



Alaska District
U.S. Army Corps of Engineers

Date 25 November 2015 Identification No.: ER-16-01
Please refer to the identification number when replying.

Environmental Resources Section

Public Notice

The U.S. Army Corps of Engineers (Corps) has prepared an environmental assessment (EA) and draft Finding of No Significant Impact (FONSI) for the following project:

**Ship Creek Kings Landing Phase III
Recreational Access Improvements
Anchorage, Alaska**

The U.S. Army Corps of Engineers, Alaska District and the Municipality of Anchorage are proposing a series of recreational access improvements along lower Ship Creek. These proposed improvements include leveling and resurfacing existing foot trails, construction of stone steps leading into the stream channel, a new ADA-compliant fishing platform, a boot-station, an overlook plaza, and a drainage swale.

Information on the proposed improvements, alternatives considered, and anticipated environmental effects are discussed in the enclosed Ship Creek Kings Landing Phase III, Recreational Access Improvements EA. The EA and draft FONSI are provided for your review and comment in compliance with the Council on Environmental Quality's regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA). The EA may also be viewed on the Alaska District's website at: www.poa.usace.army.mil. Click on the Reports and Studies button, look under Documents Available for Public Review, and click on the Work for Others link.

The comment period will close 30 days from the date of this notice. Written comments received on or before this date will become part of the official record and will be considered in the determination.

The FONSI will be signed upon review of comments received and resolution of significant objections. Please submit comments regarding the proposed action to the address below or via email to: Christopher.B.Floyd@usace.army.mil

U.S. Army Engineer District, Alaska
ATTN: CEPOA-PM-C-ER (Floyd)
P.O. Box 6898
JBER, Alaska 99506-0898

If you have any questions or need more information about this project, please contact Chris Floyd at the above address, by email or by phone at (907) 753-2700.

A handwritten signature in black ink, appearing to read 'Michael D. Noah'.

Michael D. Noah
Chief, Environmental Resources Section



**US Army Corps
of Engineers**
Alaska District

Environmental Assessment and Finding of No Significant Impact

Kings Landing at Ship Creek Phase III Recreational Access Improvements Anchorage, Alaska



Salmon fishing along Ship Creek – June 2015

November 2015

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Draft Finding of No Significant Impact

In accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Alaska District, U.S. Army Corps of Engineers has assessed the environmental effects of the following action:

Ship Creek Kings Landing Phase III Recreational Access Improvements Anchorage, Alaska

The Alaska District and the Municipality of Anchorage will implement a series of recreational access improvements along lower Ship Creek. These will include leveling and resurfacing of existing foot trails, construction of stone steps leading into the stream channel, a new ADA-compliant fishing platform, a boot-station, an overlook plaza, and a drainage swale.

The project and reasonable alternatives are addressed in the environmental assessment (EA) prepared for this project. As concluded in the EA, the action will not substantially impact essential fish habitat, marine mammals, historic or other socially important resources, endangered species, minority or economically disadvantaged populations, children, or special use lands. Local and regional populations of fish, wildlife, birds, and other important biological resources will not be adversely affected by the action. The activity will not adversely affect commercial fishing, transportation, harvest of resources for personal use, or other economic or recreational endeavors by people of the community. The action will not act in association with past, present or anticipated future actions to cause appreciable cumulative impacts. The action is consistent with community planning objectives. Specific measures to avoid and minimize potential project impacts are stated in the EA.

I find that constructing the project will not cause significant impacts to the human environment and that the substantive requirements of NEPA have been satisfied. Analysis of the project's effects demonstrates that an environmental impact statement is not required.

Michael S. Brooks
Colonel, U.S. Army Corps of Engineers
District Engineer

Date

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

The Alaska District, U.S. Army Corps of Engineers (Corps) Environmental Resources Section prepared this environmental assessment (EA) to describe a proposed recreational access improvement project along Ship Creek in Anchorage, Alaska, and to discuss the potential environmental impacts. While the project will be implemented primarily by the Municipality of Anchorage (MOA), it uses Federal funding provided by the U.S. Department of Transportation and is subject to the requirements of the National Environmental Policy Act (NEPA).

1.2 Authority and Funding

Funding for design, planning, and construction for Phase III of Kings Landing at Ship Creek project is largely from a United States Department of Transportation (USDOT) Maritime Administration (MARAD) grant to the MOA. The MOA has partnered with the Corps to implement the design and prepare the construction contract and environmental compliance documentation. Preparation of an EA was one condition placed on the provision of USDOT funding for this project phase.

1.3 Purpose and Need

The proposed actions are part of an ongoing MOA program to evaluate, design, and construct recreational and public access improvements along Ship Creek, while maintaining the ecological integrity of the Ship Creek estuary. A popular and productive salmon fishing stream, the roughly 1-mile stretch of Ship Creek closest to the downtown Anchorage business areas and tourist attractions paradoxically flows through an industrial corridor that has had, until recently, few public amenities or access options (figure 1). The MOA seeks to better integrate the lower Ship Creek corridor with the downtown area and nearby neighborhoods by improving access to recreational opportunities and encouraging mixed-use commercial development.

The proposed actions are Phase III of the MOA's Kings Landing project, a program to develop trails, pedestrian plazas, and stream access in the lower Ship Creek area (figure 1 and 2), providing amenities for anglers and other users while reducing water quality impacts from erosion. Phase I included construction of pathways and fishing access points with signage near the mouth of Ship Creek, as well as observation areas on existing bridge abutments and north of the pedestrian bridge. Phase I was funded through a grant from the Coastal Impacts Assistance Program (CIAP). The fishing access points consisted of stone steps leading down to some of the more popular fishing areas within the Ship Creek stream channel, intended to help protect the stream environment by reducing the breakdown and erosion of vegetated stream banks.

Phase II included construction of a plaza, more fishing accessibility improvements, a public restroom, as well as a rain garden to filter and treat runoff.



Figure 1. Recreational fishing off the North Bank Trail, with the A Street Bridge and downtown Anchorage in the background.



Figure 2. Location of the proposed Kings Landing Phase III improvements (in red), relative to the previous phases, downtown Anchorage and the Ship Creek area.

2.0 DESCRIPTION OF ALTERNATIVES

2.1 No-Action Alternative

Under the no-action alternative, the improvements described below would not be constructed, and the environmental impacts discussed in Section 4 would be avoided. However, the environmentally beneficial aspects of the project, such as reducing stream bank breakdown and erosion, would not be realized.

2.2 Summary of Construction Alternatives

Phase III of the Kings Landing project consists of four elements:

- Improvements to the north bank trail connecting the Ship Creek Overlook Park to the Phase I plaza near “The Bridge” restaurant;
- Improvements to the south bank trail west of North C Street;
- Addition of 11 sets of stone steps with signage leading from the trails down into the Ship Creek stream channel.

The details of the Phase III elements and alternatives are presented in the project Design Study Report (MOA 2014). This EA does not attempt to reiterate all the construction details and public facility planning decisions in the Design Study Report, but instead, focuses on those aspects of the project with the potential to affect the environment through direct impacts and changes in land use.

In addition, the following four elements on the south bank previously designed as part of Phase II may be included in the Phase III construction (figure 3):

- A boot-cleaning station near the south end of the pedestrian bridge
- A fishing platform built to Americans with Disabilities Act (ADA) standards
- An overlook plaza near The Bridge restaurant
- A rock-lined and vegetated drainage swale extending from new paving and landscaping on the south bank into the stream channel

2.2.1 North Bank Trail Improvements

The project will improve the narrow, uneven dirt footpath (figure 4) that runs roughly 0.18 mile from Ship Creek Overlook Park west to the small plaza constructed in Phase I near The Bridge restaurant and The Bait Shack, adding fishing access points from the footpath to the Ship Creek channel (figure 5). The Design Study Report discusses two alternatives for renovations of the trail. Alternative 1 proposes a 6-foot-wide trail very similar to that constructed for Phase I, extended to 8 feet wide in some areas to accommodate benches, and surfaced in 4-inch recycled

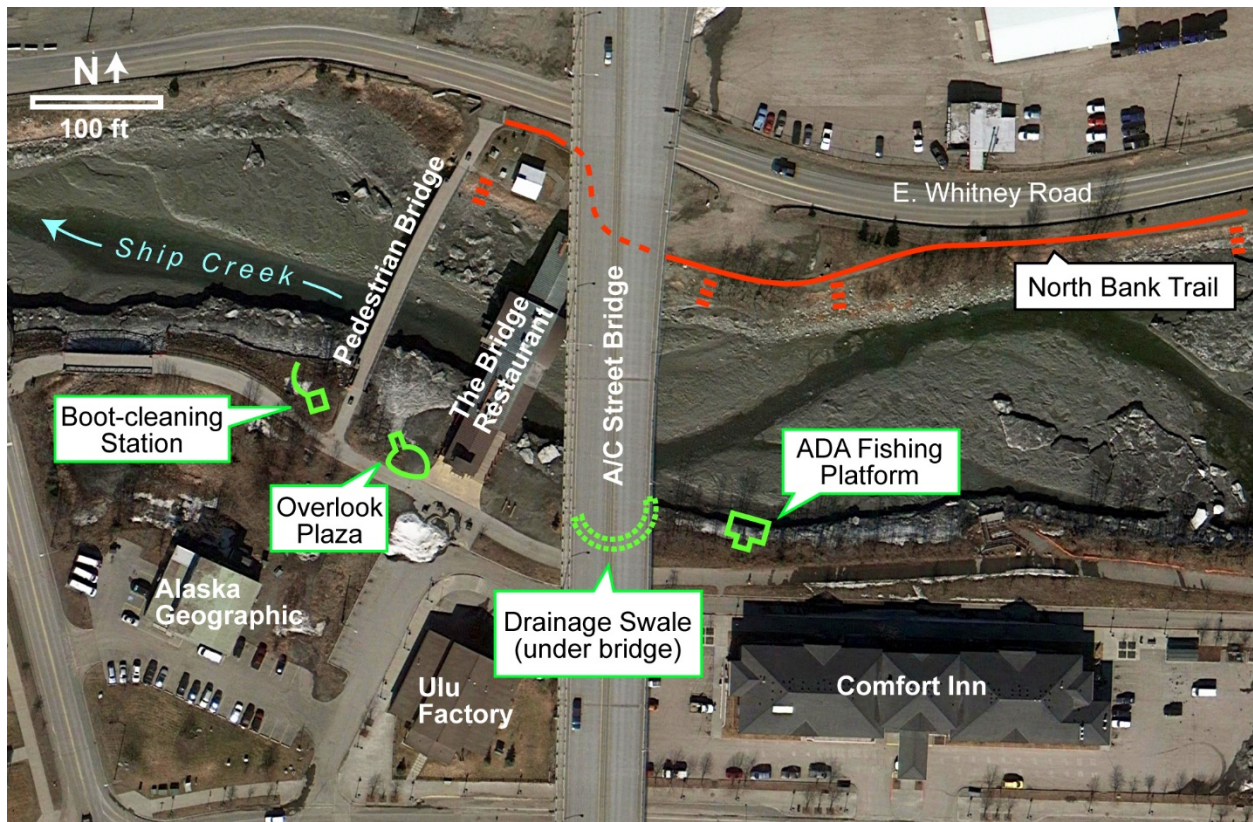


Figure 3. Locations of improvements along south bank of Ship Creek.

asphalt pavement (RAP). About 150 feet of a stacked stone wall would be placed between the trail and the stream to retain soil where fill must be added, while a screen of native trees and shrubs would be planted between the trail and Whitney Road. Six sets of flat stone steps between the trail and the creek would be installed at 150-foot to 200-foot intervals to provide designated fishing access points (section 2.2.4). Alternative 2 would construct an elevated 6-foot-wide boardwalk supported on metal pilings along the existing trail route. The boardwalk would have handrails and controlled access steps to the creek side, a screen of native vegetation along Whitney Road, and would be made to merge smoothly with the surfacing at Ship Creek Overlook Park and existing trails. The Design Study Report recommended Alternative 1, as it was less expensive and more similar to existing trails.

2.2.2 South Bank Trail Improvements

About 650 feet of dirt and gravel trail will be improved along the south bank of Ship Creek between the North C Street Bridge and the railroad trestle crossing Ship Creek to the west (figure 6). The trail improvements would be similar to those proposed for the North Bank Trail: a 6-foot-wide trail very similar to that constructed for Phase I, extended to 10 feet wide in some areas to accommodate benches, and surfaced in RAP. A simple overlook plaza (including



Figure 4. A portion of the existing North Bank Trail in June 2015; note the sloping and uneven surface of the trail.

benches, trash receptacles, and informational signage) would be created in an open area along the existing trail (figures 6 and 7). The improved trail will be aligned differently from the existing trail in some areas to minimize the extent to which the trail dips below the high tide line (HTL); small quantities of fill may be added to ensure the renovated portion of trail is above the HTL. About 150 feet of a stacked stone wall would be placed between the trail and the stream to retain soil where fill must be added. Five sets of flat stone steps between the trail and the creek would be installed at 150-foot to 200-foot intervals to provide designated fishing access points (section 2.2.4). Trail renovations will end approximately where figure 6 shows the renovated trail encountering the HTL. The Design Study Report alternatives for the South Bank Trail improvements included options for extending the trail beyond the railway trestle, but those options are no longer under consideration for Phase III.

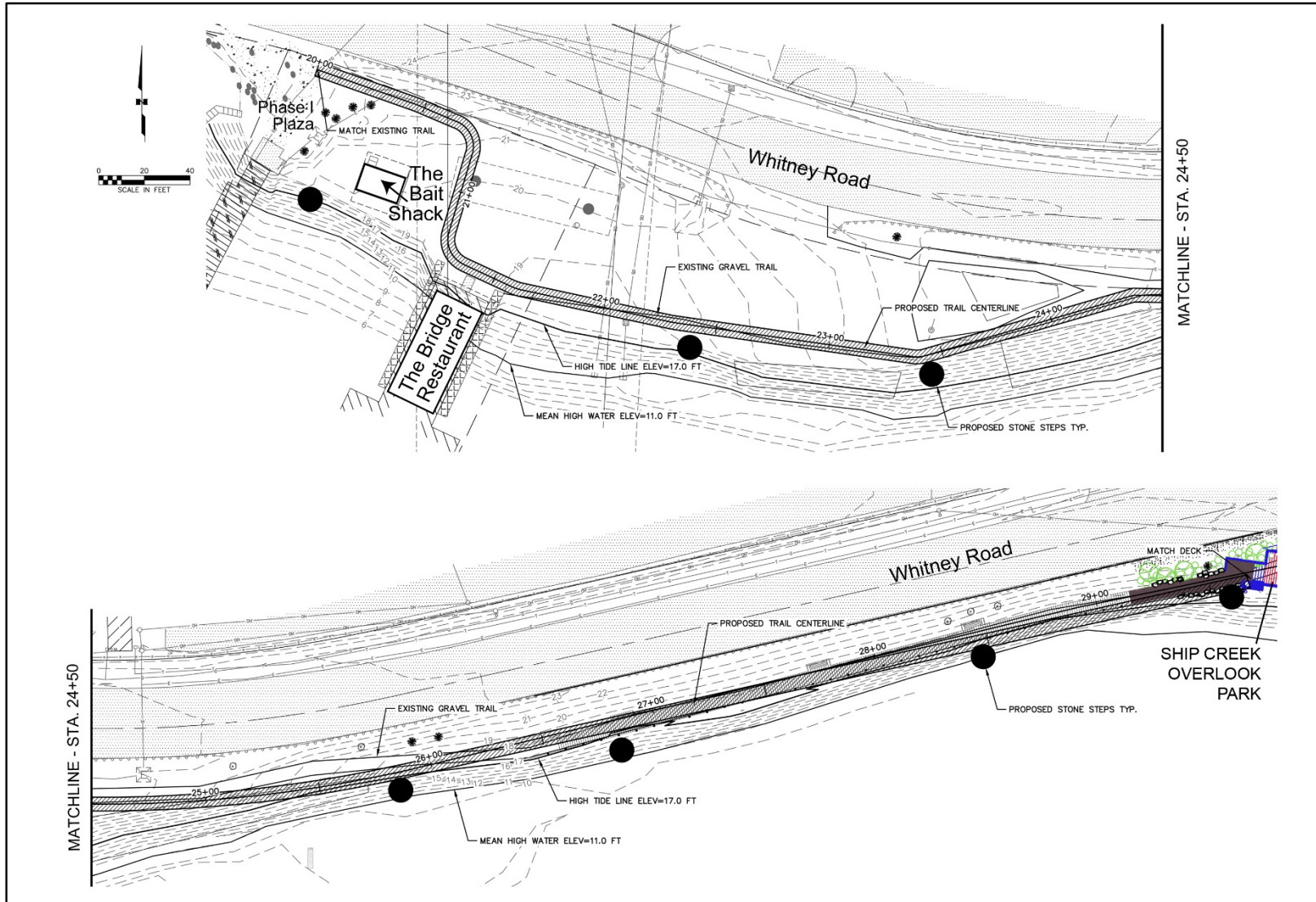


Figure 5. Plan view of North Bank Trail improvements, with locations of stone steps.

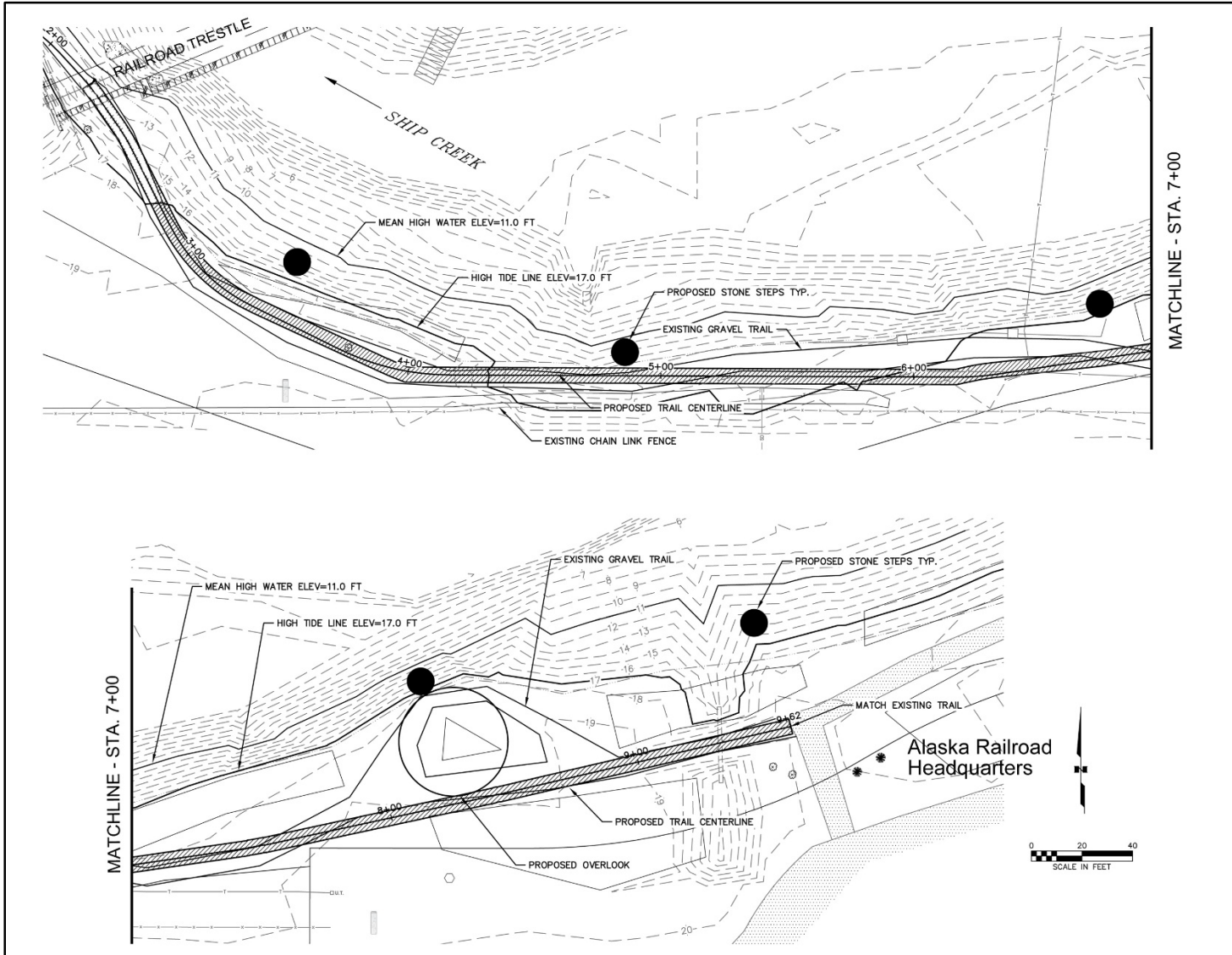


Figure 6. Plan view of South Bank Trail improvements, with locations of stone steps.

2.2.3 Stream Access Steps

Phase III will include the installation of 11 sets of flat stone steps to provide firm, convenient access routes into and out of the stream channel, with the aim of reducing the breakdown and subsequent erosion of the stream bank due to repeated foot traffic (figure 8). The steps will be similar to those installed in Phases I and II (figure 8), and include signage at the top and bottom to indicate their locations. In areas where the bank is steep, the steps will be positioned at an angle to the stream bank. Locations for the stone steps will largely be chosen by looking at the areas more commonly used by fishermen to access the stream, but will in general be spaced roughly 150 to 200 feet apart (figures 5 and 6). Installation of the stone steps will require a small amount of excavation in the stream bank to create footings for the individual 24- to 36-inch stepping stones (figure 8). Several inches of gravel leveling-course will underlay each stone. The sets of stone steps will extend below the HTL and in some cases below mean high water (MHW).



Figure 7. A portion of stream bank along the South Bank Trail showing signs of heavy foot traffic. The man in the photograph is standing at the location of the proposed Stream Bank Trail overlook as shown on figure 6, and a set of stone steps is proposed for the stream bank below him (May 2015).



Figure 8. An example of a set of stone steps installed during the Phase II improvements; the wooden post supports signage indicating the location of the steps (May 2015).

2.2.4 Boot-Cleaning Station

An 8-foot-square gravel and concrete pad will be constructed near the south end of the pedestrian bridge. The boot-cleaning station will feature spigots providing city-supplied water for the cleaning of stream-bank mud from angler's boots. Run-off water will be directed through a layer of coarse gravel to drain ultimately back into Ship Creek.

2.2.5 Overlook Plaza

A semicircular retaining wall will define a small (30-foot-wide) paved plaza overlooking Ship Creek between the pedestrian bridge and The Bridge Restaurant. A set of flat stone steps with a handrail will lead from the plaza down into the stream channel.

2.2.6 ADA-Compliant Fishing Deck

A small fishing platform specially designed to allow access and casting by people in wheelchairs from existing walkways will be constructed on the south bank, just north of the western end of the Comfort Inn motel (figure 3). The fishing platform will be about 13 feet by 25 feet and be supported by ten 8.6-inch, 0.5-inch wall galvanized steel pilings. Current drawings show the pilings to be placed above mean high water (MHW).

2.2.7 Drainage Swale

Called a “creek bank erosion control” feature in project drawings, the two-armed rock-lined ditch or swale is intended to guide storm water runoff from the new south bank paving and landscaping into the Ship Creek stream channel while reducing erosion and the transport of sediment. The swale will be about 4 feet wide, and 1 foot deep, and filled with coarse rocky material and planted with shrubs and perennial grasses. Project drawings show the eastern arm of the semicircular swale extending into the stream channel below MHW.

3.0 AFFECTED ENVIRONMENT

3.1 Community and People

Anchorage is Alaska’s most populous city, with more than 300,000 people residing in the broader Municipality of Anchorage. The city is a major transportation hub, with the Port of Anchorage handling 85 percent of incoming cargo for Alaskan communities along the road and rail system. The project site is adjacent to the busy intermodal nexus in northwest Anchorage where the Port of Anchorage, Alaska Railroad, and highway system merge. Thousands of tourists visit Anchorage as a destination every year, and many more pass through via rail or air to places elsewhere in Alaska (ADCRA 2014).

Anchorage was originally settled in 1914 as a tent city at the mouth of Ship Creek, very close to the project site. The same year, the U.S. government purchased the Alaska Northern Railroad and chose the Ship Creek area as the railroad’s new headquarters for a Federal project to complete the rail link from Seward and extend it into the Alaska interior (ARRC 2012). The Anchorage town-site was soon constructed on higher ground just south of Ship Creek, and the city’s development has trended to the south and east, but the Ship Creek corridor has remained a major industrial and transportation center.

3.2 Current Land Use

Current land use in the immediate project areas along Ship Creek is primarily recreational: sport fishing, viewing salmon and other wildlife, walking, and bicycling. The existing trails and overlooks used for these recreational purposes are closely bounded by roads and parking areas. The surrounding environment is heavily devoted to the staging and transport of cargo by truck, rail, and ship. A small number of businesses catering to tourists and residents, such as The Bridge restaurant, Alaska Geographic, The Ulu Factory, and a Comfort Inn motel are immediately adjacent to the Kings Landing project area. The project seeks to tie the Ship Creek area into Anchorage’s system of paved multi-use, multi-season trails such as the Tony Knowles Coastal Trail leading south along the coastline and the existing Ship Creek Trail leading to the east.

Salmon fishing in the project area is allowed only between the mouth of Ship Creek and a marked cable stretched across the stream channel about 100 feet downstream of the power plant dam. Most recreational fishers target a window of 2 to 4 hours around high tide. Ship Creek has two main hatchery-enhanced salmon runs. A king salmon run starts in early June and lasts until season closure on July 15, and a silver salmon run begins in July and lasts until late October (figure 10). Generally, the fishing limit is one king salmon and three silver salmon per day, although the Alaska Department of Fish and Game (ADFG) manages the fishery and can issue emergency orders that change the fishing limits. In addition, Ship Creek is closed to fishing between 11 p.m. and 6 a.m. during king salmon season as an aid to escapement and rules enforcement (MOA 2014).

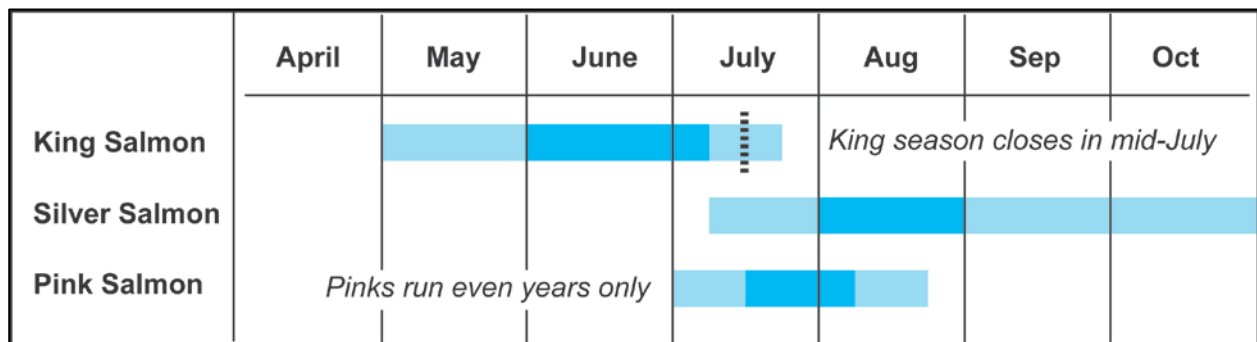


Figure 9. Seasonal timing of Ship Creek salmon runs; darker blue indicates peak periods (adapted from MOA 2014).

3.3 Climate

Anchorage is within a transition zone between maritime and northern continental climates, and both summers and winters can experience a wide range of temperatures and precipitation. Temperatures in a recent year (2013) ranged from a December average minimum of 10.5°F to an average July maximum of 69.2°F (ADCRA 2015). Anchorage receives 16.57 inches of precipitation on average annually, with an average 74 inches of snowfall; persistent snow-cover can generally be expected from November through April (U.S. Climate Data 2015). Lower Ship Creek can be expected to be iced-over for several months during the winter, though the onset of ice cover is dependent on early winter temperatures, and tidal fluctuations tend to break the ice into floes. Lower Ship Creek is usually ice-free by mid-April.

3.4 Hydrology and Topography

Ship Creek runs 25 miles from its origin at Ship Lake, 2,700 feet up in the Chugach Mountains, to its discharge into Cook Inlet. The stream drains a watershed of 117 square miles. It has little glacial input and flows clear except during spring runoff or after heavy rains, or in the estuarine portion of lower Ship Creek where tidal fluctuations carry in sediment-laden water from Cook Inlet and mobilize fines from the silty estuarine stream bank. At the time that Anchorage was founded, Ship Creek and its associated tidal and riparian wetlands occupied most of the broad,

flat-bottomed valley seen near the mouth today, but development has increasingly constrained and channelized the lower 2 to 3 miles of the stream into a small fraction of its past extent. Most relic channels have been filled (RETEC 2005).

The reach between the power plant dam and the mouth of Ship Creek is considered tidal, with a high tide of 17 feet above mean sea level possible (MOA 2014). The stream channel is broad and flat, and both banks are lined with fill, rip-rap, or concrete. Between the dam and the A and C Street Bridge, the stream meanders around several gravel bars, but below the A and C Street Bridge, the stream channel cuts through tidal mudflats out to the inlet (RETEC 2005).

Local surface soils in the project area are largely fill, probably composed of Ship Creek alluvium and glacial outwash brought in from higher ground above Ship Creek. Native soils beneath the fill consist of three major units: mudflat estuarine silts, a discontinuous stratum of sand and gravel, and clays (FTR & ARRC 2003).

3.5 Air Quality and Noise

Overall, Anchorage enjoys clean air for a metropolitan area, with an Air Quality Index rating of “good” on an average of 76 percent of monitored days from 2009 through 2013, and five or fewer days each of those years in the “unhealthy for sensitive groups”, “unhealthy”, or “very unhealthy” AQI categories. The city maintains levels of regulated pollutants within the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act (CAA). The air quality standards include concentration limits on the “criteria pollutants” carbon monoxide (CO), ozone, sulfur dioxide, nitrogen oxides, lead, and particulate matter (EPA 2015).

Anchorage has historically experienced elevated CO concentrations during the winter, when cold temperatures and the nearby mountains can result in temperature inversions that trap pollutants close to the ground. As in most urban areas, CO emissions are generated primarily by vehicles, with cars and trucks accounting for around three-quarters of the annual CO emissions in Anchorage. A large part of Anchorage was first declared a non-attainment area for CO in 1978. Largely through a program of vehicle inspection and emission control, Anchorage has not violated the NAAQS for CO since 1996. The U.S. EPA approved Anchorage’s attainment plan in 2002, and Anchorage is currently a CO “maintenance area” (ADEC 2015).

Particulates concentrations may reach levels of concern in Anchorage air during volcanic eruptions, regional forest fires, or dust lofted by vehicles from city streets, especially during dry periods following snow-melt in the spring (ADEC 2015).

The project site is within a busy transportation corridor and subject to considerable noise from a variety of sources. The Alaska Railroad has its main rail yard a few hundred feet north of Ship Creek Overlook Park and the north bank trail; Ship Creek is paralleled on both sides by rail lines

and sidings, and is crossed by a railway trestle bridge at the west end of the Kings Landing project area. Heavy truck traffic moving to and from the Port of Anchorage uses Whitney Road and the overpass bridge, and several lots adjacent to Ship Creek are used to stage metal shipping containers. The A and C Street Bridge crosses Ship Creek to connect Joint Base Elmendorf-Richardson (JBER) and the Government Hill district with the rest of Anchorage, and sees heavy vehicle traffic on a daily basis. The area is also subject to aircraft noise from JBER and from light aircraft taking off from and approaching Merrill Field Municipal Airport in north Anchorage.

3.6 Water Quality

Water quality parameters in lower Ship Creek can vary widely with tidal movements. High tides carry silt-laden water from Knik Arm and silty estuary sediments up the stream channel, increasing turbidity. The influx of marine water at high tide appears to raise the salinity in the channel water to only mildly brackish levels. RETEC reported conductivity measurements of about 1.9 milliSiemens/cm at high tide, which correlates to a salinity of about 1.0 parts-per-thousand (at 25°C), versus low tide measurements of about 200 mS/cm (or 0.1 ppt salinity; RETEC 2005). By point of comparison, the conductivity of water in the open ocean is around 54 mS/cm, or 35 ppt salinity).

The Alaska Department of Environmental Conservation (ADEC) ranks the current water quality of Ship Creek as “high” (ADEC 2012), though it is vulnerable to urban runoff and pollutant discharges, and is closely monitored. Ship Creek was listed under Section 303(d) of the Clean Water Act in 1990 for non-attainment of the petroleum hydrocarbons and oils and grease standard due to a reported sheen believed to be associated with fuel-contaminated groundwater along lower Ship Creek. A monitoring program established that the groundwater did not pose a threat to the stream, that no persistent sheen existed, and that petroleum compounds in the stream water did not exceed the water quality standard. The impairment listing for petroleum hydrocarbons was removed in 2012. Ship Creek remains in an “impaired” status for fecal coliform bacteria, caused primarily by urban surface runoff. A total maximum daily load (TMDL) for fecal coliform was developed for Ship Creek in 2004, and approved by the U.S. Environmental Protection Agency (ADEC 2012).

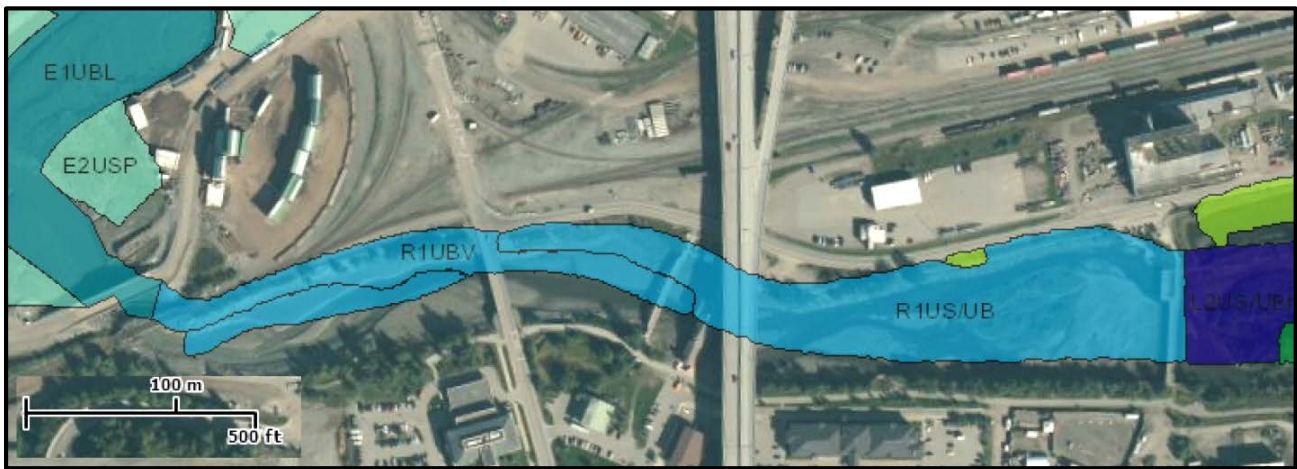
3.7 Biological Resources

3.7.1 Vegetation and Habitat

Ship Creek downstream of the power plant dam is closely hemmed in by roadways, parking lots, and paved trails. Native vegetation is confined to a narrow fringe along the banks and is mixed with grasses and weeds and intentionally-planted native trees and shrubs. A strand of large cottonwood trees are growing from the stream bank along the existing North Bank Trail between the Ship Creek Overlook Park and the A and C Street Bridge, mixed with a screen of native birch and alder scrub. These trees may be a remnant of an original stream-side community. The

widely spaced aspen and spruce trees between the existing trail and Whitney Road were probably from previous landscaping efforts. A grove of large cottonwood trees also flanks the existing South Bank Trail near the Alaska Railroad headquarters building. Vegetation within the stream channel itself is sparse; a 2004 habitat survey noted sedges, arrow grass, and Pacific silverweed within the tidally influenced parts of the channel (RETEC 2005). The large gravel bar immediately downstream of the dam hosts alder scrub and tall grasses, while the adjacent bars farther downstream have only low vegetation, probably reflecting an increase in the frequency of prolonged salt water inundation as one moves downstream.

Figure 11 shows the designations of aquatic habitat assigned to the project area by the U.S. Fish and Wildlife Service’s National Wetlands Inventory (NWI) on-line mapping application (FWI 2015). Downstream of the power plant dam, the NWI identifies primarily riverine (coded R1US/UB and R1UBV) and estuarine (coded E2USP and E1UBL) habitats, with only a tiny



R1US/UB	Riverine, tidal, unconsolidated shore, unconsolidated bottom
PEM1R	Palustrine, emergent, persistent, seasonally-flooded
R1UBV	Riverine, tidal, unconsolidated bottom (vegetative cover of less than 25%), permanent-tidal
E2USP	Estuarine, intertidal, unconsolidated shore (vegetation cover of less than 30%)
E1UBL	Estuarine, subtidal, unconsolidated bottom (vegetation cover of less than 30%)

Figure 10. Screenshot from the USFWS National Wetlands Inventory mapper, with explanation of wetlands codes.

pocket (0.06 acre, shown in light green) of a palustrine wetland community (coded PEM1R) on the north shore midway between the dam and the A and C Street Bridge. The term “palustrine” refers to wetlands dominated by woody plants, forbs, or mosses that are non-tidal or in tidal areas where marine salinity is less than 0.5 parts per thousand.

3.7.2 Wildlife

The scant vegetation available along lower Ship Creek means little food or cover for large terrestrial animals, and the area does not provide significant upland wildlife habitat. The noise

and commotion from busy roadways and human recreation activities would likewise discourage most terrestrial wildlife from visiting the area. However, mammals such as moose, porcupine, ermine, muskrat, and bear may occasionally make their way into the lower Ship Creek area from the more heavily vegetated habitat upstream of the power plant dam.

The stream channel itself is used intensively by numerous bird species. Waterfowl such as mallard, green-wing teal, and red-breasted merganser forage in the channel and within the power plant cooling pond. Some individuals of these species may remain at the stream through the winter as long as some open water is present. Black-billed magpies, belted kingfishers, and bald eagles perch in streamside trees and shrubs waiting for feeding opportunities.

Ship Creek hosts large annual runs of king (chinook) salmon and silver (coho) salmon. Pink and chum salmon runs are much smaller, with the pink runs occurring only in even-numbered years. Ship Creek contains only marginal natural salmon spawning and rearing habitat, and its large king and silver runs are sustained through the release of hatchery-reared smolt. Currently, the William Jack Hernandez Hatchery (operated by the ADFG roughly 2 miles upstream of the power plant dam) collects about 300 to 500 adult king and 800 adult coho during their in-migration runs each year; eggs and milt from these fish are harvested to begin the next production cycle (Tesch 2014, ADFG 2014). The hatchery releases approximately 300,000 king and 200,000 silver smolt into Ship Creek each year, generally in late May or early June. These smolt, which are raised on well water within the hatchery, are held in raceways and imprinted on water diverted from Ship Creek for a week before being released into the creek. It is not known with certainty how long the smolt remain within the Ship Creek system, but the very low salinity within lower Ship Creek even at high tide (Section 3.6), the generally low salinity of upper Cook Inlet, and meager juvenile fish habitat available within lower Ship Creek suggest that there is little reason for juvenile salmon to linger in lower Ship Creek for osmoregulatory conditioning or general rearing (Tesch 2015).

Beluga whales and harbor seals are occasionally spotted entering Ship Creek from Cook Inlet, presumably in pursuit of salmon migrating upstream. Documented beluga whale sightings are generally concentrated within the mouth of Ship Creek or the deeper estuarine reach up to the Boat Launch Road bridge (figure 1; Mahoney 2014), although at extreme high tides they have been spotted as far upstream as the pedestrian bridge (figure 2; Schanke 2015). Anecdotal reports have placed harbor seals as far upstream as the power plant dam during extreme high tides (NMFS 2015a, Mahoney 2014).

3.7.3 Protected Species

Endangered Species Act. The Corps reviewed online information provided by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS). The only species listed under the Endangered Species Act (ESA) that may likely be present near the

project area or has designated critical habitat near the project is the beluga whale (*Delphinapterus leucas*), Cook Inlet Distinct Population Segment. The NMFS listed Cook Inlet belugas as “endangered” in 2008, and finalized the designation of critical habitat for them in 2011.

Critical habitat for beluga whales defined in the NMFS Final Rule (NMFS 2011) includes most of upper Cook Inlet marine waters, “*bounded on the upland by Mean High Water (MHW) datum, except for the lower reaches of four tributary rivers. Critical habitat shall not extend into the tidally-influenced channels of tributary waters of Cook Inlet, with the exceptions noted in the descriptions of each critical habitat area.*” The “four tributary rivers” within which portions of the stream channels are specifically designated as critical habitat are the Kenai River, Susitna River, Little Susitna River, and Chickaloon River (NMFS 2011, Part 226.220). No critical habitat is specifically designated within the Ship Creek stream channel. A telephone conversation with a NMFS biologist confirmed that the intent of the Final Rule is that critical habitat stops “at the mouth” of a stream discharging into Cook Inlet, and does not extend up the stream channel (with the exception of the four rivers described above); further clarification on critical habitat boundaries may be forthcoming from NMFS in the future (Mahoney 2015). Therefore, the waters of Ship Creek adjacent to the project activities are not critical habitat for beluga whales.

Upper Cook Inlet is technically within the range of Steller sea lions from the Western Distinct Population Segment (listed as endangered under the ESA), although the presence of one near Anchorage would be very unusual. The nearest critical habitat haulouts or rookeries for Steller sea lions are at the entrance to Cook Inlet, more than 150 miles away.

No ESA-listed species managed by the U.S. Fish and Wildlife Service (USFWS) or their critical habitats are present at or near the project area according to information provided by the USFWS online (USFWS 2015).

Marine Mammal Protection Act. The Marine Mammal Protection Act (MMPA) provides protection for all whales, dolphins, porpoises, seals, sea lions, and sea otters, regardless of a species’ listing under the ESA. The NMFS ESA/MMPA mapper website (NMFS 2015b) identifies killer whales (*Orcinus orcus*), harbor porpoise (*Phocoena phocoena*), and harbor seal (*Phoca vitulina*) as non-ESA marine mammals that may be found in upper Cook Inlet. Of these species, only the harbor seal has been very occasionally reported within Ship Creek.

Bald and Golden Eagle Protection Act. The bald eagles commonly seen along Ship Creek (figure 12) and other Anchorage waterways are protected under the Bald and Golden Eagle Protection Act, as well as the Migratory Bird Treaty Act (see below). In addition to prohibiting direct takes

such as killing eagles or destroying nests, this act also regulates human activity or construction that may interfere with eagle’s normal breeding, feeding, or sheltering habits (USFWS 2011).



Figure 11. A view towards the west along the existing north bank trail, with several bald eagles perched in a cottonwood tree (October 2014).

Migratory Bird Treaty Act. With the exception of State-managed ptarmigan and grouse species, all native birds in Alaska (including active nests, eggs, and nestlings) are protected under the Federal Migratory Bird Treaty Act (MBTA; USFWS 2009).

3.7.4 Essential Fish Habitat and Anadromous Streams

The Alaska Department of Fish & Game’s (ADFG) Anadromous Waters Catalog (AWC) assigns Ship Creek the catalog number 247-50-10060, and lists it as having king, coho, chum, and pink salmon “present” (ADFG 2014). This freshwater salmon habitat is also essential fish habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act.

3.8 Cultural and Historic Resources

Examination of the Alaska Historic Resources Survey (AHRS) database by the Corps archaeologist identified no known historic or prehistoric sites within the project’s area of

potential effect (APE). Adjacent to the APE are three historic properties: Ship Creek Bridge MP 114.3 (ANC-1305), ARRC Timber Bridge MP 114.6 (ANC-2775) and ARRC Ship Creek Covered Bridge (ANC-2776).

Table 1. AHRS sites adjacent to project APE.

Site Name	AHRS No.	NRHP STATUS
Ship Creek Bridge MP 114.3	ANC-1305	No determination
ARRC Timber Bridge MP 114.6	ANC-2775	No determination
ARRC Ship Creek Covered Bridge	ANC-2776	No determination

ANC-1305 is the old rail trestle bridge west of the South Bank Trail improvements, still used by the Alaska Railroad to manage cargo trains. ANC-2775 is part of a former 196-foot timber bridge constructed in 1916 by the Alaska Engineering Commission from standard plans using local timber. Situated between the passenger station and the yard facilities, the railroad’s mainline crossed ANC-2775 until realignment of the freight mainline and installation of a separate track to the passenger depot was completed in 1952. In 1938 the railroad rebuilt the entire bridge, and did so again in 1956. Additional repairs continued through 1985. The bridge was removed from railroad service in 1987; the rails were removed and the deck was replaced to convert it to a pedestrian bridge. Today ANC-2775 serves as a pedestrian bridge over Ship Creek and is a popular destination of thousands of fishermen and tourists. The AHRS site card states that the bridge is potentially eligible for the National Register of Historic Places (NHRC) under Eligibility Criterion C as one of the most intact examples of an abundant bridge type used on the Alaska Railroad (Pierce 2015).

ANC-2776 is part of a 162-foot timber trestle bridge that crosses Ship Creek and once served as an old wagon bridge. The bridge was constructed in 1915 by the Alaska Engineering Commission and was rebuilt several times. It was fully reconstructed in 1957 with creosote treated timber bents and six 27-foot-long spans. The timber bridge was used by vehicles crossing Ship Creek until 1990 and covered in the mid-90’s. The timber bents were replaced with steel in 2004, and the bridge became the foundation for a restaurant and catering company structure in 2006 (Pierce 2015).

On October 23, 2014, Corps archaeologist Shona Pierce conducted a pedestrian survey of the Ship Creek embankment to determine the likelihood of finding cultural materials within the proposed APE. Public foot traffic was noted throughout the APE, with heavy foot traffic down the banks to the creek bed. High degrees of erosion were present along the creek margins. Erosion appeared to stem from a combination of street/trail runoff and foot traffic. The area appeared to be heavily modified by past construction from the Ship Creek Fishing Trail, East Whitney Road, Ship Creek Boat Launch Road and the Alaska Railroad Corporation stockyard. No cultural materials were observed eroding out of the creek banks (Pierce 2015).

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 No-Action Alternative

Under the no-action alternative, the access improvements described in Section 2 would not be pursued, and any environmental impacts of those actions would be avoided. However, any potential environmental benefits to be gained from the project, such as reduction of stream bank breakdown and erosion would also not be realized, and erosion, sedimentation, and de-vegetation of the stream bank will continue at the same rate or accelerate.

4.2 Design Alternatives

The environmental consequences of the project as a whole are discussed below, with individual elements of the project identified and discussed where they may be especially pertinent to effects on a particular resource.

4.2.1 Effects on Community and Land Use

The completed project is intended to improve access and enjoyment of Ship Creek for sports anglers and other users. The project will not substantially change the use of the area by anglers, but improvements to trails and other public spaces may draw in more sight-seers and other recreational users. The project will not increase the amount of parking near Ship Creek. The construction of the project will result in short-term restrictions in access to Ship Creek or changes in access routes, especially during the renovations to the foot trails. The Corps and its contractors will work with the MOA and the public to minimize the effects of construction on recreational use of the area and ensure access to Ship Creek is maintained. The contractors will be instructed to make use of the existing 11:00 p.m. to 6:00 a.m. sport-fishing closure from May 15 through July 13, to the extent possible to minimize conflict with anglers, and to ensure that alternate foot-traffic access to the stream is maintained where the work makes an existing trail impassable.

4.2.2 Effects on Air Quality and Noise

Given the project's location in a busy urban transportation corridor, the project is not expected to cause a significant deterioration in local air quality or noise levels. Common construction machinery such as pile drivers and front end loaders will be brought into different portions of the project area for tasks lasting a matter of days or weeks, adding incrementally to emissions from cars, trucks, and trains already in the area. The project does not install any permanent emission sources, and any decreases in air quality as a result of the project will be highly localized and transient, and disappear entirely at the end of the construction period. Water will be used for dust abatement where appropriate.

Most noise generated by the project will be low-level earth-moving and carpentry noise not significantly elevated above the ambient traffic, railway, and aircraft noise of the area. The project will not alter existing traffic patterns. The vibratory hammer proposed for pile driving may be a significant source of temporary new noise, though creating less potentially-injurious noise than an impact hammer. The pile driving may exceed noise levels allowed by the Anchorage Municipal Noise Ordinance (AMC15.70) of 80 A-scale decibels for commercial property. Timing restrictions on the operation of the pile driver that serve to protect fish (no pile driving between May 20 and September 15) would also serve to limit the pile driving to times of year when fewer people are in the area. The nearest residential areas are roughly 1,500 feet from the pile driving locations, but several commercial hotels are closer. The contractor will apply for a MOA noise permit, and noise abatement measures appropriate to the equipment used will be implemented.

4.2.3 Effects on Topography and Hydrology

The project will create only minor, highly localized alterations to existing ground profiles (e.g., the re-grading and leveling of the existing foot trails). The stone stairs and pilings entering the stream channel a short distance below MHW will have a negligible effect on the hydrology of Ship Creek. The upland landscaping work associated with this project (but not discussed in this EA) will incorporate drainage and storm water management features in accordance with Municipality of Anchorage policies.

4.2.4 Effects on Water Quality

Part of the intent of the project is to reduce stream bank breakdown and erosion by providing hardened stream access points and stabilizing the existing foot trails. These features should have a positive effect on water quality in the stream once complete. The proposed construction work (particularly the trail renovation work) has the potential to cause small amounts of additional sediment to be carried into Ship Creek by overland flow or airborne dust. The project may result in the disturbance of less than one acre of ground, the general threshold for requiring a Storm Water Pollution Prevention Plan (SWPPP) under the Alaska Pollutant Discharge Elimination System (APDES), but a SWPPP may be required by the MOA (ADEC 2011; Rypkema 2015). Neither the boot-wash station nor the rock-lined swale will require an ADEC Division of Water permit (Rypkema 2015). The Corps will require its contractors to implement appropriate sediment control best management practices (e.g., silt fencing or coir logs) when performing ground-disturbing work near Ship Creek or the cooling pond. The project should not exacerbate existing water quality issues at Ship Creek.

4.2.5 Effects on Vegetation and Wetlands

The proposed project will cause little disturbance to existing vegetation, as much of it will occur in areas with minimal or no existing vegetation. The Corps and its contractors will avoid the removal of existing large trees. The placement of the stone steps will avoid existing vegetated

areas within the stream channel, so their placement should not constitute a discharge to jurisdictional wetlands.

4.2.6 Effects on Wildlife

The proposed project will have minimal adverse effect on what little wildlife habitat exists in the immediate project area. Improvements to the trails and to the Ship Creek Overlook Park may draw in marginally more visitors to the Ship Creek corridor, but the wildlife present is already habituated to low-impact human recreational activities and is unlikely to be significantly affected. The project will avoid removing existing trees to the extent possible, minimizing the loss of perching habitat. The anticipated reduction in the trampling of stream bank vegetation will help stabilize the stream bank and increase forage and cover for some species of birds and small mammals. The proposed casting deck overlooking the cooling pond constitutes the greatest change in public use of the area. The deck will increase human interaction with the cooling pond, and the increased noise and disturbance at the west end of the cooling pond will probably displace some waterfowl towards the east end.

Potential effects on fish are discussed in Section 4.2.8.

4.2.7 Effects on Protected Species

The project activity most likely to have a potential effect on protected species is the pile driving required for the construction of the ADA fishing platform. The pile driving could adversely affect beluga whales or harbor seals *if* those species were present within the stream. However, the ADFG has required pile driving to occur before or after the period of major salmon in-migration and smolt out-migration (May 20 through September 14). The pile driving will occur when salmon prey numbers are very low to non-existent, and when the likelihood of a beluga whale or harbor seal being within the Ship Creek stream channel is correspondingly extremely low. Although beluga whales were spotted in Ship Creek just below the pedestrian bridge on 16 September 2015, this occurrence is by all accounts extremely rare.

Modeling water-borne noise exposure within the Ship Creek stream channel would be a complex effort; however, it can be assumed that noise generated from the pile driving would not propagate far within Ship Creek. The stream channel's narrow width, shallow water depth, irregular soft muddy substrate, sloping stream bed, and frequent meanders would all serve to quickly absorb and dissipate the sound energy before it traveled down the stream channel a significant distance. The ADA fishing platform is about 110 yards upstream of the pedestrian bridge (the farthest point upstream of known beluga sightings); over 500 yards of stream channel upstream from the Boat Launch Road bridge (the more typical upstream limit of beluga activity); and at least 1,200 yards from the mouth of Ship Creek, where critical habitat for beluga whales begins.

The Corps determines that the project activities will have no effect on ESA-listed species under NMFS jurisdiction, including Cook Inlet beluga whales or their critical habitat due to the following conditions of the project work:

- Pile driving will take place when prey species within Ship Creek are at low levels or absent, minimizing the probability that an ESA-listed marine mammal will be sufficiently close to the project activities to be affected by them;
- Pile driving will take place “in the dry” (i.e., when the pile driving site is above the tidally-influenced water level of Ship Creek), greatly curtailing the transmission of potentially injurious noise, and further reducing the risk to ESA-listed marine mammals to a negligible level;
- The project activities will not occur within critical habitat.

The Corps determines that the project will have no effect on ESA-listed species under jurisdiction of the USFWS, as none are expected in the project area.

According to anecdotal reports, harbor seals have been spotted as far upstream as the power plant dam. Their much smaller size would, in principle, make a harbor seal more able than a beluga whale to travel up the Ship Creek stream channel, although it would still be unusual behavior most likely motivated by an abundance of prey. As described above for beluga whales, pile driving would be timed to avoid the bulk of the summer salmon runs in Ship Creek and be performed “in the dry”, so the risk of a harbor seal being in a location in which it could be affected by injurious noise from the pile driving is sufficiently low as to be discountable. The contractors performing the pile driving will be instructed to keep an eye out for harbor seals (or any other marine mammal) and suspend pile driving operations if one comes into view of the work site, and wait 15 minutes after the last sighting of the animal before resuming pile driving. The Corps determines that the project activities will not result in a taking under the Marine Mammal Protection Act.

The bald eagles that frequent lower Ship Creek are habituated to the current human recreational use, and the noise and industrial activity of that area are unlikely to be further disturbed by project activities. No bald eagle nesting sites are known to exist in the area. The planned project activities will not result in a taking under the Bald and Golden Eagle Protection Act.

The planned project will require little in the way of vegetation removal, and the project area affords limited bird nesting habitat. However, contractors will be required to observe USFWS guidance (USFWS 2009) on avoiding violations of the Migratory Bird Treaty Act.

4.2.8 Effects on Essential Fish Habitat and Anadromous Streams

Lower Ship Creek does not appear to provide significant spawning, rearing, or adult life-stage habitat for fish, functioning primarily as a corridor between the Cook Inlet marine environment and spawning habitat (primarily in the form of the hatchery) upstream. The pilings, rock stairs, and drainage feature that enter the Ship Creek stream channel will not alter the channel's usefulness as fish habitat in any significant way or impede the passage of fish. The project may eventually improve fish habitat by reducing the breakdown and erosion of the stream bank. The Corps determines that the project will not affect essential fish habitat as defined by the Magnuson-Stevens Fishery Conservation and Management Act

Some of the planned activities, especially the pile driving, could have a short-term adverse effect on fish using the stream during construction. The Corps has discussed this project with the ADFG Habitat Division, the William Jack Hernandez Hatchery, and the NMFS Habitat Conservation Division (Cunha 2015, Tesch 2015, Tesch 2014, Hanson 2015). Measures proposed to avoid and minimize project impacts on fish, particularly migrating adult and juvenile salmon, include:

- Confine pile driving to the periods of September 15 through May 20 to the extent possible.
- Use a vibratory hammer for pile driving, except where conditions make use of a vibratory hammer impracticable.
- Perform any pile driving, earthwork or stone placement “in the dry” to the extent possible.

4.2.9 Effects on Cultural Resources

An assessment of the project area by the Corps archaeologist identified no recorded historic or archaeological resources within the project's APE. The project is in areas that have been heavily modified and disturbed by past construction activities and foot traffic. The land has been built up by historic and modern railroad work, recreational trails, and compacted/paved roads and parking lots. Due to multiple construction impacts within the project APE over the years, the potential for cultural resources to be encountered in the APE is minimal. However, given the absence of a comprehensive archaeological site investigation within the project area, and the reported historic use of Ship Creek as a traditional subsistence-use area, the Corps recommends that a qualified archaeologist be on hand to monitor intrusive construction activities throughout the duration of the proposed project. The presence of a qualified archaeological monitor will help mitigate unanticipated adverse effects to cultural resources in the project APE. If cultural materials are encountered during construction, the archaeologist will stop work in the area, identify the resource, and determine its eligibility for the National Register of Historic Places. The Corps determined that no historic properties will be affected by the proposed activities

(conditional on the presence of an archaeological monitor) in a letter dated June 9, 2015; the State Historic Preservation Officer concurred with that determination on June 16, 2015.

4.2.10 Effects on Coastal Zone Resource Management

Alaska withdrew from the voluntary National Coastal Zone Management Program (<http://coastalmanagement.noaa.gov/programs/czm.html>) on July 1, 2011. Within the State of Alaska, the Federal consistency requirements under the Coastal Zone Management Act do not apply to Federal agencies, those seeking forms of Federal authorization, and State and local government entities applying for Federal assistance.

4.2.11 Effects on Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires Federal agencies to identify and address any disproportionately high and adverse human health effects of its programs and activities on minority and low-income populations.

The proposed action will occur in a commercial/industrial area and not disproportionately impact any population subset. The recreational access improvements created will be openly available to all. The Corps does not anticipate adverse impacts from this project to the human population.

4.2.12 Cumulative Effects

Federal law (40 CFR 651.16) requires an assessment of cumulative effects, which are the impact on the environment resulting from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

The proposed activities are the third phase of a multi-year recreational access improvement project and are therefore inherently cumulative. The overall intent of the project is to improve public access to and diversify public use of the lower Ship Creek corridor. This will translate into larger numbers of people visiting the area and a necessarily more intensively developed environment along the stream. Ideally, this development will be directed towards protecting the remaining environmental resources in the area while accommodating greater public use.

4.3 Avoidance, Reduction, or Mitigation of Environmental Impacts

The project contractors will be required to implement the following measures to avoid and reduce impacts to environmental and historic resources, and public access:

- Confine pile driving to the periods September 15 through May 20 to the extent possible. If exclusions from this work window are necessary, they must be coordinated in advance with the ADFG.
- Perform pile driving, earthwork or stone placement in-the-dry.

- Use a vibratory hammer for pile driving except where conditions make use of a vibratory hammer impracticable.
- If, during pile driving, the contractor observes a marine mammal (e.g., harbor seal, beluga whale, etc.) within Ship Creek from the project work site, the contractor will suspend pile driving and wait 15 minutes after the last sighting of the marine mammal before resuming pile driving.
- Utilize the existing 11:00 p.m. to 6:00 a.m. sport-fishing closure from May 15 through July 13 to the extent possible to minimize conflict with anglers.
- Where the work makes an existing trail impassable, ensure that alternate foot-traffic access to the stream is maintained.
- A qualified archaeologist will be on hand to monitor intrusive construction activities throughout the duration of the proposed project.

In addition, the contractor will be required to implement appropriate sedimentation control best management practices when performing earth-disturbing work. All fuels and fluids used in machinery and excavation equipment will be stored at least 50 feet from creeks and beaches. Equipment and trucks containing fuel will park at least 50 feet from creeks and beaches when not in use. Emergency spill response procedures and materials will be provided on all equipment; materials will include sorbent mats, socks, and pads for absorbing fuels and fluids used on site.

5.0 COORDINATION AND COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

5.1 National Environmental Policy Act (NEPA) of 1969 (42 USC 4341 et seq).

This act requires that environmental consequences and project alternatives be considered before a decision is made to implement a Federal project. NEPA established the requirements for preparation of an environmental impact statement (EIS) for projects potentially having significant environmental impacts and an environmental assessment (EA) for projects with no significant environmental impacts. This EA has been prepared to address impacts associated with the federally-funded elements of the proposed project and describe appropriate steps to avoid and minimize those impacts, as discussed in the CEQ regulations on implementing NEPA (40 CFR 1500-1508). This document presents sufficient information regarding the generic impacts of the proposed construction activities at the proposed project to guide future studies and is intended to satisfy all NEPA requirements.

In accordance with NEPA and Corps policies, the EA and Finding of No Significant Impact (FONSI) will be circulated for agency and public review, and the EA will be made available on the Alaska District website to the interested public prior to the implementation of this proposed action.

5.2 Clean Water Act Of 1972 (33 USC 1251 et seq)., and Rivers and Harbors Act of 1899 (33 USC 403 et seq).

The objectives of the Clean Water Act (CWA) are to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Specific sections of the CWA control the discharge of pollutants and wastes into aquatic and marine environments. The proposed project may involve the placement of a small amount of fill below the high tide line, which would be subject to Section 404 of the CWA. Section 404 addresses discharges to waters of the United States and is regulated by the U.S. Army Corps of Engineers. It is likely that the potential placement of fill will fall under one or more Nationwide Permits (NWP) established under Section 404, such as NWP 18, "Minor Discharges." It will be the responsibility of the Municipality of Anchorage, as the owner of the land and proposed improvements, to secure the necessary authorizations under Section 404.

Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the U.S. Army Corps of Engineers. Placement of pilings and perhaps the rock-filled swale below mean high water may be subject to Section 10; however, it is likely that these minor modifications to the stream channel are covered under one or more NWP. It will be the responsibility of the Municipality to secure the necessary authorizations under Section 10.

5.3 Endangered Species Act of 1973 (16 USC 1531 et seq).

The Endangered Species Act (ESA) protects threatened and endangered species by prohibiting actions that will jeopardize continued existence of such species or result in destruction or adverse modification of any critical habitat of such species. The USFWS and the NMFS share enforcement responsibilities under this Act. Section 7 of the ESA requires Federal agencies to evaluate the potential effects of their activities on ESA species and to coordinate with the USFWS and/or the NMFS.

The initial step in ESA compliance generally is to obtain from the agencies a list of ESA species that may be present in the project area. The USFWS now provides an interactive website (USFWS 2015) as its preferred means of providing an initial list of ESA species and critical habitat. From this website and the Corps' general knowledge of the project area, it was clear that no ESA species under USFWS jurisdiction are present, and a "no effect" determination under the ESA is justified. No further coordination with the USFWS under the ESA is necessary. The NMFS has a similar interactive website, but the Corps requested and obtained a species list from the NMFS (Balogh 2015) because of uncertainty over how the interactive map reported species in the estuarine portion of Ship Creek. The Corps also informally corresponded with NMFS biologists (Mahoney 2014, 2015) to obtain information on Cook Inlet beluga whales, which was used to develop the "no effects" determination.

5.4 Magnuson-Stevens Fishery Conservation and Management Act Fishery Conservation Amendments of 1996, (16 USC 1801 et seq).

The Magnuson-Stevens Fishery Conservation and Management Act provides for the conservation and management of all fishery resources between 3 and 200 nautical miles offshore. The 1996 amendments to this Act require regional fisheries management councils, with assistance from the NMFS, to delineate Essential Fish Habitat (EFH) in Fishery Management Plans (FMPs) for all managed species. EFH is defined as an area that consists of “waters and substrate necessary for spawning, breeding, feeding or growth to maturity” for certain fish species. Federal action agencies that carry out activities that may adversely impact EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH. The Corps has conducted an assessment of EFH for the proposed project using information provided online by the NMFS and discussed the project with the NMFS Habitat Conservation office. As discussed previously in this EA, the proposed project would be in waters declared EFH for Pacific salmon species and in areas covered by two FMPs. The Corps determines that this project will have no effect on essential fish habitat.

5.5 State of Alaska Anadromous Fish Act (AS 16.05.871-901) and Fish Passage Act (AS 16.05.841)

ADFG has the statutory responsibility for protecting freshwater anadromous fish habitat and providing free passage for anadromous and resident fish in fresh water bodies. An individual or government agency notifies and obtains authorization from the ADFG Division of Habitat for activities within or across a stream used by fish if it is determined that such uses or activities could represent an impediment to the efficient passage of resident or anadromous fish. The ADFG may issue a Fish Habitat Permit (FHP).

The Corps has coordinated this project closely with the ADFG Habitat Division (Cunha 2015), and worked with ADFG to develop avoidance and minimization measures, which will be incorporated into a pending FHP for the project.

5.6 Marine Mammal Protection Act, (16 USC 1361 et seq).

The Marine Mammal Protection Act (MMPA) provides protection to marine mammals in both the State waters (within 3 miles from the coastline) and the ocean waters beyond. As specified in the MMPA, the USFWS is responsible for the management of polar bears, walrus, and sea otters; the NMFS is responsible for all other marine mammals.

As discussed previously in the EA, the Corps determines that the proposed project will not result in a taking under the MMPA.

5.7 Migratory Bird Treaty Act, (16 USC 703 et seq).

The essential provision of the Migratory Bird Treaty Act (MBTA) makes it unlawful, except as permitted by regulations, “to pursue, hunt, take, capture, kill...any migratory bird, any part, nest or egg,” or any product of any bird species protected by the convention.

There are no grounds on which to apply for a take permit or authorization for this project under the MBTA as there are no known nesting sites or areas in the project vicinity. The contractor will be required to take steps to avoid a taking under the MBTA.

5.8 Fish and Wildlife Coordination Act of 1934 (16 U.S.C. § 661 et seq.)

Under this early conservation Act, Federal agencies are directed to consult with the USFWS and relevant State wildlife resource agencies “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatsoever, including navigation and drainage.”

The Corps determines that the minor access improvements proposed at Ship Creek do not constitute a water resource project as described in the statutory language quoted above, and that this Act is not relevant to the project. The interagency coordination performed under more recent and relevant environmental regulations (ESA, MMPA, etc.) fulfills the intent of the FWCA.

5.9 National Historic Preservation Act of 1966, as amended (16 USC 470 et seq).

The purpose of the National Historic Preservation Act (NHPA) is to preserve and protect historic and prehistoric resources that may be damaged, destroyed, or made less available by a project. Under this Act, Federal agencies are required to identify cultural or historic resources that may be affected by a project and to consult with the State Historic Preservation Officer (SHPO) when a Federal action may affect cultural resources.

The project location has undergone evaluation by the Alaska District archeologist. The Corps determined that no historic properties will be affected by the proposed activities, conditional on the presence of an archaeological monitor (Pierce 2015); the State Historic Preservation Officer concurred with that determination.

Table 2. Summary of Relevant Federal Statutory Authorities, and Determinations Made in this EA

Statute	Compliance	Statutory Determination Made
Clean Air Act, as amended	FC	--
Clean Water Act of 1977, as amended	PC ^a	--
Endangered Species Act of 1973, as amended	FC	<i>no effect on ESA-listed species</i>
Marine Mammal Protection Act	FC	<i>will not result in a taking under the MMPA</i>
Marine Protection, Research, and Sanctuaries Act	FC	--
Migratory Bird Treaty Act of 1918*	FC	--
Magnuson-Stevens Fishery Conservation and Management Act*	FC	<i>will not affect essential fish habitat</i>
National Environmental Policy Act of 1969, as amended	PC ^b	<i>does not constitute a major Federal action significantly affecting the quality of the human environment</i>
National Historic Preservation Act of 1966, as amended	FC	<i>no historic properties will be affected</i>
Protection of Wetlands (Executive Order 11990)	FC	--
Rivers and Harbors Act of 1899	PC ^a	--

PC = Partial Compliance, FC = Full Compliance

^aFull compliance pending USACE authorization.

^bFull compliance will be attained upon completion of the public review process and/or further coordination with responsible agencies.

Note: This list is not exhaustive.

6.0 CONCLUSION

The proposed construction of recreational access improvements, as discussed in this document, will have some minor, largely controllable short-term impacts on the environment, but in the long term, will help improve public access to a unique natural feature while protecting the remaining environmental resources. This assessment supports the conclusion that the proposed project does not constitute a major Federal action significantly affecting the quality of the human environment; therefore, preparation of an environmental impact statement (EIS) is not warranted, and a finding of no significant impact (FONSI) will be signed.

7.0 DOCUMENT PREPARERS

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