

**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): July 28, 2022**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: NWP-2008-726-2**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Oregon County/parish/borough: Jackson City: Central Point  
Center coordinates of site (lat/long in degree decimal format): Lat. 42.436681° N, Long. 122.892558° W.  
Universal Transverse Mercator:

Name of nearest waterbody: Rogue River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Rogue River

Name of watershed or Hydrologic Unit Code (HUC): Whetone Creek - Rogue River (171003080202)

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 1, 2022 through July 28, 2022

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):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (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: In total, vernal pool wetlands (VP1-VP58) are 2.571 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):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

**The Review Area is 41.88 acres in size and includes the site of the Robert A. Duff Wastewater Treatment Plant. Several aquatic features in the Review Area are part of the wastewater treatment (WT) system, including four waterways**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> Supporting documentation is presented in Section III.F.

(WT1-WT4) and a detention pond (Pond 1) which treat and convey the WT plant's effluent before it is discharged into the Rogue River. The Rogue River is a TNW that is located immediately (north) downstream of the Review Area. Pond 1 and WT4 were constructed circa 1968 as part of the original plant's construction. A 1974 historical U.S. Geological Survey (USGS) aerial image depicts earthwork disturbance associated with the plant and WT1.

WT2 was constructed in 2010. WT3 was constructed between 2018 and 2020. Wetland delineation surveys from 2011 and 2020 in the Review Area did not identify any vernal pools as directly abutting these wastewater features. In addition, historic USGS topographic maps do not depict blue line streams in the Review area. The Corps determined that WT1-WT4 and Pond 1 were excavated in dry land.

WT2-4 and Pond 1 treat the plant's effluent before it is conveyed to the Rogue River via WT1. The wastewater treatment plant's National Pollutant Discharge Elimination System (NPDES) Permit (Oregon Department of Environmental Quality (DEQ) File No. 100985) requires monitoring of the plant's wastewater discharge into the Rogue River at shoreline outfalls and regulates the treated wastewater that is discharged into WT1 (upstream of the outfalls). The NPDES permit for the plant expires on July 31, 2026. Recent plant expansion construction activities were authorized on April 21, 2016 by Department of the Army Permit No. NWP-2008-726/2 and the accompanying DEQ CWA Section 401 Water Quality Certification. The plant expansion activities included the construction of WT3 in uplands. While this project component did not result in a Section 404 discharge and was not regulated by the Corps, the construction of WT3 was analyzed by the Corps and other agencies in review of the project's overall stormwater management plan.

### **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: **Rogue River.**

Summarize rationale supporting determination: The Corps has listed the Rogue River as a navigable riverway. The Rogue River enters the Pacific Ocean in Gold Beach, Oregon. The Rogue River is outside the Review Area.

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent": Vernal pools wetlands that are part of the "North Vernal Pool Complex" are adjacent to the Rogue River. The majority of the Review Area is underlain by Agate-Winlo soil. Typical of this soil type, there is an impermeable, indurated clay hardpan layer at approximately 8-23 inches in the soil profile in vernal pools. This clay hardpan layer is also present in mounded uplands between vernal pools and occurs between 20 and 30 inches in the soil profile. Water that is not evapotranspired or is not part of overland sheet flow will percolate to the hardpan layer and move laterally above the hardpan layer towards topographical low points in the North Vernal Pool Complex; subsurface flow then discharges northwest where it enters the Rogue River.

#### **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<sup>4</sup> 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: 396 square miles  
 Drainage area: 19.6 square miles  
 Average annual rainfall: 19 inches  
 Average annual snowfall: 5 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through 1 tributary before entering TNW.

Project waters are 1 (or less) river mile 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: N/A.

Identify flow route to TNW<sup>5</sup>: There are no jurisdictional waterways (tributaries) in the Review Area. As described above under Section II.B.2, the waterways in the Review Area are wastewater treatment features that were constructed in dry land and are not jurisdictional Section 404 of the CWA. Approximately 925 feet west of the Review Area there is an intermittent waterway that flows to the north where it empties into the Rogue River (Offsite W1). Vernal pool wetlands that are included in the "South Vernal Pool Complex" on the Review Area map are adjacent to Offsite W1.  
 Tributary stream order, if known:

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

Tributary is:  Natural Explain: Offsite W1 is a natural stream that appears on historic USGS topographic maps and aerial images.

- Artificial (man-made). Explain:
- Manipulated (man-altered). Explain:

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

Average width: Offsite W1 is roughly 5-10 feet wide based on Google Earth Pro aerial imagery.  
 Average depth: Unknown  
 Average side slopes: Unknown

Primary tributary substrate composition (check all that apply):

- Silts
- Sands
- Concrete
- Cobbles
- Gravel
- Muck
- Bedrock
- Vegetation. Type/% cover:

Other. Explain: Offsite W1 is located outside the Review Area and was not included in the wetland delineation survey. The National Wetland Inventory (NWI) has mapped the feature as a palustrine forested/shrub wetland.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Unknown.  
 Presence of run/riffle/pool complexes. Explain:  
 Tributary geometry: **Meandering**.  
 Tributary gradient (approximate average slope): Unknown

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: The hydrologic sources for Offsite W1 are incident rainfall and stormwater runoff. The tributary begins at the Rogue Community College's Table Rock Campus where it collects stormwater discharge from an underground pipe.

<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.

Offsite W1 is mapped as an intermittent stream in the USGS' National Hydrography Dataset (NHD) and surface water is visible in Google Earth Pro aerial images taken in the dry season from June to October in 2012 through 2020. On average, the Review Area receives rainfall on 96 days per year (Oregon State University 2022). These factors provide evidence that the feature has surface water flows for at least three months or more on an annual basis. In addition, USGS Stream Stats (2022) has recorded surface water flow in Offsite W1 from November through June.

Other information on duration and volume:

Surface flow is: **Discrete and confined**. Characteristics: Surface water flow in Offsite W1 is a channelized feature that is confined within a streambed and banks.

Subsurface flow: **Yes**. Explain findings: The majority of the Review Area is underlain by Agate-Winlo soil. Typical of this soil type, there is an impermeable, indurated clay hardpan layer between 8 and 30 inches in the soil profile. The hardpan layer allows for subsurface lateral surface water flow in the upper portion of the soil profile. A northern portion of the Review Area along the top of the bank of the Rogue River is underlain by Provig gravelly loam soil which is characteristic of alluvial terraces. To the west of the Review Area (approaching Offsite W1) the soil type transitions to the Provig-Agate Complex which have a restrictive hardpan layer between 20 and 30 inches of the soil profile.

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

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events:

Surface water is visible in Offsite W1 in Google Earth Pro aerial images taken in the dry season from June to October in 2012 through 2020. On average, the Review Area receives rainfall on 96 days per year (Oregon State University 2022) and flow events are predicted during these days, and for some time after incident rainfall ceases. In addition, USGS Stream Stats (2022) has recorded flow in Offsite W1 from November through June.  water staining

abrupt change in plant community

other (list):

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

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 hydrologic sources for Offsite W1 are incident rainfall and stormwater runoff. The tributary begins at the Rogue Community College's Table Rock Campus where it collects stormwater discharge from an underground pipe. Stormwater flowing off impervious surfaces delivers pollutants to the stream. Due to the relatively flat topography of the Review Area and its vicinity, flow velocity in Offsite W1 is slow. As a result of pollutant discharge and slow flow velocity, water quality is below average. The Whetstone Creek-Rogue River HUC receives significant wet weather stormwater flow from the urbanized portions of the watershed. Development in the watershed has also removed riparian shading of streams, increased water temperature, and decreased dissolved oxygen levels (Rogue Valley Council of Governments, 2012).

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 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.

<sup>7</sup>Ibid.

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

- Riparian corridor. Characteristics (type, average width):  
 Wetland fringe. Characteristics: Palustrine forested/shrub wetland vegetation occurs along the bed and banks of Offsite

W1.

- Habitat for:  
 Federally Listed species. Explain findings: The Review Area is in designated critical habitat for the vernal pool fairy shrimp (*Branchinecta lynchi*), large flowered woolly meadowfoam (*Limnanthes floccosa ssp. grandiflora*), and Cook's lomatium (*Lomatium cookii*). Surveys conducted on September 6, 2011 as part of a previous permitting effort associated with Corps File No. NWP-2008-726/2 indicated that vernal pool fairy shrimp and large flowered woolly meadowfoam were found in the Review Area and/or the immediate vicinity to the west of the Review Area.  
 Other environmentally-sensitive species. Explain findings:  
 Aquatic/wildlife diversity. Explain findings: A portion of the Review Area is currently undeveloped and serves as a refugia for nesting birds, mammals (e.g., foxes and coyotes), rodents, reptiles, amphibians, and insects.

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: In total, VP1-VP58 are 2.571 acres

Wetland type. Explain: Vernal pools in the Review Area are part of the Agate Desert Complex.

Wetland quality. Explain: The quality of vernal pool wetlands in the Review Area is above average due to the presence of Federally listed plants and wildlife in the complexes. The vernal pool wetlands in the Review Area remain largely undisturbed from human activity over time. These features are part of the larger Agate Desert Complex which is the largest contiguous complex in Oregon (USFWS 2011). VP1-VP58 were preserved and protected from impacts associated with previous construction work in the Review Area that was authorized under Corps No. NWP-2008-726/2 in 2016. These waters provide intact, high quality habitat for terrestrial and aquatic species.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: Surface water is present in vernal pools for at least three months each year during the wet season.

Surface flow is: **Discrete and Confined**.

Characteristics: Vernal pools are seasonal wetlands that pond in response to rainfall and stormwater runoff. These features lack evidence of channelization and are confined to topographic depressions. During high precipitation events and floods, water transmits subsurface through the upper soil profile through both wetland and uplands and also exits the normal boundaries of the vernal pool wetlands as overland sheet flow.

Subsurface flow: **Yes**. Explain findings: The majority of the Review Area is underlain by Agate-Winlo soil. Typical of this soil type, there is an impermeable, indurated clay hardpan layer at approximately 8-23 inches in the soil profile in vernal pools. This clay hardpan layer is also present in mounded uplands between vernal pools and occurs between 20 and 30 inches in the soil profile. To the west of the Review Area (approaching Offsite W1) the soil type transitions to the Provig-Agate Complex which have a restrictive hardpan layer between 20 and 30 inches of the soil profile. The hardpan layer allows for subsurface lateral flow in the upper portion of the soil profile. Water that is not evapotranspired or is not part of the overland sheet flow will percolate to the hardpan layer and move laterally above the hardpan layer towards topographical low points. Wetlands in the South Vernal Pool Complex discharge subsurface water to the west where it enters Offsite W1. Wetlands in the North Vernal Pool Complex discharge subsurface water to the northwest where it enters the Rogue River.

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: As described above, vernal pools are ecologically connected to Offsite

W1 and the Rogue River through subsurface water flow. Vernal pool wetlands have a chemical connection to Offsite W1 and the Rogue River because they function as natural bioswales, taking up pollutants and filtering them out of the aquatic ecosystem before discharging surface and subsurface water flows to Offsite W1 outside the Review Area. In addition, the federally listed vernal pool fairy shrimp and the buoyant seeds of large flowered woolly meadowfoam can migrate through the vernal pool complexes and adjacent waterways during high rainfall events.

Separated by berm/barrier. Explain:

(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: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **2 - 5-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: See Section B.1.iii.

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

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: Percent cover of vegetation and bare ground is highly variable in wetland features.

Habitat for:

Federally Listed species. Explain findings: The Review Area is in designated critical habitat for the vernal pool fairy shrimp, large flowered woolly meadowfoam, and Cook's lomatium. Surveys conducted on September 6, 2011 indicated that vernal pool fairy shrimp and large flowered woolly meadowfoam were found in the Review Area and/or the immediate vicinity to the west of the Review Area.

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Vernal pools provide seasonal breeding and foraging habitat for amphibians and aquatic insects, and provide water and forage for mammals (e.g., foxes, coyotes, rodents). Subsurface flows through the vernal pool complexes in the Review Area have lower temperatures than surface water and contribute to cooling downstream waters which is beneficial for salmonids and other fish that utilize downstream waters. In addition, subsurface flows are not subject to evapotranspiration and this hydrologic input to downstream waters can increase surface water levels and seasonal duration which has a positive impact on plants, fish, and wildlife in the watershed.

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

All wetland(s) being considered in the cumulative analysis: **58**

Approximately (2.571) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

	Directly abuts? (Y/N)	Size (in acres)
<b>South Vernal Pool Complex</b>		
VP-1	N	0.051
VP-2	N	0.011
VP-3	N	0.005
VP-4	N	0.027
VP-5	N	0.052
VP-6	N	0.002
VP-7	N	0.004
VP-8	N	1.31
VP-9	N	0.004
VP-10	N	0.002
VP-11	N	0.004
VP-12	N	0.036
VP-13	N	0.006
VP-14	N	0.036
VP-15	N	0.018
VP-16	N	0.016
VP-17	N	0.022
VP-18	N	0.099
VP-19	N	0.012
VP-20	N	0.024
VP-21	N	0.004

VP-22	N	0.028
VP-23	N	0.034
VP-24	N	0.016
VP-25	N	0.001
VP-26	N	0.003
VP-27	N	0.007
VP-28	N	0.007
VP-29	N	0.016
VP-30	N	0.069
VP-31	N	0.004
VP-32	N	0.027
VP-33	N	0.002
VP-34	N	0.003
VP-35	N	0.015
VP-36	N	0.024
VP-37	N	0.031
VP-38	N	0.011
VP-39	N	0.008
VP-40	N	0.012
VP-41	N	0.004
VP-42	N	0.007
VP-43	N	0.002
VP-44	N	0.005
VP-45	N	0.025
VP-46	N	0.003
VP-47	N	0.035
VP-48	N	0.004
VP-49	N	0.039
VP-50	N	0.121

**North Vernal  
Pool Complex**

VP-51	N	0.084
VP-52	N	0.062
VP-53	N	0.001
VP-54	N	0.087
VP-55	N	0.002
VP-56	N	0.008
VP-57	N	0.014
VP-58	N	0.005

Summarize overall biological, chemical and physical functions being performed:

The vernal pool wetlands in the Review Area remain largely undisturbed from human activity over time. These features are part of the larger Agate Desert Complex which is the largest contiguous complex in Oregon (USFWS 2011). The Nature Conservancy's Agate Desert Preserve is 0.25 mile to the south of the Review Area and has been used as an ecological reference site to model restoration practices in vernal pools throughout the Southern Oregon region. VP1-VP58 were preserved and protected from impacts associated with previous construction work in the Review Area that was authorized under Corps No. NWP-2008-726/2 in 2016. These waters provide intact, high quality habitat for terrestrial and aquatic species. As previously described, the Review Area is in designated critical habitat for vernal pool fairy shrimp, Cook's lomatium, and large flowered woolly meadowfoam. Surveys conducted on September 6, 2011 indicated that vernal pool fairy shrimp and large flowered woolly meadowfoam were found in the Review Area and/or the immediate vicinity to the west of the Review Area. Vernal pool fairy shrimp migrate between aquatic features during high precipitation and flood events and have the ability to survive in a desiccated state in drylands for several consecutive years (USFWS 2011). Federally listed plants, such as Cook's lomatium and large flowered woolly meadowfoam may also occur in the Review Area in vernal pools and on their flanks. The seeds of both species float and are transported via surface water between discrete wetland features during high rainfall and flood events.

The hydrologic sources for vernal pools in the Review Area are precipitation and stormwater runoff. The Whetstone Creek - Rogue River HUC receives significant wet season stormwater flow from the urbanized portions of the watershed (Rogue Valley Council of Governments, 2012). Stormwater runoff from the urbanized areas near the Review Area influences the chemical composition of water through the discharge of pollutants from impervious surfaces, elevation of water temperature, and reduction in dissolved oxygen levels. The Rogue River supports the federally listed Southern Oregon/Northern California Coast Coho salmon and all of these factors impact this species' survival.

Vernal pools have several positive impacts on aquatic habitat function within and downstream of the Review Area. Vernal pools act as bioswales, taking up pollutants and filtering them out of the ecosystem before discharging surface and subsurface water flows to downstream waters. Subsurface flows through the vernal pool complexes in the Review Area have lower temperatures than surface water and contribute to cooling downstream waters, which is beneficial for salmonids and other fish species which utilize the Rogue River near the Review Area. In addition, subsurface flows are not subject to evapotranspiration and this hydrologic input to downstream waters can increase surface water levels in the dry season and increase wet season duration which has a positive impact on plants, fish, and wildlife in the watershed. Further, vernal pools provide flood attenuation by capturing and storing water during the wet season.

### 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 food webs?
- 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:

Offsite W1 has a downstream connection to the Rogue River which is a TNW. Wetlands in the South Vernal Pool Complex are physically connected to Offsite W1 via subsurface flow above a clay hardpan layer. Wetlands in the North Vernal Pool Complex are physically connected to the Rogue River via subsurface flow above a clay hardpan layer.

Subsurface flows through the vernal pool complexes in the Review Area have lower temperatures than surface water and contribute to cooling downstream waters, which is beneficial for salmonids and other fish. In addition, subsurface flows are not subject to evapotranspiration and this hydrologic input to downstream waters can increase surface water levels in the dry season and increase wet season duration which has a positive impact on plants, fish, and wildlife in the watershed. Vernal pools can further influence the chemical properties of downstream waters by functioning as bioswales, taking up pollutants from stormwater runoff and filtering them out of the aquatic ecosystem before surface and subsurface water flows to streams within and outside the Review Area.

VP1-VP58 maintain a biological connection to downstream waters through the movement of Federally listed species. Cook's lomatium, large flowered woolly meadowfoam, and vernal pool fairy shrimp may occur in the Review Area in vernal pools and on their flanks, and/or in downstream surface waters. The seeds of both plant species float and are transported via surface water between discontinuous wetland features during high rainfall and flood events. Vernal pool fairy shrimp migrate between aquatic features during high precipitation and flood events and have the ability to survive in a desiccated state in drylands for several consecutive years (USFWS 2011). Based on the above information VP1-VP58 have more than a speculative and insubstantial nexus downstream to the Rogue River.

**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: In total, the North Vernal Pool complex (VP51-VP58) is 0.262 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.**

- 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: 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:

**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: **2.308** acres.

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

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<sup>8</sup>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:

**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:

**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): Wastewater treatment systems are defined in 33 CFR Part 328 and include lagoons and treatment ponds that are designed to either convey or retain, concentrate, settle, reduce, or remove pollutants, either actively or passively, from wastewater prior to discharge (or eliminating any such discharge). WT1-WT4 and Pond 1 were designed to treat and convey wastewater prior to its’ discharge into the Rogue River and thus, are considered part of a wastewater treatment system. The operation of the entire wastewater treatment system has been designed and is in compliance with the CWA as demonstrated by the issuance of the following permits for the Robert Duff Wastewater Treatment Plant: NPDES Permit (DEQ File No. 100985) and the Department of the Army Section 404 Permit No. NWP-2008-726/2 (and the accompanying) DEQ CWA Section 401 Water Quality Certification. As such, WT1-4 and Pond 1 are not jurisdictional waters of the U.S.

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: In total, WT1-WT4 and Pond 1 are 0.467 acres. List type of aquatic resource: Wastewater treatment features.
- 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):

<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.

- 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.**

**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: Terra Science Inc. 2021. Wetland Delineation Report Prepared for the Medford Water Commission's Duff Water Treatment Plant.
- 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:
- U.S. Geological Survey Hydrologic Atlas: USGS. May 2022. Portland District Regulatory Web Map Application. Online: <http://geoportals.nwd.usace.army.mil/>.
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps: USGS. May 2022. 8 HUC Map (17100308) and 12 HUC Map (171003080202). Online: <https://water.usgs.gov/>.
- U.S. Geological Survey map(s). Cite scale & quad name: Topographic Maps: Sam's Valley, 2021, 1:24k. Online: <https://ngmdb.usgs.gov/topoview/viewer/>.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Terra Science Inc. 2021. Wetland Delineation Report Prepared for the Medford Water Commission's Duff Water Treatment Plant.
- National wetlands inventory map(s). Cite name: Terra Science Inc. 2021. Wetland Delineation Report Prepared for the Medford Water Commission's Duff Water Treatment Plant.
- State/Local wetland inventory map(s): Oregon Department of State Lands (DSL). DSL May 2022. Approved Local Wetland Inventories. Online: <https://www.oregon.gov/dsl/ww/Pages/Inventories.aspx>
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth Pro (Software Version 7.3.3.7786). Aerial Images from 1994-2021. Terra Science Inc. 2021. Wetland Delineation Report Prepared for the Medford Water Commission's Duff Water Treatment Plant. or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: Corps File No. 2008-726/2. Date of response letter is April 12, 2016.
- Applicable/supporting case law:
- Applicable/supporting scientific literature: Rogue Valley Council of Governments, 2012. Whetstone Creek Restoration Plan for Improved Fish Passage, Water Quality, and Riparian Conditions.
- Other information (please specify):
  - USFWS. 2011. Programmatic Formal Consultation on the U.S. Fish and Wildlife Service's Vernal Pool Conservation Strategy for Jackson County, Oregon (FWS Reference Number 13420-2011-F-0064).
  - Oregon State University. 2022. PRISM Data Explorer. Online: <https://www.prism.oregonstate.edu/explorer/>
  - USGS. 2022. Stream Stats. Online: <https://streamstats.usgs.gov/ss/>

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Coordination between the Corps and Environmental Protection Agency was completed on July 28, 2022.