly affecting 13 additional known cultural resources. Parts of this segment have a history as a trail route for Dena'ina people traveling overland from Cook Inlet to villages at Red Shirt and other lakes and on to Talkeetna and other more distant places (Kari and Fall, 2003). Six trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW (Table 6-4; Figure 6-5). Several trails would be intersected more than once by this segment.

### Big Lake Segment

This segment would cross the Iditarod National Historic Trail, intersect 6 known cultural resources within the proposed ROW, and approach 16 additional known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline. This segment, with a substantial amount of dry, well-drained ground and elevated ridgelines, had the most field survey of the northern segments and segment combinations is considered to have a high potential for cultural resources (Figure 6-2). The survey of this segment revealed a total of 7 previously undocumented cultural resources. Potential adverse effects could include diminished integrity of 1 trail crossing, 6 archaeological sites disturbed or destroyed, and 16 additional cultural resources indirectly affected. Four trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW (Table 6-4; Figure 6-5). Some of these trails would be crossed multiple times in different locations along the Big Lake Segment.

### **Houston-Houston North Segment Combination**

These segments would intersect 1 historic trail and would approach 6 additional known cultural resources outside the proposed ROW but within 1 mile of the rail line centerline. Except for a short survey along a portion of the Houston Segment (Figure 6-2), this segment combination received no additional field survey. However, much of the segment crosses large areas of wetlands, which have low potential for cultural resources. A few high- to moderate-probability areas along this segment include the stream crossings and elevated hummocks and hills in the ROW, which might host cultural resources. Proposed rail line construction and operation along this segment could indirectly affect 6 known archaeological sites that are outside the ROW. Two trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW (Table 6-4; Figure 6-5).

### **Houston-Houston South Segment Combination**

This segment combination would intersect 1 historic trail, 1 known cultural resource, an old ARRC railroad bridge within the proposed ROW, and would approach 4 other known cultural resources outside the proposed ROW but within 1 mile of the centerline. The area has numerous all-terrain vehicle trails, but none are presently listed as historic or potentially historic. Field archaeologists surveyed a small portion of this segment. The northern portion of this area appears to have been profoundly affected by the Miller's Reach 2 fire and the area is covered with charred, fallen spruces; the southern portion would cross large areas of wetlands considered to have a low potential for having cultural resources (Figure 6-2). Three of the known cultural resources near this segment are railroad associated, and additional railroad construction and activity would have no indirect adverse effect on these resources. Two trails considered to be contributing resources to the dog sledding landscape would be intersected by the ROW (Table 6-4; Figure 6-5).

### **Summary of Potential Impacts by Rail Line Alternative**

Table 6-5 lists the 12 rail line alternatives and the number of known cultural resources and dog sledding landscape contributing trails each could affect. The Mac East-Connector 3-Willow Alternative would affect the most known cultural resources and pass through areas with a high probability of having large numbers of undocumented cultural resources. The Mac East Variant-Connector 3 Variant-Houston-Houston South Alternative would affect the fewest known cultural resources and pass through areas with a low probability (such as wetlands) of having large numbers of undocumented cultural resources (Figure 6-8).

Some adverse effects to cultural resources could be mitigated by minor rerouting of any alternative that might be authorized by the Board to avoid known cultural resources within the ROW. If avoidance was not possible, potential mitigation could include data recovery for archaeological sites, maintaining accessibility of historic trail crossings, and minimizing visual impacts.

**Table 6-5  
Summary of Impacts to Cultural Resources by Alternative<sup>a</sup>**

<b>Alternative</b>	<b>Historic Trails Intersected by Right-of-Way</b>	<b>Known Cultural Resources within the 200-Foot Right-of-Way</b>	<b>Additional Known Cultural Resources within Project Area<sup>b</sup></b>	<b>Known Dog Sledding Contributing Resource Trails Intersected by Right-of-Way<sup>c</sup></b>	<b>Total</b>
Mac East-Connector 3-Willow	3	17	22	7	49
Mac West-Connector 1-Willow	3	13	17	11	44
Mac East Variant-Connector 3 Variant-Willow	3	13	19	7	42
Mac East-Big Lake	1	10	23	4	38
Mac West-Connector 2-Big Lake	1	6	19	9	35
Mac East Variant-Connector 2a-Big Lake	1	6	21	4	32
Mac East-Connector 3-Houston-Houston North	1	4	16	3	24
Mac East-Connector 3-Houston-Houston South	1	5	14	3	23
Mac West-Connector 1-Houston-Houston North	1	0	11	8	20
Mac West-Connector 1-Houston-Houston South	1	1	9	8	19
Mac East Variant-Connector 3 Variant-Houston-Houston North	1	0	12	3	16
Mac East Variant-Connector 3 Variant-Houston-Houston South	1	1	10	3	15

<sup>a</sup> The numbers in Table 6-5 do not equal the sum of the numbers in Tables 6-3 and 6-4. The same cultural resource may have been within a mile of both a northern and southern segment and when the segments were combined in an alternative (as shown in Table 6-5), the cultural resource was only counted once.

<sup>b</sup> Outside the 200-foot ROW but within 1 mile of the rail line centerline. One mile equals the maximum extent for indirect auditory and direct visual effects, as described in Section 6.2.

<sup>c</sup> Number may include historic trails identified under "Historic Trails Intersected by Right-of-Way" column

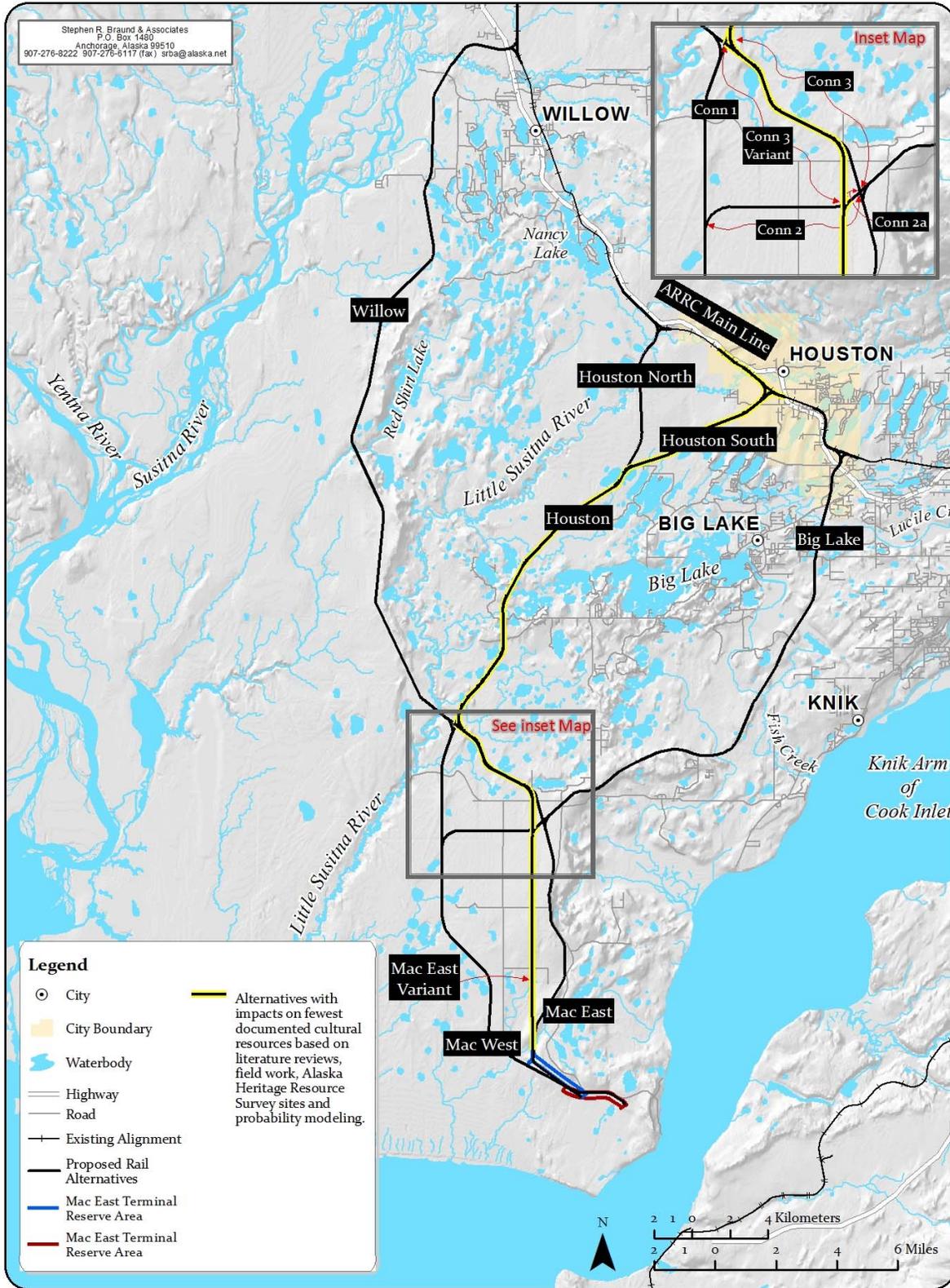


Figure 6-8. Alternative with Impacts on Fewest Documented Cultural Resources

## 6.5.2 No-Action Alternative

Under the No-Action Alternative, ARRC would not construct and operate the proposed Port MacKenzie Rail Extension, and there would be no cultural or historic resource impacts from the proposed rail line.

## 6.5.3 Programmatic Agreement

OEA has developed a draft PA for the proposed rail line that would govern the completion of the section 106 process (Appendix J). 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 draft PA for the proposed rail line provides for the completion of the Level 2 identification survey if the Board authorizes the proposed rail line. Additionally, the PA establishes responsibilities for the treatment of historic properties, the implementation of mitigation measures, and ongoing consultation efforts. Part of the ongoing consultation efforts related to the dog sledding cultural landscape will focus on further clarification and identification of features currently considered as non-contributing resources for the EIS but requiring further investigation. As a part of this process, the integrity of these resources will become known and research will indicate whether they were constructed within the period of significance of the cultural landscape. If any additional contributing resources not identified in the EIS become known, potential effects will be assessed through the PA process.

Since the draft PA was included in the Draft EIS, the Cultural Resources Annual Report for 2009 was prepared, which provided more specific information on the Dena'ina and the Iditarod Dog Sledding cultural landscapes. On October 20, 2010, a meeting was held with the State Historic Preservation Officer to discuss revisions to the draft PA. On October 21, 2010, a meeting was held for the potential participants in the PA to understand the status of the cultural resources identification effort and to discuss their level of participation in the PA. 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. The information obtained from the report and meetings was used in revising the draft PA provided in Appendix J of this Final EIS. See *Tribal Consultation* below regarding how the results of consultation with the tribes are incorporated into the PA and section 106 process.

## 6.5.4 Tribal Consultation

Consultation with Native American tribes in the vicinity of the project area was initiated as part of the government-to-government consultation and coordination for the EIS process. A total of 10 Federally Recognized Tribes, tribal groups, and Alaska Native Regional Corporations were contacted as part of the government-to-government consultation and coordination. Several consultation meetings regarding section 106 consultation and cultural resource issues have occurred between OEA and the SHPO, MSB Historic Preservation Commission, and Knik Tribal Council. As a result of the March 5, 2008 and February 24, 2009 consultation meeting with SHPO, 4 potential cultural landscapes of dog sledding, recreation, homesteading, and agriculture were evaluated for eligibility to the NRHP and potential effects from the proposed rail line on

eligible landscapes have been assessed for the EIS. Consultation meetings with the Knik Tribal Council and the MSB Historic Preservation Commission on February 27, 2009, April 3, 2009, and May 15, 2009 resulted in the identification of the additional potential Dena'ina cultural landscape. The May 15<sup>th</sup> consultation meeting also resulted in the suggestion to look at the dog sledding and Dena'ina landscapes in the broader theme of a potential transportation landscape in the study area.

In response to the consultation requests, documentation of the potential Dena'ina landscape began in June 2009 with a series of interviews with Dena'ina respondents living near and within the study area. These interviews focused on identifying landscape characteristics that typified historic uses and questions regarding continued use of the study area as part of an ongoing Dena'ina cultural legacy. Landscape characteristics identified during this process included circulation features (such as trails and water routes), archaeological sites, land use, and cultural traditions. This documentation, as well as evaluation of the integrity of identified Dena'ina landscape characteristics, is ongoing. In a meeting held on October 21, 2010, representatives of the Knik Tribal Council provided additional comments on the significance of the Dena'ina landscape. They offered comments on how the draft PA may be revised to include the expertise of knowledgeable members of tribes, tribal groups, and Alaska Native organizations to further evaluate the National Register eligibility of the landscape through the provisions for the PA. Evaluation for National Register eligibility of the Dena'ina landscape, or portions of it within the area of potential effect, will be determined through the provisions of the PA. If the Dena'ina cultural landscape or portions of it are determined eligible for the National Register, potential effects would be considered through the section 106 process and PA mechanism.

## **6.6 Unavoidable Environmental Consequences of the Proposed Action**

To avoid or minimize the potential environmental impacts to cultural and historic resources from the proposed rail line described above in Section 6.5.1, OEA is recommending that the Board impose 3 mitigation measures, including 2 volunteered by the Applicant (see sections 19.4 and 19.9). These measures include requiring: compliance with a Programmatic Agreement (PA); the identification of trails to be given grade-separated crossings within the historic district; and development of protocols to inform construction supervisors of the importance of protecting and identifying cultural resources discovered as rail line construction takes place.

Notwithstanding the recommended mitigation measures, there still would be potential unavoidable impacts to cultural and historic resources from the proposed rail line. Potential impacts would include: the potential damage to archaeological sites in the rail line ROW and footprint through surface and subsurface disturbances; potential loss of and changes to access within the ROW; and the introduction of auditory and visual effects depending on the resource and location. The Iditarod Dog Sledding Historical District would be adversely affected to varying degrees through loss of visual integrity, potential loss of and changes to access within the ROW, and changes to traditional or culturally significant use of and connection to the property.