

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): May 30, 2013

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Alaska District, POA-2013-257

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Alaska Borough: Fairbanks North Star City: Fairbanks
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 64.7755° N, Long. 147.4391° W;
Universal Transverse Mercator: N/A; Within section(s) 1 & 6, T. 2 S., R. 1 & 2 E., Fairbanks Meridian
Name of nearest water body: Channel B
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Chena River
Name of watershed or Hydrologic Unit Code (HUC): N/A

- 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: May 30, 2013
Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "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:

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 (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 acres
Wetlands: 78.3 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:

Summarize rationale supporting determination:

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### **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 *Rapans* 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, fill out Section III.D.2 and 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 water body<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the water body 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: **B Channel watershed is 9270 acres**

Drainage area: **9270 acres**

Average annual rainfall: inches

Average annual snowfall: 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 **5-10** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: **B-Channel flows directly into the Chena River**

Tributary stream order, if known:

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<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> 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.

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

Tributary is:  Natural

Artificial (man-made). Explain: **Channel B is approximately 7.35 miles long, 15-20 feet wide (not including side-slopes) upstream of the lower crossing of the Richardson Highway and 20-30 feet wide downstream of the crossing. The channel was excavated up to 8 feet below the surrounding ground surface elevation, and was designed to have a longitudinal gradient averaging 0.08 percent, but ranging from 0.03 to 0.12 percent (Corps 1996a).**

Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: **50** feet

Average depth: **8** feet

Average side slopes: **3:1**

Primary tributary substrate composition (check all that apply):

Silts

Sands

Concrete

Cobbles

Gravel

Muck

Bedrock

Vegetation. Type/% cover:

Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Channel is very stable since it is a maintained human made channel.**

Presence of run/riffle/pool complexes. Explain: **minimal in-channel complexity**

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): **0.08 %**

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: **Flow is relatively permanent, but frozen in the winter.**

Other information on duration and volume: **estimated to convey 15.0 cfs over entire year**

Surface flow is: **Discrete and confined.** Characteristics:

Subsurface flow: **Yes.** Explain findings: **likely that subsurface flow contributes to and follows along with surface flow in Channel B. See POA-2003-1422, Channel B, Significant nexus finding**

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM<sup>6</sup> (check all indicators that apply):

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):

Discontinuous OHWM.<sup>7</sup> Explain:

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

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: **water is generally clear**

Identify specific pollutants, if known:

<sup>6</sup>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 water body'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.

<sup>7</sup>Ibid.

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

- Riparian corridor. Characteristics (type, average width): **coniferous and deciduous broad-leaved vegetation**
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings: **forage and rearing habitat for grayling and Chinook salmon**
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings: **beaver, muskrat, shorebirds, waterfowl, and other wetland-**

**dependent birds and wood frogs.**

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:        acres

Wetland type. Explain: **PSS4, PSS1, PFO4, and PEM1 plus notes from PJD application w/in AOR, PSS/EM1B, PSS1B, PEM1B, PF04/SS1B, PUBHx**

Wetland quality. Explain: **the wetlands are part of a large undisturbed block of contiguous wetlands**

Project wetlands cross or serve as state boundaries. Explain: **NO**

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Mainly subsurface flow connection, which is seasonally obstructed by frost**

Surface flow is: **Not present**

Characteristics:

Subsurface flow: **Yes**. Explain findings: **The seasonal nature of the frost and moderately high permeability of the subsoil layers underlying this property facilitate vertical and lateral flow of shallow groundwater. Shallow ground water within the alluvial plain generally travels northwest and west through the alluvial plain towards the TNW.**

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: **the subject wetlands sustain an unbroken, shallow subsurface connection with Channel B, the nearby RPW, and the Chena River, the nearby TNW, via the highly transmissive, shallow aquifer that extends from Tanana River to the Chena River**

Ecological connection. Explain: **The subject wetland and the similarly situated wetlands in the sub-watershed impart a significant ecological effect upon both Channel B and the Chena River through baseflow support, pollution prevention, sediment and nutrient retention, maintenance of cold water temperatures, contribution of organic matter and nutrients, support of aquatic and wetland-dependent organisms.**

Separated by berm/barrier. Explain: **The subject wetlands are adjacent to Channel B because they are separated from the channel by a man-made barrier, the approximately 40-foot wide spoil berm along the north side of the channel.**

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**

Estimate approximate location of wetland as within the **Pick List** 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: **The wetlands are a source of infiltrated water to Channel B and the Chena River, delivering dissolved organic carbon, dissolved ions and nutrients critical to aquatic productivity such as nitrogen (N) and phosphorus (P). These functions further benefit fish and other aquatic organisms within Channel B and the Chena River.**

Identify specific pollutants, if known: **None known**

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings: **Wood frogs, listed as a species of concern by the Alaska Department of Fish and Game, are known to occur across the alluvial plain and in many other riparian and wetland areas throughout interior Alaska. Except for the very brief period spent at breeding ponds, wood frogs are terrestrial and utilize a variety of forest and scrub habitats, such as those that occur on the subject wetlands, for foraging, resting and over-wintering.**

Aquatic/wildlife diversity. Explain findings: **A wide diversity of birds including passerines, raptors, shorebirds and waterfowl benefit from the moderate variety of plant community structure and hydrologic regimes, the moderate degree of connectivity with other ecologically intact habitats, and the scarcity of non-native invasive plants, and the proximity to a regionally important bird migration corridor (Tanana River). The subject wetlands and similarly situated lands likely contain breeding territories for solitary sandpiper and rusty blackbird. Both of these birds are considered species of concern according to the ADF&G. Scrub-shrub wetlands, which are widespread on the alluvial plain, 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.**

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

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

Approximately **(3018)** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
N	3018		

Summarize overall biological, chemical and physical functions being performed: **The vast majority of these wetlands are supported by seasonal frost soils that sustain epi-aquic conditions and are thereby similarly situated to the subject wetlands. Due to the collectively large size of the subject wetlands, the subsurface hydrologic connections and the moderate to high levels of functional performance, the collective influence that these wetlands have upon the chemical, physical and biological integrity of both Channel B and the Chena River is significant.**

**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:
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: **The Corps has determined that the parcel identified above contains wetlands under Corps jurisdiction because the wetlands are adjacent to Channel B, a relatively permanent water, and, in combination with similarly situated wetlands in the Channel B sub-watershed, sustain a significant nexus with the Chena River, a Section 10 navigable waterway. The significant nexus stems from the hydrologic and ecological connections between the subject wetlands and the Chena River. The hydrologic connection is sustained via infiltration and subsurface flow leading primarily to Channel B, a tributary of the Chena River. The ecological connections entail the influence that these wetlands, in combination with Channel B, have upon the Chena River via hydrologic functions such as water storage and base-flow support as well as ecological functions such as trapping sediment, retaining pollutants, supplying dissolved organic carbon and nutrients, suppressing water temperatures, and supporting aquatic and wetland-dependent organisms. Accordingly, the subject wetlands are considered jurisdictional and thereby regulated under Section 404 of the Clean Water Act. Additional information is contained in the POA-2003-1422 Significant Nexus Finding.**

**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: 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:
  - 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: linear feet width (ft)
  - Other non-wetland waters: acres
- Identify type(s) of waters:

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**
  - Water body 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: linear feet 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

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<sup>8</sup>See Footnote # 3.

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 jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: 80.5 acres

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

- 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:            acres

7. **Impoundments of jurisdictional waters.<sup>9</sup>**

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):<sup>10</sup>**

- 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.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> 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.

