APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 3 December, 2019

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Alaska District Regulatory Division (POA), POA-2005-00384

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Alaska County/parish/borough: Fairbanks North Star Borough City: Fairbanks
Center coordinates of site (lat/long in degree decimal format): Lat. 64.818° **N**, Long. 147.799° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Tanana River, A-Channel and Chena River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Tanana River, Chena River
Name of watershed or Hydrologic Unit Code (HUC): HUC 19040507 Tanana River, Fairbanks
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: December 3, 2019
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☒ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: Chena River and Tanana River are on the Alaska Districts Section 10 Waters list based on current and historical use in interstate and foreign commerce.

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☒ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☒ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or 0.3 acres.
      Wetlands: 0.086 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Tanana River and Chena River**.

Summarize rationale supporting determination: Both have been determined to be Section 10 waters based on current and historical use in interstate and foreign commerce, and are on the Alaska District's Section 10 Waters list.

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": (See attached POA-2005-384, Jurisdictional Determination). The wetlands are part of a large area of similarly situated wetlands that are adjacent to a Traditionally Navigable Water (TNW). The wetlands are adjacent to the Chena River and the Tanana River, both TNWs subject to jurisdiction pursuant to Section 10 of the Rivers and Harbors Act (Section 10) based on current and historical use in interstate and foreign commerce, and are on the Alaska District's list of Section 10 Navigable Waters. The sloughs and wetlands within the area described in this document are reasonably close to the Tanana River, located within the 100-year floodplain of the river and are part of a system of continuous wetlands and small channels (Northern and Southern Channels). These wetlands have an intermittent surface connection at the 100 year event (and probably at a smaller event), via ground water flooding, and connections through culverts into ditches adjacent to the University Avenue, and the relatively permanent portion of the A-Channel (all of which are within the 100-year floodplain). They have a subsurface water connection with the Tanana River and Chena River via groundwater flooding, and have an ecological interconnection with, and a Significant Nexus to the Chena River and Tanana River. This surface and sub-surface connection could also occur via culverts under University Avenue, into the Fairbanks International Airport (FIA) float pond, through non-jurisdictional swales and the relatively permanent portion of the A-Channel (since all of these features are within the 100-year floodplain). Additionally, the portions of the Tanana River which were cut off by the Tanana River Levee would still be considered TNWs by law (33 CFR Part 329.4). The Corps has jurisdiction over wetlands that are adjacent to the portions of the Tanana River that maintain their navigability by law. Although the wetlands in question are separated from the TNW (Tanana River) by one berm, the railroad berm, in accordance with our regulations, wetlands separated from other waters of the U.S. by man-made dikes or barriers are "adjacent wetlands." Accordingly, the subject wetlands are adjacent to the Tanana River (TNW) and jurisdictional pursuant to Section 404.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: HUC 19040507 Tanana River, Fairbanks, A-Channel is smaller portion of this larger watershed; 52,223 **acres**

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Drainage area: 1300 - 2500 **acres**
Average annual rainfall: 10.83 inches
Average annual snowfall: 65 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **1 (or less)** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **1 (or less)** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: A-Channel Non-RPW flows into A-Channel RPW which flows into Tanana River.
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Portions of the channel consist of human made channel and a part consist of portions of the Tanana River than were cut off from the main channel by the levee.

Tributary properties with respect to top of bank (estimate):
Average width: 50 feet
Average depth: 12 feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover: Emergent vegetation in 75% of NON-RPW and 10% of RPW.
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable channel with low flows for channel size.
Presence of run/riffle/pool complexes. Explain: None.
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): 2 %

(c) Flow:

Tributary provides for: **Intermittent but not seasonal flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: Intermittent in response to high water events in the Tanana, spring break-up, and large precipitation events.
Other information on duration and volume: Standing water is present in portions of the channel for several months during year.

Surface flow is: **Confined.** Characteristics: A smaller primary channel is located within the larger human made flood control channel which illustrates preferential flow paths for intermittent surface flow. Soil saturation lasting for a couple of months illustrates liklihood of subsurface flows due to highly transmissive shallow groundwater.

Subsurface flow: **Yes**. Explain findings: The A-Channel was constructed to intercept subsurface flow from the Tanana River up to a 25 year flood event. Flow overtops the A-Channel at a 50 year flood event. The Tanana River is the driver in a highly transmissive shallow ground water system which effects the A-Channel as well as its adjacent wetlands.
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

- ☐ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☐ shelving
- ☒ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☒ sediment deposition
- ☒ water staining
- ☐ other (list):
- ☒ the presence of litter and debris
- ☒ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☒ Discontinuous OHWM.[7] Explain:Upstream of the area with the smaller channel the bed and banks become those constructed by the channel. There is not clear line demarcating an OHWM in these areas, indicating flow is not confined or frequent enough to result in OHW indicators.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- ☐ High Tide Line indicated by:
  - ☐ oil or scum line along shore objects
  - ☐ fine shell or debris deposits (foreshore)
  - ☐ physical markings/characteristics
  - ☐ tidal gauges
  - ☐ other (list):
- ☐ Mean High Water Mark indicated by:
  - ☐ survey to available datum;
  - ☐ physical markings;
  - ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: The tributary when flowing is generally clear water. When the Tanana River backs up into the channel, it can carry sediment laden water.

Identify specific pollutants, if known: See attached POA-2005-384 Jurisdictional Determination.

[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☒ Wetland fringe. Characteristics: Channel contains emergent wetlands.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.4 acres

Wetland type. Explain: The 0.4 acre POA-2005-384 wetland consists of 0.3 acres of unconsolidated bottom open water and emergent wetlands, and 0.086 acres of black spruce forested wetlands. The larger 434 acre wetland (see Section B.3. below) contains various wetland types exist including forested scrub shrub, scrub shrub, and emergent persistent wetlands..

Wetland quality. Explain: Wetlands are moderate to highly functioning wetlands. They are one of the last undeveloped area of wetlands in the South Fairbanks area. They are somewhat impacted by adjacent industrial and residential development and they are important for the filtration of contaminants coming from the South Fairbanks Industrial Area.

Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: The NON-RPW portion of the A-Channel flows directly into the RPW portion of the A-Channel (non-TNW) which is made up of a portion of the Tanana River which was cut off by the levee and a constructed channel that contains water year round. The wetlands are connected to the non-RPW and the RPW and the TNW during the 100-year event as they lie within the 100-year floodplain.

Surface flow is**: Overland sheetflow**

Characteristics: Overland sheetflow occurs at the 100 year flood event.

Subsurface flow: **Yes**. Explain findings: The A-Channel was constructed to intercept subsurface flow from the Tanana River up to a 25 year flood event. Flow overtops the A-Channel at a 50 year flood event. The Tanana River is the driver in a highly transmissive shallow ground water system which effects the A-Channel as well as its adjacent wetlands. The wetlands and the A-Channel are located within the 100 year flood plain for groundwater flooding for the Tanana River. At the 100 year event surface sheet flow connects all of these channels and the wetlands. Subsurface flow occurs at smaller events as is illustrated in aerial photos located within the attached POA-2005-384 Jurisdictional Determination.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☒ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☒ Ecological connection. Explain: The potential for surface flooding, as well as the presence of a highly transmissive shallow groundwater aquifer influenced by the Tanana River, results in an ecologic interconnection between the interior channels, their abutting wetlands, the Tanana River and the Chena River. The endosaturated wetlands and open water are in direct communication with shallow subsurface flow via the highly transmissive, shallow groundwater aquifer driven by the Tanana River, and the surrounding wetlands are directly abutting these channels. Due to the significant disturbance to the surface hydrology in the area, and the potential for inflow of contamination from the South Fairbanks area, the lack of a constant surface connection also illustrates the significant nexus. This ecological connection is further explained in the attached POA-2005-384 Jurisdictional Determination.
  - ☒ Separated by berm/barrier. Explain: The wetlands are seperated from the A-Channel RPW and the A-Channel non-RPW by one barrier, the railroad berm. This berm has one culvert that provides a surface waters connection during the 100 year flood event, and possibley at the 50 year flood event when flow exceeds the capacity of the A-Channel.

(d) Proximity (Relationship) to TNW

Project wetlands are **1 (or less)** river miles from TNW.

Project waters are **1 (or less)** aerial (straight) miles from TNW.

Flow is from: **Navigable waters to wetland.**

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Sediment was observed within the small channel interior to the 434-acre wetland downstream of the 0.4 acre wetland discussed in POA-2005-384.

Identify specific pollutants, if known: On average, approximately 50% of the drainage area that contains the wetlands contains impervious areas. The South Fairbanks area upstream of the wetlands have values that exceeded the applicable water quality criteria for temperature, total suspended solids (TSS), turbidity, alkalinity, total phosphate, biochemical oxygen demand, chemical oxygen demand, fecal coliform, arsenic - total recoverable, cadmium – total recoverable, chromium – total recoverable, lead – total recoverable and Zinc - total recoverable and dissolved (from Table 8 of the 1995 Final Report Drainage Capacity and Stormwater Quality in the South Fairbanks Industrial Area). They estimated that the concentrations at Site X would exceed the median Chena River Concentrations of Dissolved Oxygen, pH, temperature, TSS and Turbidity (TSS and Turbidity are both indicators of sediment, for which the Chena River is listed as impaired) (from Table 10 of the 1995 Final Report Drainage Capacity and Stormwater Quality in the South Fairbanks Industrial Area). During smaller flood events, the wetlands and the interior channels store floodwaters, slowly releasing them back into the groundwater table as the groundwater levels recede with water levels in the Tanana and Chena Rivers. These wetlands protect water quality by trapping sediments and retaining other pollutants such as heavy metals. These functions are especially important because the wetland is connected to groundwater that serves as drinking water sources, and intermittently to surface water that serves as habitat for anadromous fish.

(iii) Biological Characteristics. Wetland supports (check all that apply):

☒ Riparian buffer. Characteristics (type, average width):Emergent wetlands are located along the unconsolidated bottom channels that are interior to the 434-acre wetlands.

☒ Vegetation type/percent cover. Explain: The 434 acres of wetlands support scrub-shrub plant communities ranging from stunted black spruce to ericaceous shrub to deciduous shrub, or some combination of these and other community types (Jenkins et al. 2010). A large portion of the wetlands (approximately 118 acres) in the area of interest support black spruce that are predominantly greater than 20 feet tall and thereby considered forested under the Cowardin et al. (1979) classification system. Emergent wetlands are found within the small channels and other depressions, and generally support sedges such as beaked sedge and water sedge.

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: The widely distributed wetlands in the area of interest provide habitat for a variety of plants, mammals, birds, wood frogs and insects. Scrub-shrub wetlands are critical winter habitat for moose, and provide forage and cover for small mammals such as voles and shrews, as well as commercially important furbearers such as lynx and ermine (Post 1996).

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **1**

Approximately (434) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
N	434		

Summarize overall biological, chemical and physical functions being performed: These wetlands on this alluvial plain provide a variety of landscape functions including hydrologic storage, sediment/nutrient/toxin retention and removal, and wildlife habitat support. The widespread wetlands on the alluvial flats provide moderate capacity to store surface water and shallow ground water due to their large size, flat topography and persistently high water table. The small channels have a high capacity to store surface water and shallow ground water because of the lower bottom elevation and relatively large channel capacity compared to their contributing area. The large expanse and interconnectedness of the wetlands and waters within the alluvial plain, the proximity to a regionally important bird migration corridor (Tanana River), the variety of vegetation structure, plant species and surface waters, and the dearth of non-native invasive plants contribute to a moderately high capacity for wetlands on the alluvial plain to support native plant diversity and wildlife. The widely distributed wetlands in the area of interest provide habitat for a variety of plants, mammals, birds, wood frogs and insects. Scrub-shrub wetlands are critical winter habitat for moose, and provide forage and cover for small mammals such as voles and shrews, as well as commercially important furbearers such as lynx and ermine (Post 1996). The intermittent nature of the surface water connection to the A-Channel, Chena River and Tanana River illustrates the importance of the wetlands ability to filter pollutants from the South Fairbanks Area. If the surface water connection from the wetlands to the A-Channel and the Chena River were continuous, these pollutants would enter these waters directly. The Chena River is especially sensative to increased inputs of pollutants as it is primary habitat for anadromous fish species. Additional information is contained within the attached POA-2005-384 Jurisdictional Determination.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The wetlands are part of a 434-acre wetland that is adjacent to, but not directly abutting the A-Channel, a non-relatively permanent water (non-RPW) that flows directly into an RPW (the lower reach of the A-Channel) and then into a TNW. The non-RPW and its adjacent wetlands have a significant nexus to the Tanana River TNW for the reasons discussed above. The wetlands are reasonably close and thus adjacent to the non-RPW (and RPW) portions of the A-Channel; the non-RPW has a significant nexus to the RPW portion of the A-Channel, as well as to the Tanana River TNW due to the wetlands ability to store flood waters and filter contaminants. The non-RPW portion of the A-Channel is upstream of the RPW, and has a direct intermittent surface and shallow subsurface water connection to the RPW portion of the A-Channel as is shown on Figure 6, Attachment 1, and page 19 and 20 of the attached POA-2005-00384 Jurisdictional Determination. The 434-acre wetland is

separated from the non-RPW portion of the A Channel by the railroad berm except during 100 year flood event (and possibly a smaller flood events, such as a 50 year event). Additionally, the wetlands have a significant nexus with the non-RPW channel, the RPW channel and the Tanana River.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: See discussion above under 2.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: 434 total acres. This JD covers 0.4 acres of the larger area of acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Aerial photography shows that the RPW portion of the A-Channel has water year round.
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☒ Tributary waters: **8000** linear feet **50-100**width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☒ Tributary waters: **7000** linear feet **3-20** width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: **.**

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **.**
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☒ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: **434** acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

[8]See Footnote # 3.

☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: **434** acres.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☒ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:POA-2005-384 Jurisdictional Determination.
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☒ Corps navigable waters' study:Chena and Tanana Rivers. Alaska District list of Section 10 Navigable waters.
- ☒ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Fairbanks D-2 (ArcGIS).
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Greater Fairbanks Area, Alaska (NRCS 2004).
- ☒ National wetlands inventory map(s). Cite name:HUC 8 19080307.
- ☐ State/Local wetland inventory map(s): .
- ☒ FEMA/FIRM maps: Fairbanks Northstar Borough, ArcGIS Floodplain mapping. http://gis.co.fairbanks.ak.us/ (updated in August of 2016, with updates that went into effect March 3, 2017).
- ☒ 100-year Floodplain Elevation is:434-434 (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date):ArcGIS aerial photos fbanks_1949.tif, fbanks_1967.tif, Pictometry_2009_9in_College.sid, Pictometry_2009_9in_Chena.sid, various photos cited in POA-2005-384 Jurisdictional Determination (attached).
  or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☒ Applicable/supporting scientific literature:See bibliography in POA-2005-384 Jurisdictional Determination (attached).
- ☒ Other information (please specify):Hillshade_2010_LiDAR_DEM.img in ArcGIS.

B. ADDITIONAL COMMENTS TO SUPPORT JD: See POA-2005-00384 SigNex_and_Attachments.pdf.