CITY OF GRESHAM 1333 N.W. Eastman Parkway | Gresham, OR 97030 | 503-618-2525

TO: **Jim Wheeler, Planning Manager**
Kevin McConnell, City Attorney
Steve Fancher, Assistant City Manager
FROM: **Kathy Majidi, Natural Resources Program Manager**
DATE: **March 22, 2023**
SUBJECT: **Veranda Subdivision and Master Plan: Local Significance of Wetlands**

In response to correspondence of Stacey Reed of AKS (related to SD/MIS 20-26000343, "Veranda"), submitted to City of Gresham on January 16, 2023 ("AKS memo"), Gresham's Natural Resources Program was asked by Gresham Planning staff to reconsider prior (2017 and 2022) findings that wetlands within, and adjacent to, 1S3E20D 01200, constitute "locally significant wetlands" per OAR 141-086-0350 (2). We reviewed the position statements within the AKS memo with staff from Oregon Department of Environmental Quality, Gresham's Water Quality Program, Professional Wetland Scientists at Pacific Habitat Services, a licensed water resources engineer and registered geologist from River Design Group who has 15 years of experience working in the Johnson Creek Watershed, the Principal Scientist for Waterways Consulting—a geomorphologist/hydrologist with extensive field assessment and project implementation experience in the Johnson Creek watershed, and the City's outside environmental legal counsel at Stoel-Rives who has over 30 years of experience in wetland regulatory issues. As detailed below, the feedback of all eleven professionals who reviewed the AKS memo unanimously supported the finding that (a) the Veranda wetlands qualify as locally significant due to their proximity to a water quality-limited waterway, and are degraded, and (b) the AKS memo did not provide any evidence demonstrating that the Veranda wetlands provide no water cooling benefit to Kelley Creek.

A related memo from Ken Katzaroff of Schwabe, Williamson, & Wyatt subsequently was submitted to the City on January 20, 2023. This communication ("Schwabe memo") attempted to further the positions presented in the AKS memo as to why the City should rescind the finding of local significance for the Veranda wetlands.

Detailed responses to each issue presented in the AKS memo and Schwabe memo are provided in this review. A summary of the detailed responses included in this memo are compiled here.

SUMMARY COMMENTS

- **Schwabe memo:**
    1. **The City's ESRA-PV code that requires buffering of wetlands found to be locally significant refers to state legislation that is "discretionary".** ***City Response:*** the state language is not discretionary; that OAR language provides for submission of data that documents an absence of water quality benefits from a given wetland. To date, no objective, evidentiary documentation (such as groundwater well logs or thermistor readings showing elevated temperatures in the direct surface connection between Wetland 1 and Kelley Creek) has been submitted to Gresham to demonstrate that the wetlands aren't providing a water cooling benefit.

2. **The City has not previously applied similar findings of local significance to unmapped wetlands found during the development process; nor has the City provided evidence that Kelley Creek is listed such that wetland proximity is relevant to local significance.** ***City Response:*** As development applications involving previously unmapped wetlands have moved through the city planning process, Planning staff request review of DSL reviewed wetland delineations by Natural Resources Program staff to assess local significance or Title 3 status. Newly delineated wetlands within ¼ mile of a water quality impaired water have been consistently determined to be locally protected wetlands.

   City staff have, in meetings, phone calls, and in formal pre-application notes, provided commentary to the developer team starting in 2017 that there were apparent, extensive wetlands on the Veranda parcel and within the SE 190th Drive ditches that would meet locally significant wetland criteria due to proximity to a water quality impaired water. In June of 2022, as Planning staff anticipated questions from the developer team, Natural Resource staff provided to Planning correspondence from Oregon DEQ that Kelley Creek was listed as water quality impaired at the time of the Veranda application (December 22, 2020).

- **AKS memo:**
  1. **Kelley Creek was not 303(d) listed at the time of the Veranda subdivision/Master Plan submittal (December 22, 2020).** ***City Response:*** Oregon DEQ staff in charge of the state's 303(d) listings and the state database/mapping of 303(d) waterbodies have reviewed the AKS memo and responded that Kelley Creek was specifically assessed, Kelley Creek derived data was included as part of the Johnson Creek Watershed Assessment Unit, and was on the 303(d) for temperature at the time of Veranda submittal (per the 2018/2020 Integrated Report, effective November 12, 2020). Kelley Creek continues to be 303(d) listed-for temperature and additional parameters (per the 2022 Integrated Report, effective September 1, 2022). Screenshots from Oregon DEQ's mapping platform for both the 2018/2020 and 2022 lntegrated Report listings are included in this memo.
  2. **The Veranda wetlands do not exist on the landscape where there would be a subsurface subsurface/groundwater connection to Kelley Creek.** ***City Response:*** Wetlands supported by shallow groundwater are prolific throughout the east buttes at equivalent, or even higher, elevations on the buttes. The archaic remnants of tile drains on the Veranda parcel are evidence of shallow groundwater presence in the areas of the delineated wetlands. Groundwater discharge on the east buttes follows topography towards creeks at the base of the buttes.
  3. **Wetland 1 lacks surface connection to Kelley Creek.** ***City Response:*** Wetland 1 and immediately adjacent areas discharge by surface and groundwater pathways to the ditch along the east side of 190th for extended periods after rain events, with cover provided by ditch vegetation, a culvert system, and woody vegetation along the surface discharge route.
  4. **An ORWAP (functions and values) assessment was conducted on Wetland 1 and the results show a "lower" rating for water cooling by that wetland, thus it should not be considered locally significant.** ***City Response:*** ORWAP results were submitted in lieu of any data. ORWAP has never been deemed by the state to be relevant to the assessment of local significance of wetlands, nor is it a methodology that can demonstrate that the wetland provides NO water cooling benefit to Kelley Creek such that the wetlands should not be considered locally significant. Additionally, PHS reviewed AKS's ORWAP analysis for Wetland 1; PHS's ORWAP scorings result in Wetland 1 receiving a "Higher" rating for water cooling by Wetland 1.
  5. **Mitigation options should include Foster Creek Mitigation Bank as it is located within the watershed scale (HUC) required by Gresham's ESRA-PV code.** ***City Response:*** This is inaccurate. Kelley Creek is subwatershed of the Johnson Creek watershed (a 5th field HUC). Both are within the Lower Willamette 4th field HUC. The Foster Creek mitigation bank is within the Clackamas 4th field HUC; the Johnson Creek watershed is NOT part of the Clackamas River watershed. Per Metro Title 13 standards, and per Gresham code since 2009, impacts to locally significant/Title 3 protected wetlands cannot be mitigated

outside of the 5th field HUC scale in order to protect the hydrologic functions of the local watersheds as required under the Clean Water Act components administered by Oregon DEQ.

DETAILED COMMENTS

The City received memos from AKS and Schwabe, Williamson, & Wyatt, collectively presenting the developer team's argument that the City should reverse the prior determination of local significance of 5 wetlands (totaling 5.52 acres) on the Veranda parcel, as delineated by Schott & Associates in 2019, and reviewed and approved by Oregon Department of State Lands (DSL) in January 2020. A map of the wetlands mapped as part of the Schott delineation is attached at the end of this memo.

Schwabe memo review:

1. ***Concern was expressed that the City code included use of discretionary reasoning in assessing local significance of the Veranda wetlands.***

The language relevant to this concern is not in the City's ESRA-PV development code but is instead in Oregon's administrative rules for protection of locally significant wetlands. The applicable Oregon Administrative Rule, OAR141-086-0350(2)(b), mandates that a local government must find a wetland to be locally significant if:

The wetland or a portion of the wetland occurs within a horizontal distance less than one-fourth mile from a water body listed by the Department of Environmental Quality as a water quality limited water body (303(d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded" using OFWAM. The 303(d) list specifies which parameters (e.g. temperature, pH) do not meet state water quality standards for each water body.

It is noteworthy that under DSL's rules, these criteria are termed, "Mandatory LSW Criteria." (OAR 141-086-0350(2).) Accordingly, if a wetland satisfies the proximity and water quality function criteria, then it is by regulatory definition "locally significant." It should be noted that OAR 141-086-0350(3) ("Optional LSW Criteria") provides the discretionary pathway for a local jurisdiction to assess and apply local significance. The did not use these optional criteria.

The Veranda wetlands meet the mandatory criteria by being within ¼ mile of Kelley Creek which is included on the state 303(d) list as an impaired water for temperature, and the wetlands are "degraded". The Veranda wetlands therefore must be considered locally significant and protective buffers per the ESRA-PV standards must be applied. However, the OAR also provides an opportunity for a reversal of this finding in one particular situation:

*A local government may determine that a wetland is not significant under this subsection **upon documentation** that the wetland **does not** provide water quality improvement for the specified parameter(s). (Emphasis added.)*

City staff have discussed with the Veranda development team the need for consideration of the presence of locally significant wetlands since the first Veranda pre-application process in 2017. Since those initial conversations, no objective scientific evidence has been presented to the City to demonstrate that these wetlands provide no water cooling benefit to Kelley Creek. The AKS memo doesn't include evidentiary data, but instead includes a wetland functional assessment for Wetland 1 (the largest of the wetlands delineated by Schott and Associates). The ORWAP functional assessment method was not developed for the purpose of assessing local significance of wetlands, nor does it serve as evidentiary data. As noted in the DSL-approved Schott delineation commissioned by the Veranda development team, these wetlands are in contact with the shallow subsurface groundwater that flows down the flanks of the butte—these subsurface flows eventually outflow to Kelley Creek, a critical habitat stream (as federally designated by NOAA Fisheries) with documented presence of multiple ESA-listed salmonid species that are dependent on cool stream temperatures. Additional discussion on the specifics of the shallow subsurface flow patterns on the butte are included in the City's response to the AKS memo (see #2 in the section below), including background information on historic

documentation of near-surface groundwater in this area, and historic tile draining on the Veranda parcel which was implemented for the purpose of lowering the groundwater table for improved farming conditions.

The OAR language provides for an opportunity to document absence of water quality benefits. Such an effort to prove Veranda wetlands are devoid of any water cooling benefit to the stream would include some form of temperature and/or subsurface flow data, in order to allow for a clear and objective finding that allows the City to conclude the Veranda wetlands qualify to be exempted from the state's mandatory locally significant wetland protections.

2. **City staff have not provided evidence supporting the presence of locally significant wetlands on the site**. Relevant to the Veranda site, Natural Resources staff, since the initial Veranda pre-application stage (2017), have provided comment that the Veranda site and ditches along SE 190th Drive had apparent, extensive unmapped wetlands and that, once delineated, these wetlands would be locally significant due to proximity to water quality-impaired waters. Because of the complexity of the very shallow groundwater present throughout the Veranda parcel, the proximity to water quality impaired waters, and proximity to federally protected critical habitat, City staff have endeavored to provide background information and support to the Veranda development team. Those extensive 2017 notes, which include documentation that staff have been offering assistance in navigating the complicated mitigation issues related to development of this site, are included in the attachments portion of this memo, starting on page 13.

From November 2021 through January 2023, the Veranda development team sought to address a wetland data conflict between what was shown on their December 2020 development application graphics and the January 2020 DSL-approved Schott delineation; the Veranda team sought to refute their Schott delineation by submitting to DSL a new study by Castle Rose Environmental which proposed less than 0.2 acres of jurisdictional wetland where Schott had delineated a 4.97 acre wetland. While waiting for resolution of the discussions between the Veranda team and DSL, Planning sought to minimize potential delays and requested external review by the City's on-call wetland consultants as to local significance status of the delineated wetlands already reviewed and approved by DSL. In May 2022, Pacific Habitat Services reviewed the Schott delineation report, and found the wetlands qualify as locally significant. The Veranda development team questioned this finding, partly based on difficulties in navigating the state's complex database and mapping platform that prevented easy retrieval of data showing Kelley Creek was listed as water quality impaired. In late June 2022, Oregon Department of Environmental Quality staff with responsibility for establishing the 303(d) biennial listings responded to a request from the City for confirmation that Kelley Creek was listed as a water quality impaired water at the time of the December 22, 2020 Veranda application. The affirmative response from Oregon DEQ's 303(d) program staff was provided to Planning on July 1, 2022 and was forwarded to the development team. Subsequently, in January 2023, the City received notice from DSL that the Veranda development team's effort to refute the Schott delineation had been withdrawn, leaving the Schott delineation (5.52 acres of wetlands) the most current DSL-approved data for the site.

AKS memo review:

1. ***"During the time the Veranda at Pleasant Valley Master Plan and Subdivision application was submitted to the City (December 2020), Kelley Creek (waterbody) was not listed in Oregon's DEQ 2018/2020 Integrated Report Assessment (IR) as a Category 5 Water Quality Limited waterbody needing a TMDL 303(d) listing."***

This statement by AKS was reviewed by Gresham's Water Quality Program staff responsible for the City's compliance with state and federal water quality rules. They conferred with Oregon Department of Environmental Quality (Oregon DEQ) staff who are responsible for the biennial update of Oregon's 303(d) list of impaired waters. The City has been collecting water quality information on mainstem Kelley Creek for over 2 decades, and providing this information to DEQ

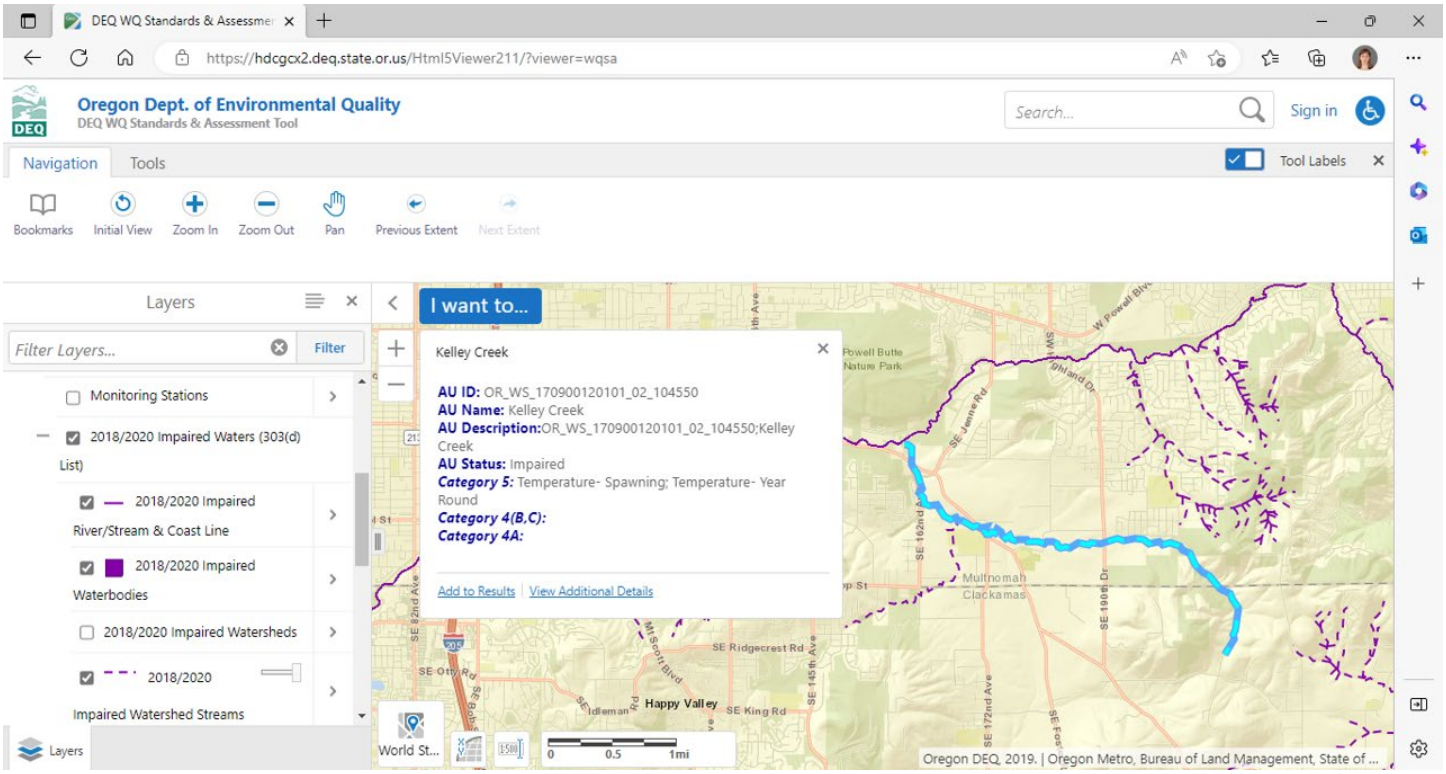
for their periodic evaluations of impaired waters in the state. City Water Quality Program staff and Oregon DEQ's 303(d) program staff collaborated on the following response:

The 303d list is for impaired parameters which warrant development of a Total Maximum Daily Load (TMDL). These listings are categorized as Category 5. When a TMDL is developed, that parameter may still be impaired for that water body even though it is removed from the 303d list. These are labeled as Category 4A.

Below is an explanation of water quality impairment for Kelley Creek in Gresham from the past two Integrated Reports. The assessment methodologies and visualizations differ between reports. Screen shots are attached. Kelley Creek was considered a water quality impaired water body on the 303d list by Oregon DEQ in both reports.

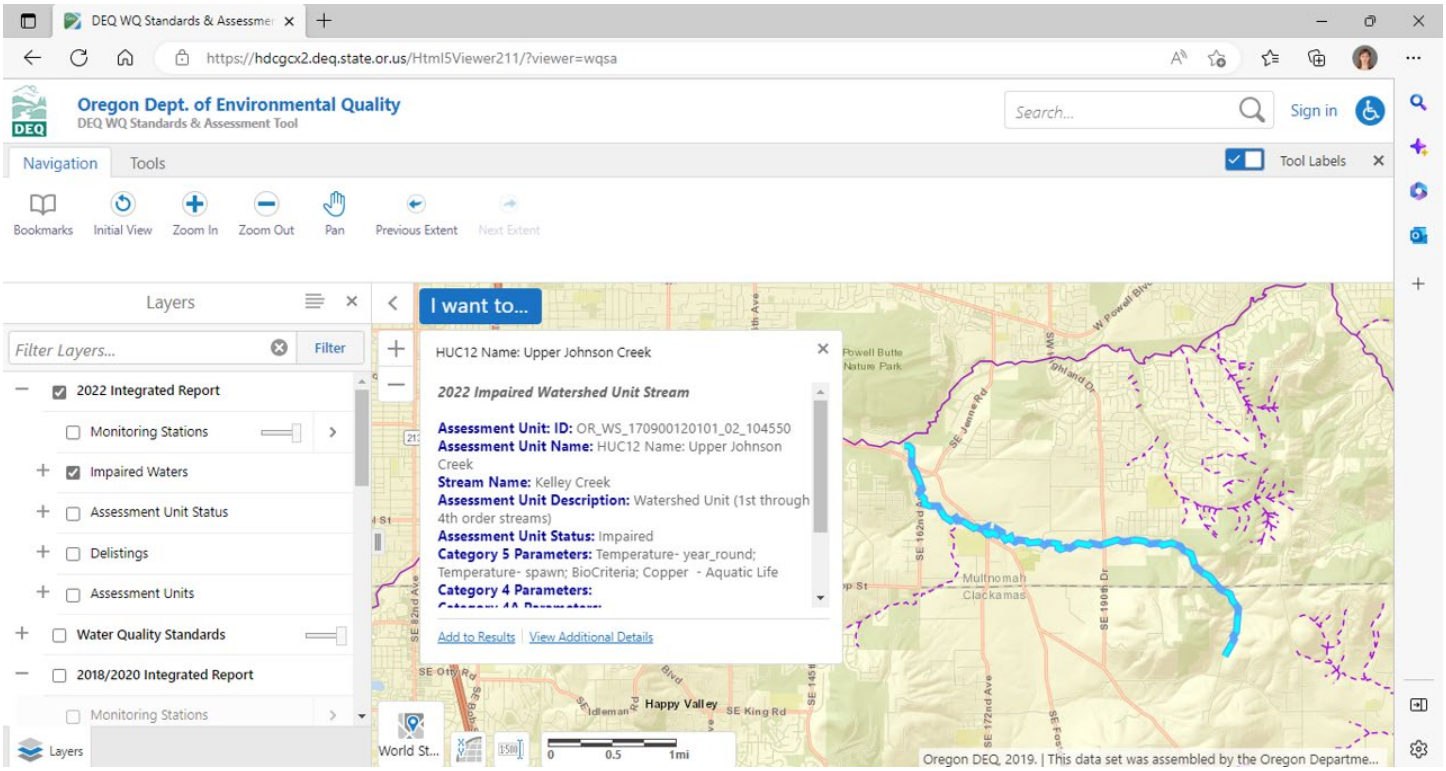
2018/2020 Integrated Report (Effective November 12, 2020)

For this report, impairment was assessed based on Assessment Unit OR_WS_170900120101_02_104550 (HUC12 Name: Upper Johnson Creek; 1st-4th order streams), which includes Kelley Creek. In this report, stations within assessment units were pooled together and assessed as a whole. A water body within a watershed type Assessment Unit was considered impaired for a parameter which contributed data to the impairment. Kelley Creek contributed exceedance data which lead to the impairment and was considered impaired in Category 5 (303d list) for temperature (year-round), and temperature (spawning).



2022 Integrated Report (Effective September 1, 2022)

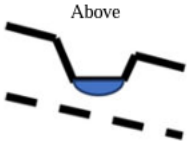
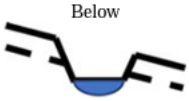
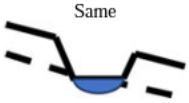
For this report, watershed type assessment units were assessed based on data from each monitoring station separately and were not pooled together. Waterbodies were designated as impaired if one or more stations on that waterbody received an impairment designation. Kelley Creek had monitoring stations which exceeded the impairment thresholds, and Kelley Creek was considered impaired in Category 5 (303d list) for temperature (year-round), temperature (spawning), biological criteria, and copper (aquatic life).



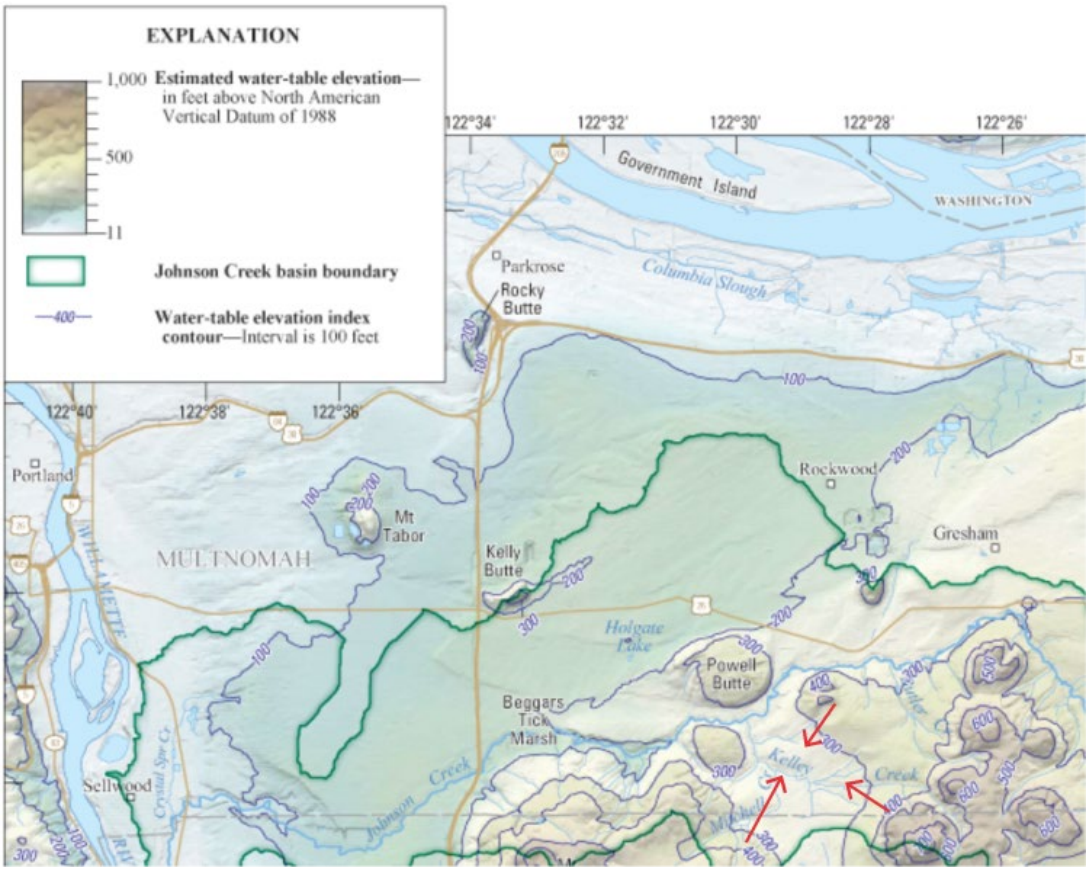
2. ***The Veranda wetlands do not exist on the landscape where there would be a subsurface/groundwater connection to Kelley Creek.***

The Veranda parcel is on one of the "east buttes"--volcanic features in the Gresham area, each with a basalt core overlain by silts. The basalt core itself prevents deep infiltration of precipitation. Also present, resulting from repeat flood deposits from the multitude of prehistoric Missoula floods, are multiple impervious layers (confining layers) within the soil profiles on the butte slopes. These prevent significant vertical (downward) drainage to varying degrees, starting very near the surface. The data we have on this for the Veranda site comes from the Multnomah County soil survey which notes the soils on the Veranda site have a fragipan starting at 15-18 inches from the surface, preventing free downward drainage. It's because of this very high, perched groundwater that historic farming practices required the installation of what the Schott delineation documents as an extensive system of drainage tiles used to lower the groundwater table sufficiently for crop growth. Per the Schott delineation, at this point in time, the tile drains are largely plugged and/or broken, resulting in the raising of the already high groundwater table on the Veranda parcel, providing for wetland hydrology. Evidence supplied to date supports connection between Veranda wetlands and the very high groundwater table on this parcel, eventually discharging to Kelley Creek (e.g., the 2nd and 3rd images of the below graphic).

Summary of general patterns of wetland connectivity.

Wetland Surface Relative to Water Table (Dashed Line)	Connectivity in Upgradient Direction	Connectivity in Downgradient Direction	Likely to Spill?	Likely Pond Permanence	Likely Location(s)
Above 	Surface water only	Groundwater; Surface water, if fill and spill occurs	No, unless depression is especially shallow	Low	Groundwater recharge areas, especially near a downward break in slope.
Below 	Groundwater and surface water	Surface water, if fill and spill occurs	Yes, unless depression is especially deep	High	Groundwater discharge areas, especially if not near downward breaks in slope.
Same 	Groundwater and surface water	Groundwater; Surface water, if fill and spill occurs	Possibly	Moderate	Slopes, also groundwater discharge areas if near a downward break in slope.

Groundwater flows from areas of high water table elevation to lower elevation. The shallow groundwater table present at higher elevations on the buttes will flow towards the lower water table elevation near the base of the buttes, and in this location, towards Kelley Creek. The United States Geological Survey (USGS) Scientific Investigations Report (SIR) 2009-5123 (Hydrology of the Johnson Creek Basin, Oregon) shows groundwater elevation contours decreasing in elevation towards Kelley Creek which indicate that groundwater will flow from the buttes towards the creek:



Excerpt from Figure 8 (Estimated water table elevation, Johnson Creek basin, Oregon) USGS SIR 2009-5123. Arrows added indicate direction of groundwater flow from buttes towards Kelley Creek.

The geology of the buttes, the observation of the extensive historic drain tile system described in the Schott delineation, and local experience with butte drainage inform us that infiltrated precipitation becomes part of the shallow near-surface groundwater table. This groundwater then migrates laterally, towards the creek, at rates much slower than surface run-off rates. This provides for precipitation on the butte flanks to be stored in the butte soils ("bank storage"). These stored waters slowly discharge to Kelley Creek, supporting stream flow outside of the wet season. The discharge of cooler groundwater results in temperature moderation benefits for Kelley Creek (which is ESA-listed as critical habitat, and recent salmonid surveys have shown coho and steelhead (both ESA-listed) presence at SE 190th). USGS SIR 2009-5123 reported summer stream temperature decreases in area of groundwater flow to the watershed's stream channels. The importance of Kelley Creek as a cool water input to downstream critical habitat is noted in this report: USGS SIR 2009-5123 documented Kelley Creek having the lowest observed stream temperatures in the Johnson Creek watershed during the summer months of July – September 2005. (See relevant data in graphic below.)

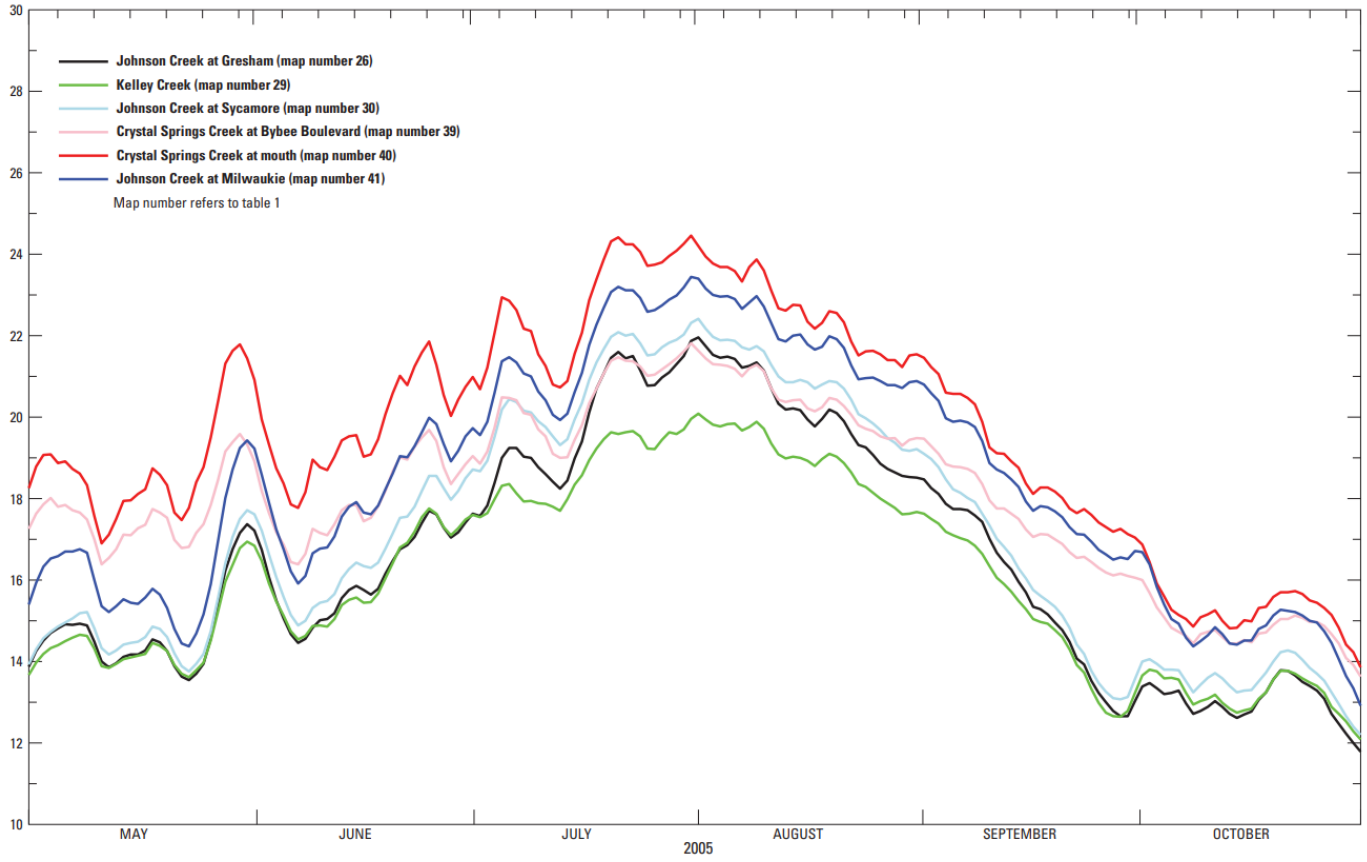
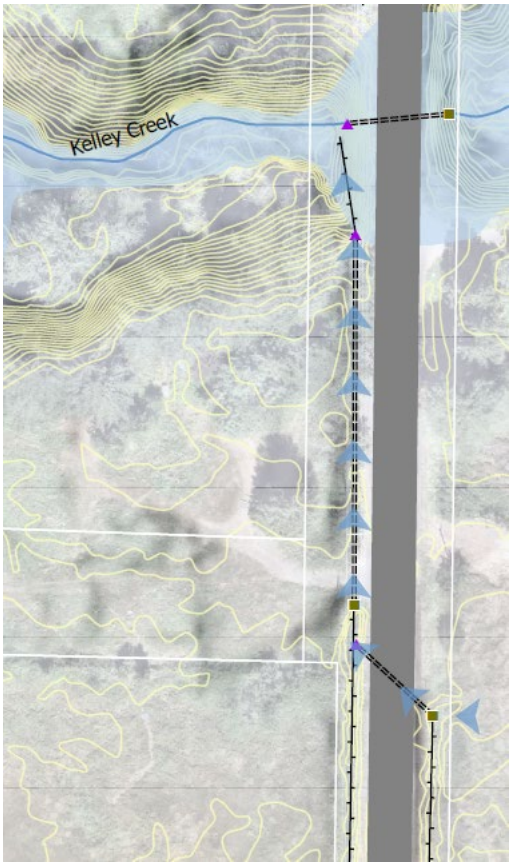


Figure 23. Temperature of streams in the Johnson Creek basin, Oregon, May to October 2005.

3. Wetland 1 lacks surface connection to Kelley Creek.

In addition to the subsurface connection that wetlands have to Kelley Creek, there is a direct surface connection to Kelley Creek that is not visible in the Schott delineation as the discharge pathway is not included in the area captured in the primary graphics. The Schott delineation shows a wetland connection to a portion of the ditch along the east side of SE 190th Drive. Gresham stormwater engineering staff verified that the groundwater discharging from the Schott-delineated Veranda wetland (and from immediately adjacent areas on the parcel) into the SE 190th ditch follows a discrete drainage path to a discharge point on the south bank of Kelley Creek: The east ditch of SE 190th drains to a

culvert that discharges to the ditch on the west side of SE 190th Drive. That flow continues north in a ditch for approximately 20 feet before entering a second culvert (200' long) which discharges to a rock-lined channel on the south bank of Kelley Creek. See image below. It should be noted that this ditch has been observed as having intermittent flows supported by groundwater discharge coming from both the Veranda and upslope Metro open space parcels.



4. ***An ORWAP (functions and values) assessment was conducted on Wetland 1 and the results show a "lower" rating for water cooling by that wetland, thus it should not be considered locally significant.***

In lieu of evidentiary data to support the position statement that the Veranda wetlands do not provide any water quality benefit to Kelley Creek, AKS provided a functional assessment of the largest of the wetlands delineated by Schott in 2018-2019 (Wetland 1). This assessment method—Oregon Rapid Wetland Assessment Protocol, or ORWAP—was not developed for the purpose of assessing local significance of wetlands, and has not been identified by the state as an acceptable alternative to the Oregon Freshwater Wetland Assessment Methodology (OFWAM) for assessing local significance. Also, in terms of trying to use the ORWAP methodology to demonstrate an absence of water quality benefit provided by a wetland to a stream, it should be noted that ORWAP results in comparative scorings of "lower", "moderate", or "higher" functions (the surrogate for benefits, in this discussion). The ORWAP scoring options are such that no ABSENCE of wetland functions (or benefits) can be reached can be reached using this method.

Despite the inability of ORWAP to demonstrate there is no water quality benefit of a wetland to a water quality impaired water for a given pollutant parameter, Gresham requested review of AKS's ORWAP assessment of Wetland 1 be completed by Pacific Habitat Services (PHS). Comments by Craig Tumer (Professional Wetland Scientist of PHS) follow:

I reviewed the ORWAP evaluation AKS did for Wetland 1 on the Veranda Property and revised the responses to several indicators based on my field visit to the site. A copy of the revised ORWAP spreadsheet is attached. Based on my assessment, I had different scores for the following ORWAP indicators: F3, F31, F39, F42, F56, F57, and OF16. Notes regarding each of the changes are in blue text in the far right column of the spreadsheet.

My ORWAP assessment resulted in a "Higher" rating for the water cooling function compared to the "Lower" rating obtained from AKS's assessment. The primary reason for the difference is the change to indicator F37. For this indicator, I changed the answer from "None of the above…" to the answer that best matches the notes that AKS provided on site conditions, which is highlighted in yellow in the far right column of the spreadsheet. This change alone caused the functional rating to jump from "lower" to "higher".

I believe the results of this ORWAP assessment indicate that Wetland 1 contributes to thermoregulation and maintaining lower water temperatures in Kelley Creek. Further studies would be needed for the Applicant to demonstrate that the wetland does not provide water quality benefits and should not be considered locally significant as indicated in the memo from AKS. [Note: PHS ORWAP Spreadsheets included in Attachments (starting page 16).]

5. ***Mitigation options should include Foster Creek Mitigation Bank as it is located within the watershed scale (HUC) required by Gresham's ESRA-PV code. "The state and federally approved Foster Creek Wetland Mitigation Bank is located within the Clackamas River basin, which consists of the Johnson Creek watershed."***

The 4th field HUC for the Clackamas basin is to the south of the Lower Willamette 4th field HUC. The Johnson Creek watershed is within the Lower Willamette HUC. The Foster Creek Mitigation Bank is within the Clackamas HUC. The lack of hydrologic connections between watersheds at this scale prompted Metro, in 2005 when they were writing their Title 13 standards, to include mitigation restrictions such that wetland impacts were mitigated for in areas where the regulated watersheds within the Metro area wouldn't be losing hydrologic function to watersheds outside of the Metro area. This rationale is critical to ensure local jurisdictions are complying with state and federal requirements to ensure anti-degradation of local waterways.

ATTACHMENTS

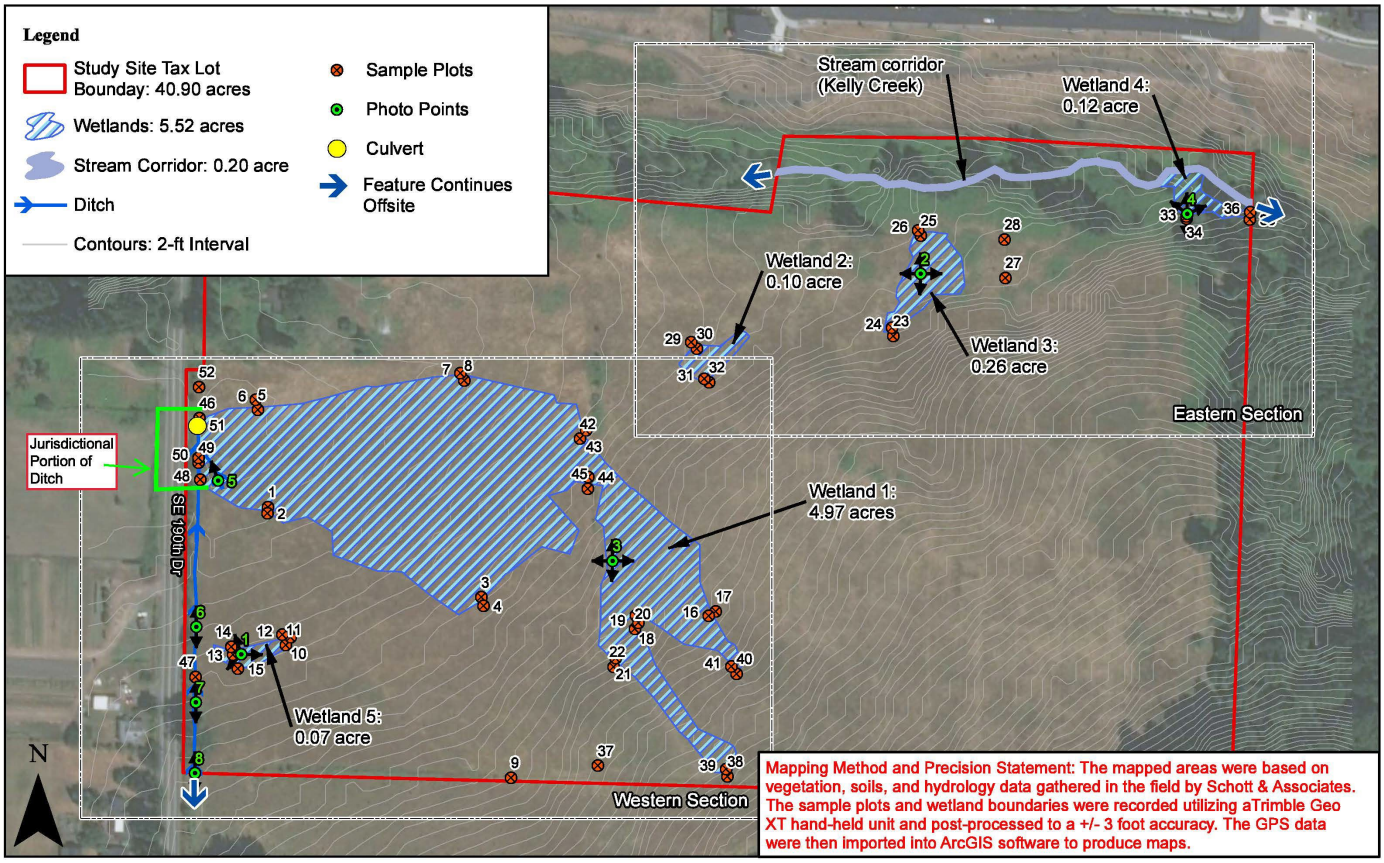
1. **Veranda Wetlands (per 2019 Schott delineation field work)**

2. **2017 Pre-application Comment Summary (related to wetlands and groundwater) for the Veranda Subdivision and Master Plan**

3. **PHS review of AKS ORWAP**

Attachment 1

DSL reviewed and approved Schott wetland delineation for Veranda



Date: 1/22/2020

Data Source: ESRI, 2019; Gresham View, 2019; USGS, NED, 2013

Figure 6a. Wetland Delineation Map - Overview

SCHOTT & ASSOCIATES, Inc.

DSL WD # 2019-0500
Approval Issued 1/23/2020
Approval Expires 1/23/2025

Pleasant Valley Project Site: S&A #2558

0 150 300 600 Feet

Attachment 2

Excerpt from The March 2017 Pre-Application Meeting Summary Comments for 17-26000076

Below are the initial comments from Natural Resources related to the Veranda @ Pleasant Valley concept plan dated 11/28/16, and the associated Master Plan concept plan dated 2/27/17.

1) ESRA Buffers
    a. Apparent incorrect mapping of habitat buffer: TL 1200 is mapped as having the standard ESRA buffer widths applied. It appears the preparer of the concept map has used instead a modified buffer line consistent with HCA-width protections in the riparian area.
    b. Missing buffer: The upland ESRA protection at the southeastern corner of TL1200, per Gresham's approved Pleasant Valley Master Plan, has been omitted from the concept plan schematic.
    By the way, are the gray dots on the southeastern corner (very edge corner, within what should be mapped as ESRA) supposed to designate tree removal? If so, please note that the shallow soils would further compound our concerns about tree removal. Removal of exterior trees, such as those in that southeastern corner, would make trees further south of that even more prone to windthrow. See associated note under 3a, below (in Soils section).

2) Wetlands and Waterways
    a. Despite the lack of MAPPED wetlands on the property, there are assuredly wetland resources present that would result in state jurisdiction, and possibly federal and local jurisdiction as well. There are readily apparent wetland indicators visible from 190th (typical wetland plants and signs of areas likely to hold standing water well into the growing season). From Google Earth images ranging from 1994-2016, there are orthophoto suggestions of probable wetlands on all the taxlots shown on the submitted master plan schematic.
        i. I've attached photos from 3/17/17 as well as 3/20/17 (after 48 hours of dry weather). It appears standing water persists through large portions of the site.
        ii. In addition, all of the soil types on all of the taxlots are either hydric or contain hydric inclusions, meaning these are soils likely to support wetlands. Hydric mapped units present are Wapato, and partially hydric are Cascade silt loam with Delena inclusions, and Powell silt loam with Wollent inclusions.
    b. In this specific landscape position (the foot slopes of the East Buttes), we have found wetlands in every instance that we have looked, regardless of soil type present. Because the overlaying soils have a basalt (volcanic cone base) 5-6 feet below ground surface on the buttes, there is substantial subsurface flow traveling at shallow depths on the buttes, and that appears as seeps and springs (which support associated wetlands) along the foot and toe slopes of all the buttes. This is the norm on the south side of Johnson and Kelley Creeks.
    c. Local investigations on the Metro open space property that borders TL1200 to the south, are consistent with the expectation of prevalent wetlands in this area. Just upslope of the proposed development, Metro previously found their initial plantings died because conditions were too wet in many of the areas, so replanted with Facultative Wet (most often found in wetland) species.
    d. As seen on Google Earth on LiDAR hillshade maps (attached), there are multiple ephemeral drainages that do not show up as mapped streams. These can be seen on TL1200 and TL1100. It's probable these are associated with springs and these are supporting adjacent and downslope wetlands.
        i. The original ESRA buffers were drawn years prior to the current stream layer being adopted in 2008. All mapped streams need to have the correct buffers applied. Note on TL 1200 there's no buffer for the stream mapped and partially buffered on the west boundary of TL1100. ESRA buffers should be applied on TL1200 up to the taxlot boundary with TL1100.

In short, because of the multitude of current and past wetland indicators that we see from the adjacent right of way and data sources we have available, a wetland delineation will need to be done, and submitted to DSL for approval before Natural Resources can provide final comment. I do believe wetland resources will be found, and those found will almost certainly meet Locally Significant Wetland criteria (as the entirety of the proposed project area is within ¼ mile of a water quality limited stream), which would mean the wetlands would need to be buffered with ESRA buffers.

The general process to be followed at this point:

1. The developer hires a PWS consultant to complete a delineation of wetlands and waterways on the affected properties in the master plan.
2. This delineation is submitted to DSL and Army Corps.
3. Once the developer has received agency approval on the delineation, City staff would use our on-call consultants to determine whether the wetlands meet "Locally Significant Wetland" criteria using the Oregon Freshwater Assessment Methodology (OFWAM).
4. If there are Locally Significant Wetlands found, City staff will provide the developer with the buffer requirements for those resources.
5. The developer would need to make a decision about whether they wish to impact the wetlands (and mitigate) or avoid impacts (and adhere to buffer setbacks).

It should be noted that there are also likely state jurisdictional waterway/wetland resources immediately adjacent to 190th, and any road-widening plan will need to consider impacts to jurisdictional resources. Mitigation costs should be considered in conjunction with the road widening.

If the applicant wishes to discuss mitigation options (assuming state and/or federal resources are found), we're happy to help identify mitigation alternatives for their consideration.

3) Soils
    a. You may want to note to the applicant that precautions related to tree removal should be followed. In the soil types found on the site, because of a shallow fragipan (at about 18-30" depth), there will be a perched water table and tree roots will have been restricted in depth as the trees matured. Therefore, existing trees in this area are already more prone to windthrow. Placing structures within the strike zone of existing trees is therefore not recommended.
    b. Again, all soil types within the proposed impact area, there is very low permeability and a season high (very high) groundwater table that will persist even after disturbance due to the geologic factors at play here, so basement/crawl spaces, and even lawns or other ornamental planting areas will likely need the benefit of drainage features.
    c. All soils in the area have a soil capability subclass rating that notes that there could be issues with erosion, potential, excess water or a high-water table.

4) Protect Species and Habitat
    a. The proposed project area includes federally recognized critical habitat for ESA-listed steelhead, so it's likely that National Marine Fisheries Services would get involved in any mitigation planning. Critical habitat is denoted by the green stream line on the 2002 and 2012 Google Earth images I attached to this email. Alterations affecting habitat conditions (such as flow and shade) need to be carefully considered to avoid liabilities under the Endangered Species Act.
    b. Depending on the mechanism proposed for routing stormwater across 190th for treatment, it seems this proposal forces the City to decide on whether they would adhere to the PV Master Plan requirement for all full-span bridges to be used within the planning area.
        i. Natural Resources prepared a permitting memo for Jay McCoy/Transportation a few years ago that details all the permitting (and associated modeling and permit costs) that would be needed

for the road work related to the bridge or other new span area. It should be noted that water quality treatment will need to be provided for the new impervious surface of the wider road. And if the developer is to inherit responsibilities for the stream crossing road improvements, then we could provide that memo to them. Again, as this is a critical habitat area, extensive permitting and coordination with multiple resource agencies will be needed for the stream crossing, and potentially with road widening in this stretch.

Again, I've attached photos from 3/17/17 (overcast and showers day) and 3/20/17 (48 hours of dry weather preceding photos) of apparent wetland areas as viewed from 190th, as well as a soil map for the area, and images from Google Earth. The persistence of standing water further suggests wetland resources and poorly draining soils will need to be designed around as part of this project. Please let us know if you have any questions, or need this information presented in a different format.

Attachment 3

PHS ORWAP for Wetland 1 (deviation from AKS scores and notes are included in blue in the far right column)

Oregon Rapid Wetland Assessment (ORWAP) V.3.2.*	Cover Page: Basic Description of Assessment
Site Name:	Veranda Pleasant Valley- Wetland 1
Investigator Name:	**Craig Tumer, PWS**
Date of Field Assessment:	2/2/2023
County:	Multnomah
Nearest Town:	Gresham
Latitude (decimal degrees):	45.46484° N
Longitude (decimal degrees):	122.46505° W
TRS, quarter/quarter section and tax lot(s):	S.E.1/4 SEC.20 T.1S. R.3E., Tax Lot 1200
Approximate size of the Assessment Area (AA, in acres):	4.95
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100%
If delineated, DSL file number (WD #) if known:	WD2019-0500
Cowardin Systems & Classes (indicate all present, based on field visit and/or aerial imagery): Systems: Palustrine =P, Riverine =R, Lacustrine =L, Estuarine =E Classes: Emergent =EM, Scrub-Shrub =SS, Forested =FO, Aquatic Bed (incl. SAV) =AB, Open Water =OW, Unconsolidated Bottom =UB, Unconsolidated Shore =US	PEM
Predominant HGM Class: Estuarine=E, Lacustrine=L, Riverine=R, S= Slope, F= Flats, D= Depressional	Slope
Soil Unit Mapped in Most of the AA:	7B
If tidal, the tidal phase during most of visit:	NA
What percent (approximate) of the **wetland** were you able to visit?	100
What percent (approximate) of the **AA** were you able to visit?	100
Have you attended an ORWAP training session? If so, indicate approximate month & year.	NA
How many wetlands have you assessed previously using ORWAP (approximate)?	1
Comments about the site or this ORWAP assessment (attach extra page if desired):	Wetland 1 is located approximately 300 feet upslope from Kelly Creek. It is not located within its floodplain and is not zoned as open space.

Date: 2/2/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1	
Form OF Office Data ORWAP V. 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.	For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
OF1	Distance to Extensive Perennial Cover (DistPerCov)	The distance from the AA edge to the edge of the closest patch or **corridor** of **perennial cover** (see definition in column E) larger than 100 acres is:		**Corridor** - is simply an elongated patch of perennial cover that is not narrower than 150 ft at any point. **Perennial cover** - is vegetation that includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands in which the ground is disturbed less than annually, such as hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It does not include water, row crops (e.g., vegetable, orchards, Christmas tree farms), lawns, residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [AM, WBN, PD, PDv, POL, SBM, Sens, STR]		Located within a perennial grass field and within 200 feet of a forest.
		<100 ft.	1			
		100 to <300 ft.	0			
		300 to <1000 ft.	0			
		1000 ft. to <0.5 mile.	0			
		0.5 mile to 2 miles.	0			
		> 2 miles.	0			
OF2	Distance to Tidal Waters (DistTidal)	The distance from the AA edge to the closest body of **tidal water** is:		**Tidal water** - If unclear whether a water body is tidal, check the ORWAP Map Viewer's Headtide layer (expand Hydrology), or check with local sources. Assume Columbia River is tidal east to Bonneville Dam and the Willamette River south to the Oregon City Falls. [WBF]		Approx. 6.5 miles
		<1 mile.	0			
		1-5 miles.	0			
		>5 miles.	1			
OF3	Distance to Ponded Water (DistPond)	The distance from the AA edge to the closest (but separate) body of nontidal fresh water (wetland, pond, or lake) that is ponded all or most of the year is:		Use field observations, aerial imagery, and/or the ORWAP Map Viewer's Persistent Nontidal layer (expand Wetlands/National Wetlands Inventory). [AM,WBF,WBN,SBM,PD,Sens]		Approx. 660 ft
		<100 ft.	0			
		100 to <300 ft.	0			
		300 to <1000 ft.	1			
		1000 ft. to < 0.5 mile.	0			
		0.5 mile to 2 miles.	0			
		>2 miles.	0			
OF4	Distance to Lake (DistLake)	The distance from the AA edge to the closest (but separate) body of nontidal fresh water (wetland, pond, or lake) that is ponded during most of the year and is larger than 20 acres (about 1000 ft on a side) is:		Use field observations, aerial imagery, and/or the ORWAP Map Viewer's Persistent Nontidal layer (expand Wetlands/National Wetlands Inventory). [WBF,WBN]		Approx. 3.23 miles due north
		<1 mile.	0			
		1-5 miles.	1			
		>5 miles.	0			
OF5	Distance to Herbaceous Open Land (DistOpenL)	The distance from the AA edge to the closest patch of **herbaceous openland** larger than 10 acres and in **flat terrain** is:		**Herbaceous openland** - includes both perennial and non-perennial cover. For example, it can include pasture, herbaceous wetland, meadow, prairie, ryegrass fields, row crops, herbaceous rangeland, golf courses, grassed airports, and hayfields. Do not include open water of lakes, ponds, or rivers; or unvegetated surfaces; or areas with woody vegetation. In dry parts of the state, croplands in flat areas are often irrigated and are distinctly greener in aerial images. **Flat terrain** - means slope of less than 5%. [WBF,WBN,POL]		> 10 acres within the study area
		<100 ft.	1			
		100 to <300 ft.	0			
		300 to <1000 ft.	0			
		1000 ft. to < 0.5 mile.	0			
		0.5 mile to 2 miles.	0			
		>2 miles.	0			
OF6	Distance to Nearest Busy Road (DistRd)	The distance from the AA center to the nearest road with an average daytime traffic rate of at least 1 vehicle/ minute is:		Estimate this traffic rate threshold using your judgment and considering the road width, local population, distance to densely settled areas, alternate routes, and other factors. [AM,SBM,PD,PUv,STR]		400 feet from AA center to SE 190th Drive.
		<100 ft.	0			
		100 to <300 ft.	0			
		300 to < 0.5 mile.	1			
		0.5 to <1 miles.	0			
		1 to 2 miles.	0			
		>2 miles.	0			

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF7	Size of Largest Nearby Patch of Perennial Cover (SizePerenn)	Including the AA's vegetated area, the largest patch or corridor that is **perennial cover** and is contiguous with vegetation in the AA (i.e., not separated by roads or channels that create gaps wider than 150 ft), occupies:		**Contiguous** -Abutting, with no major physical separation that prohibits free exchange or flow of surface water (i.e., not separated by roads or channels that create gaps wider than 150 ft) **Perennial cover** - See OF1. Disqualify any patch or corridor of perennial cover where it becomes separated from the AA by a gap of >150 ft, if the gap is comprised of unvegetated land or if the corridor narrows to less than 150 ft. [AM,SBM,PD,POL,Sens,STR]		Approx. 530 acres
		<.01 acre.	0			
		.01 to < 1 acre.	0			
		1 to <10 acres.	0			
		10 to <100 acres.	0			
		100 to <1000 acres.	1			
		1000 to 10,000 acres.	0			
		>10,000 acres.	0			
OF8	Wetland Type Local Uniqueness (UniqPatch)	**Select EACH** of the vegetation types below that comprise more than 10% of the AA AND less than 10% of a 0.5 mile radius around the AA. (See Column E).		This is a 2-part question: (1) if no vegetation class comprises more than 10% of the AA, answer "none of the above." (2) If a vegetation class does comprise more than 10%, determine if that vegetation class also comprises less than 10% of a 0.5 mile circle (~50 acres). [INVv,AMv,WBFv,WBNv,SBMv,PDv,POLv,Sens]		>10% herbaceous grasses within AA and <10% unshaded shrubland within 0.5 mile radies of the AA. >10% trees within 0.5 mile radies of the AA.
		Herbaceous vegetation (perennial grasses, sedges, forbs; not under a woody canopy; not crops).	1			
		Unshaded shrubland (woody plants shorter than 20 ft).	1			
		Trees (woody plants taller than 20 ft).	0			
		None of above.	0			
OF9	Perennial Cover Percentage (PerCovPct)	Within a 2-mile radius of the AA center, the percentage of land that has **perennial cover** is:		**Perennial cover** - is vegetation that includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands in which the ground is disturbed less than annually, such as hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It does not include water, row crops (e.g., vegetable, orchards, Christmas tree farms), lawns, residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [FA,AM,SBM,POL,Sens,STR]	PerennAll	20% developed, 40% herbaceous perennial, 40% forested perennial
		<5% of the land.	0			
		5 to <20% of the land.	0			
		20 to <60% of the land.	0			
		60 to 90% of the land.	1			
		>90% of the land.	0			
OF10	Forest Percentage (ForestPct)	Within a 2-mile radius of the AA center, the cumulative amount of forest (regardless of **forest patch** sizes, and including any in the AA) is:		**Forested patch -** is a land cover patch that currently has >70% cover of woody plants taller than 20 ft. May be in a plantation. [FA,SBM,STR]		Approx. 40%
		<5% of the circle.	0			
		5 to <20%.	0			
		20 to <50%.	1			
		50 to 80%.	0			
		>80%.	0			
OF11	Herbaceous Open Land Percentage (OpenLpct)	Within a 2-mile radius of the AA center, the amount of **herbaceous openland** in f**lat terrain** is:		**Herbaceous openland** - can include both perennial and non-perennial cover. For example, it can include pasture, herbaceous wetland, meadow, prairie, ryegrass fields, row crops, herbaceous rangeland, golf courses, grassed airports, and hayfields. Do not include open water of lakes, ponds, or rivers; or unvegetated surfaces; or areas with woody vegetation. **Flat terrain** - means slope of less than 5%. [WBF,WBN,POL]		Approx. 40%
		<5% of the land.	0			
		5 to <20%.	0			
		20 to <50%.	1			
		50 to 80%.	0			
		>80%.	0			
OF12	Landscape Wetland Connectivity (ConnScapeW)	Within a 2-mile radius of the AA center:		**Corridor** - is simply an elongated patch of perennial cover that is not narrower than 150 ft at any point. **Regular traffic** - is at least 1 vehicle per hour during the daytime throughout most of the growing season. Assess this based on local knowledge, type of road, and proximity to developed areas. **Perennial** - see OF9 for definition. [WBN,SBM,Sens,STR]		The wetlands along Kelly Creek.
		There are NO other wetlands.	0			
		There are other wetlands (or a wetland), but NONE are connected to the AA by a **corridor** of **perennial** vegetation. The corridor must be at least 150 ft wide along its entire length and not interrupted by roads with **regular traffic**.	0			
		There are other wetlands (or a wetland), and ALL are connected to the AA by the type of corridor described.	0			
		There are other wetlands (or a wetland), and ONE or MORE (but not all) are connected to the AA by the type of corridor described.	1			

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF13	Local Wetland Connectivity (ConnLocalW)	Within a 0.5 mile radius of the AA center:		**Regular traffic** - is at least 1 vehicle per hour during the daytime throughout most of the growing season. Assess this based on local knowledge, type of road, and proximity to developed areas.		The wetlands along Kelly Creek.
		There are NO other wetlands.	0			
		There are other wetlands (or a wetland), but NONE are connected to the AA by a **corridor** of **perennial** vegetation. The corridor must be at least 150 ft wide along its entire length and not interrupted by roads with **regular traffic**.	0	**Perennial** - see OF9 for definition. IF possible, field verify		
		There are other wetlands (or a wetland), and ALL are connected to the AA by the type of corridor described.	0	[AM,WBN,SBM,PD,Sens,STR]		
		There are other wetlands (or a wetland), and ONE or MORE (but not all) are connected to the AA by the type of corridor described.	1			
OF14	Wetland Number & Diversity Uniqueness (HUCbest)	According to the ORWAP Report, this AA is located in one of the HUCs that are listed as having a large diversity, area, or number of wetlands relative to the area of the HUC. **Select All of the following that are true:**		In the ORWAP Report, under the Watershed Information section and the HUC Best table, look at the columns "Is HUC Best?" and "Greatest Criteria Met."		
		Yes, for the HUC8 watershed	0	[AM,WBF,WBN,SBM,Sens]		
		Yes, for the HUC10 watershed	0			
		Yes, for the HUC12 watershed	0			
		None of above.	1			
		Data are inadequate (NWI mapping not completed in HUC).	0			
OF15	Landscape Functional Deficit (GISscore)	In the ORWAP Report, find the HUC 12 Functional Deficit table. **Select All functions below that have a notation for that HUC.**		In the ORWAP Report, under the Watershed Information section, look at the Functional Deficit table. Enter 1 for each of the listed functions that are noted.		
		Water storage (WS)	0	These are HUCs in which a relatively small number, or proportional area, of the wetlands are likely to be performing the named function, thus adding value to those that are.		
		Sediment retention (SR)	0			
		Nutrient transformation (NT)	0			
		Thermoregulation (WC)	0	See ORWAP's Technical Supplement for explanation of how the FuncDeficit was calculated.		
		Aquatic invertebrate habitat (INV)	0			
		Amphibian habitat (AM)	0	[WSv,WCv,SRv,PRv,INVv,FAv,AMv,WBNv]		
		Fish habitat (FH)	0			
		Waterbird habitat (WB)	1			
		None of above.	0			
		No data.	0			
OF16	Conservation Designations of the AA or Local Area (ConDesig)	On the ORWAP Map Viewer, use the layers indicated below to answer. **Select All of the following that are true**:		In the ORWAP Map Viewer, use the applicable layers.		
		(a)The AA is within or connected to a stream or other water body and this stream or water body has been designated as ESH within 0.5 miles of the AA, according to the **Essential Salmonid Habitat (ESH)** layer.	1	Include areas not shown as ESH, if ODFW has confirmed they qualify as ESH. [WCv, FA, FAv]		0.38 miles. The ditch that conveyser from Wetland 1 drains to Kelley Cree, which is mapped as ESH within 0.5 mile of the wetland.
		(b)The AA is within or contiguous to a designated **Oregon's Greatest Wetlands,** according to the map layer of that name.	0	Oregon's Greatest Wetlands identifies the most biologically and ecologically significant wetlands in the State of Oregon. [PU]		
		(c)The AA is within an **Important Bird Area (IBA)**, as officially designated, according to the map layer of that name.	0	[WBFv, WBNv]		
		None of above.	0			
OF17	Non-anadromous Fish Species of Conservation Concern (RareFR)	According to the ORWAP Report, the score for occurrences of rare non-anadromous fish species in the vicinity of this AA is:	1	Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp Info file for a list of species.		
		High (≥ 0.75 for maximum score, or ≥ 0.90 for this group's sum score), or there is a recent (within 5 years) onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0	Species include Miller Lake lamprey, Goose Lake lamprey, Pit sculpin, Lahontan cutthroat trout, Inland Columbia Basin redband trout, Steelhead (Snake River Basin ESU), Alvord chub, Goose Lake tui chub, Borax Lake chub, Lahontan redside, Oregon chub, Goose Lake sucker, Tahoe sucker, Warner sucker, Shortnose sucker, Lost River sucker. Note that for some of these species, only specific geographic populations are designated. [FRv] This question may need to revised after the field visit.		
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.33 for both the maximum score this group's sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF18	Amphibian or Reptile of Conservation Concern (AmphRare)	According to the ORWAP Report, the score for occurrences of rare amphibian or reptile species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp_Info file for a list of species. Species include: Black salamander, California slender salamander, Cope's giant salamander, Rocky Mountain tailed frog, Woodhouse's toad, Foothill yellow-legged frog, Northern leopard frog, Oregon spotted frog, Columbia spotted frog. [AMv] This question may need to revised after the field visit.		0.33
		High (≥ 0.60 for maximum score, or >0.90 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0			
		Intermediate (i.e., not as described above or below).	1			
		Low (≤ 0.21 for maximum score AND <0.15 for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	0			
OF19	Feeding (Non-breeding) Waterbird Species of Conservation Concern (RareWBF)	According to the ORWAP Report, the score for occurrences of rare **non-breeding** (feeding) waterbird species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp_Info file for a list of species. **Non-breeding** - mainly refers to waterbird feeding during migration and winter. California brown pelican, Aleutian cackling goose, Dusky Canada goose [WBFv] This question may need to revised after the field visit.		
		High (≥ 0.33 for maximum score, or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0			
		Low (< 0.33 for maximum score and for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			
OF20	Nesting Waterbird Species of Conservation Concern (RareWBN)	According to the ORWAP Report, the score for occurrences of rare nesting waterbird species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp_Info file for a list of species. Species include: Horned grebe, Red-necked grebe, Western grebe, Clark's grebe, American white pelican, Least bittern, Snowy egret, Trumpeter swan, White-faced ibis, Harlequin duck, Bufflehead, Yellow rail, Western snowy plover, Upland sandpiper, Franklin's gull, Marbled murrelet. [WBNv] This question may need to revised after the field visit.		
		High (≥ 0.60 for maximum score, or ≥1.00 for this group's sum score), or there is a recent breeding-season observation of any of these species onsite by a qualified observer under conditions similar to what now occur.	0			
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.09 for maximum score and for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species during breeding season by a qualified observer under conditions similar to what now occur.	1			
OF21	Songbird, Raptor, Mammal Species of Conservation Concern (RareSBM)	According to the ORWAP Report, the score for occurrences of rare songbird, raptor, or mammal species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp_Info file for a list of species. Species include: Bald eagle, American peregrine falcon, Arctic peregrine falcon, Greater sage-grouse, Columbian sharp-tailed grouse, Yellow-billed cuckoo, Northern spotted owl, Short-eared owl, Black swift, Lewis's woodpecker, Purple martin, Northern waterthrush, Bobolink, Tricolored blackbird, Fringed myotis, Spotted bat, Townsend's big-eared bat, Pallid bat, Northern sea lion, Fisher, Sea otter, Canada lynx, Columbian white-tailed deer. [SBMv] This question may need to revised after the field visit.		
		High (≥ 0.60 for maximum score, or >1.13 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0			
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.09 for maximum score AND <0.13 for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			
OF22	Invertebrate Species of Conservation Concern (RareInvert)	According to the ORWAP Report, the score for occurrences of rare invertebrate species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See Supp_Info file for a list of species. See the Supp_Info file's RareAnimals worksheet for list of species addressed by this question. [INVv] This question may need to revised after the field visit.		
		High (≥ 0.75 for maximum score, or for this group's sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0			
		Low (< 0.75 for maximum score AND for this group's sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			
OF23	Plant Species of Conservation Concern (RarePspp)	According to the ORWAP Report, the score for occurrences of rare wetland-indicator plant species in the vicinity of this AA is:		Use ORWAP Report 's Rare Species Scores max and sum scores. See the Supp_Info's RareWetPlants worksheet for list of species addressed by this question. [PDv,POLv] This question may need to revised after the field visit.		
		High (≥ 0.75 for maximum score, or > 4.00 for sum score), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur.	0			
		Intermediate (i.e., not as described above or below).	0			
		Low (≤ 0.12 for maximum score AND < 0.20 for sum score, but not 0 for both).	0			
		Zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur.	1			
OF24	River Proximity (RiverProx)	There is a nontidal river within 1 mile and it is adjacent to, OR downslope from, the AA (connected or not). **Enter 1, if true. If not, SKIP to OF27.**	0	**River** - as used here is a channel wider than 50 ft between its banks. In the ORWAP Map Viewer, use the National Hydrography Dataset - Flowline layer (expand Hydrology).[WSv]	NearRiver	Kelly Creek is downslope; however, it is not wider than 50 ft between its banks.

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF25	Floodable Property (FloodProp)	**Select ONE** of the below:		**Row crops** - do not include pasture or other perennial cover.		Skipped
		Floodplain boundaries within 1 mile downslope or downriver from the AA have not been mapped. **Enter 1 and SKIP TO OF27.**	0	In the ORWAP Map Viewer, use the Floodplain layers. Also, the Seasonal Nontidal Wetland layer (expand Wetlands/National Wetlands Inventory) may indicate some floodplain areas.		
		Floodplain boundaries within 1 mile downslope from the AA have been mapped BUT there is neither infrastructure nor **row crops** vulnerable to river flooding located within the floodplain and within that distance. **Enter 1 and SKIP TO OF27.**	0	[WSv] Supplement with field observations at multiple seasons, if possible.		
		Floodplain boundaries have been mapped AND infrastructure or **row crops** are present within 1 mile downslope or downriver and those are not protected from 100-year floods, but actual damage has not been documented.	0			
		Damage to infrastructure or row crops from river flooding has been documented within that distance.	0			
OF26	Type of Flood Damage (DamageType)	The greatest financial damage in the floodplain is (or would be) to:		**Row crops** - do not include pasture or other perennial cover. On the ORWAP Map Viewer, use the Floodplain layers		Skipped
		Buildings, roads, bridges.	0	[WSv]		
		Row crops (during some years).	0			
OF27	Hydrologic Landscape (Arid)	According to the ORWAP Report, the wetland is in a hydrologic landscape unit classified as:		In the ORWAP Report, under the Location Information table, find the Hydrologic Landscape Class.		
		Arid.	0	[AM, AMv, WBNv, SBMv, OE, Sens]		
		Semi-arid.	0			
		Dry.	0			
		Moist.	0			
		Wet.	1			
		Very Wet.	0			
OF28	Input Water - Recognized Quality Issues (WQin)	According to ORWAP Map Viewer's Water Quality Streams layer and Water Quality Lakes layers, ALL of the following are true: **(a)** within 1 mile upstream from the AA edge, a water body or stream reach is labeled as being 303d, Water Quality Limited (categories 3B-5); Potential Concer; or TMDL Approved AND **(b)** the problem concerns one or more of the parameters listed below. **Select All that apply**.		Use the ORWAP Map Viewer's Water Quality Streams layer and the Water Quality Lakes layer (expand Water Quality and Quanity) and the Distance tool. Use the Identy tool to determine the reason for the listings.		1.82 miles upstream from nearest 303d stream.
		Total suspended solids (TSS), sedimentation, or turbidity.	0	If the AA receives both inflow and outflow from river flooding, consider the polluted water to be both "upstream" and "downstream".		
		Phosphorus, chlorophyll-a, or algae.	0			
		Nitrates, ammonia, chlorophyll-a, or algae.	0			
		Petrochemicals, heavy metals (iron, manganese, lead, zinc, etc.), other toxins.	0	[SRv,PRv,INV,FA,FR,AM,WBF,WBN,STR] This may need to be verified in the field.		
		Temperature or dissolved oxygen.	0			
		None of above, or no data. **If true, enter 1 and SKIP to OF30.**	1		NoDataWQup	
OF29	Duration of Connection Beween Problem Area & the AA (ConnecUp)	The upstream problem area mentioned above (OF28) has a surface water connection to the AA:		In the ORWAP Map Viewer, use the National Hydography Dataset (expand Hydrology) and the Persistent, Seasonal, or Saturated nontidal layers (expand Wetlands/National Wetlands Inventory) to determine duration of surface water connection. [SRv,PRv,INV,FA,FR,AM,WBF,WBN,STR] This may need to be determined or verified in the field.		Skipped
		For 9 or more continuous months annually.	0			
		Intermittently (at least once annually, but for less than 9 months continually).	0			
		Never (or less than annually).	0			
OF30	Downslope Water Quality Issues (ContamDown)	According to ORWAP Map Viewer's Water Quality Streams layer and Water Quality Lakes layer, ALL of the following are true: **(a)** within 1 mile downhill or downstream from the AA's edge, a water body is labeled as being 303d, Water Quality Limited (categories 3B-5); Potential Concern; or TMDL Approved AND **(b)** the problem concerns one or more of the parameters listed below. **Select All that apply**.		Use the ORWAP Map Viewer's Water Quality Streams layer and the Water Quality Lakes layer (expand Water Quality and Quanity) and the Distance tool. Use the Identy tool to determine the reason for the listings. [WCv,SRv,PRv,FA]		1.82 miles upstream from nearest 303d stream listed on ORWAP layer. Kelly Creek (qualifies as Cat. 2-3B) on DEQ 303d database.
		Total suspended solids (TSS), sedimentation, or turbidity.	0			
		Phosphorus, chlorophyll-a, or algae.	0			
		Nitrates, ammonia, chlorophyll-a, or algae.	0			
		Petrochemicals, heavy metals (iron, manganese, lead, zinc, etc.), other toxins.	0			
		Temperature or dissolved oxygen.	0			
		None of above, or no data. **Enter 1 and SKIP to OF32.**	1		NoDataWQdo	

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF31	Duration of Connection Beween AA & Water Quality Problem Area (ConnDown)	The connection between the downstream problem area mentioned above (OF30) and the AA:		In the ORWAP Map Viewer, use the National Hydography Dataset (expand Hydrology) and the Persistent, Seasonal, or Saturated nontidal layers (expand Wetlands/National Wetlands Inventory) to determine duration of surface water connection. [WCv,SRv,PRv,FA] This may need to be determined or verified in the field.		Skipped.
		Is a stream or water body that connects these areas for 9 or more continuous months annually.	0			
		Is a stream or water body that connects these areas intermittently (at least once annually, but for less than 9 months continually).	0			
		Is a probable groundwater connection, or connection via direct runoff only (no channel connection).	0			
		Never exists (a topographic ridge probably prevents all the AA's runoff and groundwater from reaching the problem area).	0			
OF32	Drinking Water Source (DEQ) (DWsource)	According to ORWAP Map Viewer's Surface Water Drinking Water Source Areas layer and the Ground Water Drinking Water Source Areas layer, the AA is within:		In the ORWAP Map Viewer, use the water source layers (expand Water Quality and Quantity). [NRv]		Within 0.67 miles of surface water and 0.65 miles of groundwater drinking water source areas.
		The source area for a surface-water drinking water (DW) source.	0			
		The source area for a groundwater drinking water source.	0			
		Neither of above.	1			
OF33	Groundwater Risk Designations (GWrisk)	According to ORWAP Map Viewer's Groundwater Management Areas layer and the Sole Source Aquifer layer, the AA is: **Select All that apply**		In the ORWAP Map Viewer, use the DEQ Groundwater Management Areas layer and the Sole source Aquifer layer (expand Water Quality and Quantity). [NRv]		
		Within a designated Groundwater Management Area (ODEQ).	0			
		Within a designated Sole Source Aquifer area (EPA): the North Florence Dunal Aquifer.	0			
		Neither of above.	1			
OF34	Relative Elevation in Watershed (Elev)	In the ORWAP Map Viewer, based on the Hydrologic Boundaries 4th Level (HUC 8) layer (expand Hydrology), determine if the AA is: (See Column E)		1) Consider which end of the HUC is the bottom. Where streams join, the "V" that they form on the map points towards the bottom of the HUC. 2) If the AA is closer to the HUC's outlet than to its upper end, and is closer to the river or large stream that exits at the bottom of the HUC than it is to the boundary (margin) of the HUC, then check "lower 1/3" If not near that river, check "middle 1/3". 3) If the AA is not in a 100-yr floodplain, is closer to the HUC upper end than to its outlet, and is closer to the boundary (margin) of the HUC than to the river or large stream that exits at the bottom of the HUC, then check "upper 1/3" 4) For all other conditions, check "middle 1/3". [WSv, PRv, FA, FR, WCv, OE, Sens, SRv]		Lower Willamette
		In the upper one-third of its watershed.	1			
		In the middle one-third of its watershed.	0			
		In the lower one-third of its watershed.	0		LowerShed	
OF35	Runoff Contributing Area (RCA) - Wetland as % of (WetPctRCA)	Delimit the wetland's Runoff Contributing Area (RCA) using a topographic base map. The area of the AA's wetland is:	W	See the ORWAP Manual for specific protocol for delimiting the RCA (Section 4.1 Step 5). The RCA includes only the areas that potentially drain directly to the AA's wetland rather than to channels that flow or flood into that wetland. Exact precision in drawing the boundary is not required. [WS, WSv, SR, SRv, PR, PRv, WCv]		Approx. 12%
		<1% of its RCA.	0			
		1 to <10% of its RCA.	0			
		10 to 100% of its RCA.	1			
		Larger than the area of its RCA. **Enter 1 and SKIP TO OF39.**	0		NoRCA	
OF36	Unvegetated % in the RCA (ImpervRCA)	The proportion of the RCA comprised of buildings, roads, parking lots, exposed bedrock, and other surface that is usually unvegetated at the time of peak annual runoff is about:	W	In the ORWAP Map Viewer, use an Aerial layer to determine the proportion of the RCA comprised of buildings, roads, parking lots, exposed bedrock, and other surfaces that are usually unvegetated at the time of peak annual runoff. [WSv,WCv,SRv,PRv,INV,FA,Sens,STR]		Approx. 1%
		<10%.	1			
		10 to 25%.	0			
		>25%.	0			
OF37	Transport From Upslope (TransRCA)	A relatively large proportion of the precipitation that falls farther upslope in the RCA reaches this wetland quickly as indicated by the following: **(a)** RCA slopes are steep, and/or **(b)** upslope wetlands historically present have been filled or drained extensively, and/or **(c)** land cover is mostly non-forest, and/or **(d)** most RCA soils are shallow. This statement is:	W	Refer to aerial imagery and/or consult local sources. See the ORWAP Manual for instructions. [WSv,SRv,PRv,STR]		RCA slopes are steep
		Mostly true.	1			
		Somewhat true.	0			
		Mostly untrue.	0			
OF38	Upslope Soil Erodibility Risk (ErodeUp)	Use the ORWAP Report or the Map Viewer to determine if the erosion hazard rating of the soil within 200 ft away and upslope of the AA is:		If the soil unit is the same as the AA, the Erosion Hazard can be obtained from the ORWAP Report's Soil Information section. If the soil unit is different than the AA, use ORWAP Map Viewer's Oregon Soil layer and see the ORWAP Manual for instructions on how to determine the erosion hazard rating. [SRv,PRv,STR]		Within 200 feet and upslope it is the same soil unit. 240 feet is Unit 7C and 7D.
		Slight.	0			
		Moderate.	1			
		Severe.	0			
		Very severe.	0			
		Could not determine.	0			

Date: 2/2/2023		Name: Craig Tumer		Site: Veranda Pleasant Valley- Wetland 1		
Form OF Office Data ORWAP V. 3.2		Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**		For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Aquatic Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibians & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PD= Native Plant Diversity, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.		For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.
OF39	Streamflow Contributing Area (SCA) - Wetland as % of (WetPctSCA)	Delimit (or visualize, for large river basins) the wetland's Streamflow Contributing Area (SCA) using a topographic base map. The area of the AA's wetland is:	W	See the ORWP Manual for specific protocol for delimiting the SCA (section 4.1, Step 6). The SCA is all upland areas that drain into streams, rivers, and lakes that feed the AA's wetland either directly or during semi-annual floods. In addition, for wetlands intercepted by a mapped stream, the SCA can be delineated automatically and its area reported at this USGS web site: https://streamstats.usgs.gov/ss/. Enter the coordinates, select Oregon, select Delineate, zoom to level 15 or finer, and click on a stream. [WS, SR, SRv, PR, PRv, WCv]		Approx. 5%
		<1% of its SCA, or wetland is in the floodplain of a major river.	0			
		1 to <10% of its SCA.	1			
		10 to 100% of its SCA.	0			
		Larger than the area of its SCA. **Enter 1 and SKIP TO OF41.**	0		NoSCA1	
		Wetland lacks tributaries and receives no overbank water. **Enter 1 and SKIP to OF41.**	0		NoSCA	
OF40	Unvegetated % in the SCA (ImpervSCA)	The proportion of the SCA comprised of buildings, roads, parking lots, exposed bedrock, and other surface that is usually unvegetated at the time of peak annual runoff is about :	W	See the ORWAP Manual for instructions. [WCv,SRv,PRv,FA,STR]		Approx. 3%
		<10%.	1			
		10 to 25%.	0			
		>25%.	0			
OF41	Upland Edge Shape Complexity (EdgeShape)	Most of the edge between the AA's wetland and upland is **(select one)**:	W	See ORWAP Manual for instructions and illustrations. [NR, SBM, Sens]		
		Linear: a significant proportion of the wetland's upland edge is straight, as in wetlands bounded partly or wholly by dikes or roads, or the AA is entirely surrounded by water or other wetlands.	0			
		Intermediate: Wetland's shape is (a) ovoid, or (b) mildly ragged edge, and/or (c) contains a lesser amount of artificially straight edge.	0			
		Convoluted: Wetland perimeter is many times longer than maximum width of the wetland, with many alcoves and indentations ("fingers").	1			
OF42	Zoning (Zoning)	According to ORWAP Map Viewer's Zoning layer, the dominant zoned land use designation for currently undeveloped parcels upslope from the AA and within 300 ft. of its upland edge is:		See the ORWAP Manual for instructions on how to determine the zoning designation. If information is not provided, check local zoning maps. [WSv,WCv,SRv,PRv,INVv,FAv,FRv,AMv,WBFv,WBNv,SBMv,PDv,POLv,PUv]		
		Development (Commercial, Industrial, Urban Residential, etc.), or no undeveloped parcels exist upslope from the AA.	0			
		Agriculture or Rural Residential.	0			
		Forest or Open Space, or entirely public lands.	1			
		Not zoned, or no information.	0			
OF43	Growing Degree Days (GDD)	According to ORWAP Map Viewer's Growing Degree Days layer, the long term normal Growing Degree Days category at the approximate location of the AA is:		See the ORWAP Manual for instructions on how to determine the growing degree days category. [NR, FR, AM, WBN, SBM, WCv, OE, CS, Sens]		Majority of wetland is 2329. Other part is 2364.
		<256.	0			
		256 - 1020.	0			
		1021-1785.	0			
		1786 - 2550.	1			
		2551 - 3315.	0			
		3316 - 4079.	0			
		> 4079.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.			For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.	

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F1	Tidal Wetland (Tidal)	This is a tidal wetland (either freshwater or saltwater). **If yes, GO TO worksheet " T ".** Do not enter any data here. **If nontidal, continue with F2.**		**Tidal wetland -** a wetland that receives tidal water at least once during a normal year, regardless of salinity, and dominated by emergent or woody vegetation. Tidal flooding occurs on a 6-hour cycle DURING THE TIME it is flooded by tide, which may be as infreuent as once per year. If NWI map shows the wetland with a code beginning with E (for estuarine), assume the wetland to be tidal. However, some wetlands lacking that code are also tidal.		
F2	Ponded Condition (Lentic)	At least once every 2 years, some part of the AA contains a cumulative total of >900 sq.ft. of surface water that is ponded. The water persists for >6 days and may be hidden beneath emergent vegetation or scattered in small pools. **Enter 1, if true.**	0	**Ponded** - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [AM,WBF,WBN]	Lentic	Approx. 2,000 sq. ft.
Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 20 acres that are **adjacent** to the AA. The AA should also include part of the water area of adjacent lakes or rivers larger than 20 acres -- specifically, the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone.				**Adjacent** - is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.		
F3	Water Regime (Hydropd)	The water regime (hydroperiod) of the most permanent (usually deepest) part of the AA is: **Select only ONE.** [To meet any of the definitions other than Ephemeral, there must be >100 sq ft of surface water for the duration described, otherwise mark the type listed above it.]		In the NRCS county soil survey, the Water Features table provides information about periods of flooding, ponding, and highwater table depths. Descriptions of the soil units may include information on saturation persistence. Also consider the hydroperiod label on NWI wetland polygons. [WS, FA, FR, WBN, WBF, WC]		Changed Hydroperiod from "Ephemeral" to "Temporary". Surface ponding may last longer than four weeks during the growing season, but is limited to small scattered pools.
		Ephemeral. Surface water in the wettest part of the AA is present for fewer than 7 consecutive days during an average growing season. Includes some of the areas mapped as Saturated Nontidal in the ORWAP Map Viewer (which is not comprehensive). **Enter 1 and SKIP to F25.**	0		NeverWater	
		Temporary. Surface water present for 1-4 weeks consecutively during an average growing season, OR if persists for longer, it is almost entirely in scattered pools, each smaller than 1 sq.m. Dries up completely during part of most average years. Includes some of the areas mapped as Saturated Nontidal in the ORWAP Map Viewer (which is not comprehensive). **Enter 1 and SKIP to F25.**	1		TempWet	
		Seasonal. Surface water present for 5-17 weeks (1-4 months) consecutively during an average growing season, but dries up completely during part of most average years. Includes some of the areas mapped as Seasonal Nontidal in the ORWAP Map Viewer (which is not comprehensive). **Enter 1 and SKIP to F5.**	0		ShallowType	
		Semi-Persistent. Surface water present for more than 17 weeks (4 months) consecutively during an average growing season, but dries up completely during part of most average years. Includes some of the areas mapped as Seasonal Nontidal in the ORWAP Map Viewer (which is not comprehensive). **Enter 1 and SKIP to F5.**	0		DeepType	
		Permanent. Does not dry up completely during most average years. Includes some of the areas mapped as Persistent Nontidal in the ORWAP Map Viewer (which is not comprehensive). **Enter 1 and continue.**	0	**Permanent** - usually has significant groundwater input, higher conductivity, less annual water level fluctuation. No woody vegetation in most persistently flooded parts. Often with extensive open water and subsurface aquatic plants.	PermType	
F4	Flooded Persistently - % of AA (PermW)	Identify the parts of the AA that still contain surface water even during the **driest times of a normal year** . At that time, the percentage of the AA that still contains surface water is:		**driest times of a normal year -** i.e., when the AA's surface water is at its lowest annual level. Sites fed by unregulated streams that descend on north-facing slopes, tend to remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [WS,PR,NR,CS,INV,FR,AM,WBF,WBN]		Skipped.
		1 to <25% of the AA.	0			
		25 to <50% of the AA.	0			
		50 to 95% of the AA.	0			
		>95% of the AA.	0		AllPermWater	
F5	Depth Class (Predominant) (DepthDom)	When water is present in the AA, the depth most of the time in most of inundated area is: [Note: NOT necessarily the maximum spatial or annual depth]		This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the AA is brief, the answer will be based on the depth of the most persistently inundated part of the AA. Include surface water in channels and ditches as well as ponded areas. In the ORWAP Manual, se the diagram in Appendix B. [WC,SR,PR,CS,OE,INV,FA,FR,WBF,WBN,PD,Sens]		< 1" inundation observed during 12/02/2022 site visit.
		>0 to <0.5 ft.	0			
		0.5 to < 1 ft deep.	0			
		1 to <3 ft deep.	0			
		3 to 6 ft deep.	0			
		>6 ft deep.	0			
F6	Depth Class Distribution (DepthEven)	Within the area described above, and during most of the time when surface water is present, the water area has: **Select only one.**		Estimate these proportions by considering the gradient and microtopography of the site. In the ORWAP Manual, see the diagram in Appendix B. [INV,FR,WBF,WBN,PD]		
		One depth class covering >90% of the AA's inundated area (use the classes in the question above).	0			
		One depth class covering 51-90% of the AA's inundated area (use the classes in the question above).	0			
		Neither of above. There are 3 or more depth classes and none occupy >50%.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.				For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F7	Emergent Plants -- Area (EmArea)	Consider just the area that has surface water for >1 week during the growing season. Herbaceous plants (not moss, not woody) whose foliage extends above a water surface in this area (i.e., emergents) cumulatively occupy an annual maximum of:	W	If multiple small patches are separated by less than 150 ft, they may be combined when evaluating this question.		Approximately 50' x 40' of scattered ponding observed during site visit. Approximately 98% of the total area was occupied by herbaceous plants.
		<0.01 acre (< 400 sq.ft). **Enter 1 and SKIP TO F10,** unless only part of a wetland is being assessed.	0	[SR,PR,OE,INV,FR,WBF,WBN,SBM,PD]	NoEm	
		0.01 to < 0.10 acres (3,920 sq. ft).	0			
		0.10 to <0.50 acres (21,340 sq. ft).	0			
		0.50 to <5 acres.	0			
		5 to 50 acres.	0			
		>50 acres.	0			
F8	% Emergent Plants (EmPct)	Emergent plants occupy an annual maximum of:		[WC,SR,PR,NR,CS,OE,INV,PD,FA,FR,AM,WBF,WBN,SBM]		Erect herbaceous or woody plants whose roots and/or foliage are inundated by tide at least once daily, on the average.
		<5% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		5 to <30% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		30 to <60% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		60 to 95% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
		>95% of the parts of the AA that are inundated for >7 days at some time of the year.	0			
F9	Cattail or Tall Bulrush Cover (Cttail)	The percentage of the emergent vegetation cover in the AA that is cattail (*Typha* spp.) or tall bulrush is:		[WBN, SBM]		No cattail observed.
		<1% of the emergent vegetation, or cattail and bulrush are absent.	0			
		1 to <25% of the emergent vegetation.	0			
		25 to 75% of the emergent vegetation.	0			
		>75%, of the emergent vegetation.	0			
F10	Water Shading by AA's Woody Vegetation - Driest (WoodyDryShade)	During an average growing season, when water levels are lowest (but surface water still occupies >400 sq ft or >1% of the AA), the percentage of the remaining surface water within the AA that is shaded by trees and/or shrubs located within the AA is:		[WC,FA,WBN,SBM]		PEM wetland. Some CRAMON observed near the western most edge parallel to the roadside ditch.
		<5% of the water, and fewer than 10 woody plants taller than 3 ft shade it, or all surface water is flowing.	0			
		<5% of the water, but more than 10 woody plants taller than 3 ft shade it.	0			
		5 to <25% of the water.	0			
		25 to <50% of the water.	0			
		50 to 95% of the water.	0			
		>95% of the water.	0			
F11	Open Water - Extent	During most of the growing season, the largest patch of **open water** that is in or adjacent to the AA is >1 acre and mostly deeper than 1 ft. **Enter 1, if true.**	0	**Open Water** - is surface water of any depth that contains no emergent herbaceous or woody vegetation (may contain floating-leaved or completely submersed plants). It may be partially	OpenW	
F12	All **Ponded** Water as Percentage - Wettest (PondWpctWet)	When water levels are highest, during a normal year, the surface water that is **ponded** continually for >6 days occupies:		**Ponded** - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle).		Approximately 5%
		<1% or none of the AA. Surface water is completely or nearly absent then, or is entirely flowing. **Enter 1 and SKIP TO F22.**	0		NoPond	
		1 to <5% of the AA.	0	[WS,WC,CS,OE,INV,AM,WBF,WBN]		
		5 to <30% of the AA.	0			
		30 to <70% of the AA.	0			
		70 to 95% of the AA.	0			
		>95% of the AA.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.			For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F13	Ponded Open Water Area - Wettest (OWareaWet)	When water levels are highest, during a normal year, the AA's **ponded open water** occupies a cumulative area of:	W	**Ponded** - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). **Open water -** is surface water of any depth that contains no emergent herbaceous or wood vegetation (may contain floating-leaved or completely submersed species). It may be partially shaded by a tree canopy. [WS,WBF]		< 2,000 sq. ft.
		<0.10 acre (< 4356 sq. ft) of the AA and adjacent ponded waters. **Enter 1 and SKIP TO F16.**	0		NoPondOW	
		0.10 to <0.50 acres (21,340 sq. ft) of the AA and adjacent ponded waters.	0			
		0.50 to <1 acres of the AA and adjacent ponded waters.	0			
		1 to <5 acres of the AA and adjacent ponded waters.	0			
		5 to <50 acres of the AA and adjacent ponded waters.	0			
		50 to <640 acres (1 sq. mi) of the AA and adjacent ponded waters.	0			
		640 to <1000 acres of the AA and adjacent ponded waters.	0			
		1000 to <2500 acres of the AA and adjacent ponded waters.	0			
		>2500 acres (>4 sq.mi) of the AA and adjacent ponded waters.	0			
F14	Ponded Open Water **Distribution** - Wettest (WaterMixWet)	When water levels are highest, during a normal year, the distribution (in aerial view) of ponded open water patches larger than 0.01 acre (400 sq. ft) within the AA is (must meet both a and b criteria):		[NR,AM,WBF,WBN,PD,SBM]		Skipped.
		(a) Vegetation and **open water** EACH comprise 30-70% of the AA (including its bordering waters if any) **AND (b)** There are many small patches of open water scattered widely within vegetation or many small vegetation clump "islands" scattered widely within open water. Typical (for example) of some extensive bulrush and cattail marshes.	0			
		(a) Vegetation and **open water** EACH comprise 30-70% of the AA (including its bordering waters if any) **AND (b)** There are only **a** few (or no) small patches of open water scattered widely within vegetation or a few small vegetation clump "islands" scattered widely within open water.	0			
		(a) Vegetation or **open water** comprise >70% of the AA (and its bordering waters) **AND (b)** There are several small patches of open water scattered within vegetation or several small vegetation clump "islands" scattered within open water.	0			
		(a) Vegetation or **open water** comprise >70% of the AA (and its bordering waters) **AND (b)** Open water is mostly in a single area (e.g., center of the wetland) and vegetation is in the rest (e.g., periphery), with almost no intermixing. (Typical of many ponds excavated for livestock watering, stormwater treatment, mineral extraction as well as many wetlands that are inundated only temporarily each year).	0			
F15	Width of Vegetated Zone - Wettest (WidthWet)	When water levels are highest, during a normal year, the width of the **vegetated wetland** that separates the largest patch of open water within or bordering the AA from the closest adjacent uplands, is predominantly: [Note: This is not asking for the maximum width.]		**Vegetated wetland** - in this case does not include underwater or floating-leaved plants, i.e., aquatic bed. In farmed wetlands that have different crops from year to year, consider vegetation condition as it probably existed during most of the past 5 years. If open water exists as many patches, use the distance between the majority of those patches and uplands. [WC,SR,PR,NR,CS,OE,AM,WBF,WBN,SBM,PD,Sens,EC]		Skipped.
		<5 ft, or no vegetation between upland and open water.	0			
		5 to <30 ft.	0			
		30 to <50 ft.	0			
		50 to <100 ft.	0			
		100 to 300 ft.	0			
		> 300 ft.	0			
F16	All Ponded Water as a Percentage (Driest) (PondWpctDry)	When water levels are lowest, during a normal year, but surface water still occupies >1,076 sq feet (100 sq meter) OR >1% of the AA (whichever is more), the water that is **ponded** (either visible or concealed by vegetation) in the AA occupies:		**Ponded** - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [WC,FA,FR,AM,WBN,Sens]		
		<1% or none. Surface water is completely or nearly absent then, or is entirely flowing. **Enter 1 and SKIP TO F22.**	0		NoPond2	
		1 to <5% of the AA.	0			
		5 to <30% of the AA.	0			
		30 to <70% of the AA.	0			
		70 to 95% of the AA.	0			
		>95% of the AA.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.			For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F17	Ponded Open Water **Area** (Driest) (OWareaDry)	When water levels are lowest, during a normal year, the AA's **ponded open water** occupies a cumulative area, including adjacent ponded waters, of:	W	**Ponded** - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). **Open water -** is surface water of any depth that contains no emergent herbaceous or wood vegetation (may contain floating-leaved or completely submersed species). It may be partially shaded by a tree canopy. [WBN,PUv]		Skipped.
		<0.10 acre (< 4356 sq. ft). **Enter 1 and SKIP TO F24.**	0		NoPondOW2	
		0.10 to <0.50 acres (21,340 sq. ft).	0			
		0.50 to <1 acres.	0			
		1- 4 acres.	0			
		5 to <50 acres.	0			
		50 to <640 acres (1 sq. mi).	0			
		640 to <1000 acres.	0			
		1000 to 2500 acres.	0			
		>2500 acres (>4 sq.mi).	0			
F18	Ponded Open Water Distribution - (Driest) (WaterMixDry)	When water levels are lowest, during a normal year, the distribution of ponded open water patches larger than 0.01 acre (400 sq. ft) within the AA is:		[NR,INV,AM,WBN]		Skipped.
		(a) Vegetation and **open water** EACH comprise 30-70% of the AA (including its bordering waters if any) AND **(b)** There are many small patches of open water scattered widely within vegetation or many small vegetation clump "islands" scattered widely within open water. Typical (for example) of some extensive bulrush and cattail marshes.	0			
		(a) Vegetation and **open water** EACH comprise 30-70% of the AA (including its bordering waters if any) AND **(b)** There are only a few (or no) small patches of open water scattered widely within vegetation or a few small vegetation clump "islands" scattered widely within open water.	0			
		(a) Vegetation or **open water** comprise >70% of the AA (and its bordering waters) AND **(b)** There are several small patches of open water scattered within vegetation or several small vegetation clump "islands" scattered within open water.	0			
		(a) Vegetation or **open water** comprise >70% of the AA (and its bordering waters) AND **(b)** Open water is mostly in a single area (e.g., center of the wetland) and vegetation is in the rest (e.g., periphery), with almost no intermixing. Typical of many ponds excavated for livestock watering, stormwater treatment, mineral extraction as well as many wetlands that are inundated only temporarily each year.	0			
F19	Floating Algae & Duckweed (Algae)	At some time of the year, most of the AA's otherwise-unshaded water surface is covered by floating mats of algae, or small (<1 inch) floating plants such as duckweed, *Azolla* , *Wolffia* , or *Riccia* . **Enter 1, if true.**	0	This includes most nontidal wetlands labeled as Aquatic Bed (AB) on NWI maps. If wetland can be visited only during winter, it may not be possible to answer this question with much certainty unless local sources are contacted or indicators (e.g., dried remains of algae) are found.		Skipped.
F20	Floating-leaved & Submerged Aquatic Vegetation (SAV)	**SAV** (submerged & floating-leaved aquatic vegetation, excluding the species listed above) occupies an annual maximum of:		**SAV** - are herbaceous plants that characteristically grow at or below the water surface, i.e., whose leaves are primarily and characteristically under or on the water surface during most of the part of the growing season when surface water is present. Some species are rooted in the sediment whereas others are not. If pond lily (*Nuphar*) is the predominant species, consider its maximum extent only during the period when surface water is present beneath the leaves. [PR,OE,INV,FR,AM,WBF,WBN]		Skipped.
		none, or <5% of the water area.	0		NoSAV	
		5 to <25% of the water area.	0			
		25 to <50% of the water area.	0			
		50 to 95% of the water area.	0			
		>95% of the water area.	0			
		many SAV plants present, but impossible to select from the above categories.	0			
F21	Width of Vegetated Zone (Driest) (WidthDry)	When water levels are lowest, during a normal year, but surface water still occupies >400 sq feet or >1% of the AA (which ever is more), the width of the **vegetated wetland** that separates the largest patch of open water within or bordering the AA from the closest adjacent uplands, is predominantly:		Measure the width perpendicular to the open water part. **Vegetated wetland -** in this case does not include underwater or floating-leaved plants, i.e., aquatic bed. In farmed wetlands that have different crops from year to year, consider vegetation condition as it probably existed during most of the past 5 years. Note: For most sites larger than 1 acre and with persistent water, measure the width using aerial imagery rather than estimating in the field. [WBN]		Skipped.
		<5 ft, or no vegetation between upland and open water.	0			
		5 to <30 ft.	0			
		30 to <50 ft.	0			
		50 to <100 ft.	0			
		100 to 300 ft.	0			
		> 300 ft.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
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#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F22	Beaver (Beaver)	Use of the AA by beaver during the past 5 years is: **Select most applicable ONE.**		**Valley width** - is delimited by an abrupt increase in slope on both sides of the channel.		
		Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, or lodges.	0	[AM,WBN,SBM,PD,Sens]		
		Very likely based on known occurrence in this part of the region and proximity to ALL of the following **(a)** a persistent freshwater wetland, pond, or lake, or a perennial low-gradient (<5%) channel, and **(b)** average valley width is > 150 ft and **(c)** >20% cumulative cover of aspen, cottonwood, alder, and willow in vegetated areas within 150 ft of the AA's edge. Or there is evidence of beaver just outside the AA.	0			
		Somewhat likely based on known occurrence in this part of the region and proximity to ALL of the following **(a)** a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and **(b)** average valley width is >50 ft, and **(c)** >20% cumulative cover of hardwood trees and shrubs in vegetated areas within 150 ft of the AA's edge.	0			
		Unlikely because site characteristics above are deficient, and/or this is an area where beaver are routinely removed. But beaver occur within 2 miles.	0			
		None. Beaver are absent from this part of the region.	0			
F23	Isolated Island (Island)	During June, the wetland contains (or is part of) an island that is isolated from the shore by water depths >3 ft. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds. The island must be larger than 400 sq.ft and without inhabited buildings. **Enter 1, if true.**	0	[WBF,WBN]		
F24	Ice-free (IceDura)	During most years, most of the AA's surface water (if any) does **not** freeze, or freezes for fewer than 4 continuous weeks. **Enter 1, if true.**	0	[PR,FR,WBF]		
F25	Water Fluctuation Range - Maximum (Fluctu)	The **maximum vertical fluctuation** in surface water within the AA, during a normal year is:		**maximum vertical fluctuation** - is the difference between the highest annual and lowest annual water level during an average year.		
		<0.5 ft or stable.	1			
		0.5 to < 1 ft.	0	Use field indicators to assess this indicator.		
		1 to <3 ft.	0			
		3 to 6 ft.	0	[WS,SR,PR,NR,CS,OE,INV,AM,WBN,PD]		
		>6 ft.	0			
F26	% Only Saturated or Seasonally Flooded (SeasPct)	Identify the parts (if any) of the AA that never contain surface water (only saturated soil) or where the water (either ponded or flowing) usually remains on the land surface for less than the entire growing season. The percentage of the AA containing such areas is:		If you can identify plants, use their wetland indicator status to infer the possible extent of seasonal-only inundation within a wetland. Vegetation may be patterned in concentric or parallel zones, as one moves outward & away from the deepest part of the wetland or channel. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) may be evident when not fully inundated. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualizing where that would intercept the land along the river. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. Although useful only as a general guide, the NRCS county soil survey descriptions of the soil units and water feature table usually includes information on flooding frequency and saturation persistence. [SR,NR,CS,OE,INV,FA,WBF,WBN,POL,SBM,PD,Sens,EC]		Approx. 95%
		<5% of the AA, or none (i.e., all water persists for >4 months).	0		NoSeasonal	
		5 to <25% of the AA.	0			
		25 to <50% of the AA.	0			
		50 to 75% of the AA.	0			
		>75% of the AA.	1			
F27	Salinity, Alkalinity, Conductance (Salin)	The AA's surface water is mostly:		Saline or brackish conditions are commonly indicated by a prevalence of particular plant species. Consult the ORWAP SuppInfo file's P_Salt worksheetfor a list of these.		
		Brackish or saline. Plants that indicate saline conditions dominate the vegetation. Salt crust may be obvious around the perimeter and on flats.	0	**Brackish or saline** - conductance of >5000 µS/cm, or >3200 ppm TDS		
		Slightly brackish. Plants that indicate saline conditions are common. Salt crust may or may not be present along	0	**Slightly brackish** - conductance of 500- 5000 µS/cm, or 320 - 3200 ppm TDS		
		Fresh. [Note: *Assume this to be the condition unless wetland is known to be a playa or there is other contradicting evidence].*	1	**Fresh** - conductance of < 500 µS/cm, or <320 ppm TDS	FreshW	
		Unknown.	0	[PR,CS,AM]		
F28	Fish & Waterborne Pests (FishAcc)	**Select All that apply**:		[INV,FA,FR,AM,WBF]		
		A regularly-used boat dock is present within or contiguous to the AA.	0			
		A regularly-used boat dock is not within the AA, but there is one within 300 ft. of the AA and there is a persistent surface connection between the dock and the AA.	0			
		Fish (native or stocked) are known to be present in the AA, or can access it during at least one day annually.	0			
		None of the above, and could not estimate fish presence/absence.	1			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.			For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F29	Non-native Aquatic Animals (PestAnim)	The following are known or likely to have reproducing populations in this AA, its wetland, or in water bodies within 300 ft that connect to the AA at least seasonally. **Select All that apply:**		Assume non-native fish to be present if wetland is associated with a nearby reservoir, fish pond, or perennial stream flowing through an agricultural or residential area. Assume bullfrog, nutria, and/or carp to be present if (a) the AA contains persistent water or is flooded seasonally by an adjoining body of permanent water, and (b) not a forested wetland, and (c) in western Oregon, elevation is lower than about 3000 ft. In the ORWAP_SuppInfo file, see Inverts_Exo worksheet for more complete list of non-native invertebratesf or Oregon, and WetVerts worksheet for more complete list of fish that are not native to Oregon. You may also consult: http://nas.er.usgs.gov/queries/default.aspx http://www.dfw.state.or.us/conservationstrategy/invasive_species.asp [FA,FR,AM,EC]		Possible amphibian habitat. No amphibians or reptiles observed during the 12/02/2022 site visit.
		Non-native amphibians (e.g., bullfrog) or reptiles (e.g., red-ear slider).	0			
		Carp.	0			
		Non-native fish that prey on tadpoles or turtles (e.g., bass, walleye, crappie, brook trout).	0			
		Non-native invertebrates (e.g., New Zealand mudsnail, mitten crab, rusty crayfish).	0			
		Nutria.	0			
		None of above.	1			
F30	Shorebird Feeding Habitats (Shorebd)	The extent of mudflats, very shallow waters, or shortgrass meadows, within the AA, that meet the definition of **shorebird habitat** for at least 3 months during the period of late summer through the following May is:		**Shorebird habitat** - areas must have **(a)** grasses shorter than 6", or a mudflat, during any part of this period, **AND (b)** soils that either are saturated or covered with <2 inches of water during any part of this period, **AND (c)** no detectable surrounding slope (e.g., not the bottom of an incised dry channel), **AND (d)** not shaded by shrubs or trees. See photograph in Appendix A of manual. This addresses needs of most migratory sandpipers, plovers, curlews, and godwits. [WBF]		Grasses are generally taller than 6" throughout the wetland.
		None, or <100 sq. ft.	1			
		100 to <1000 sq. ft. within AA.	0			
		1000 to 10,000 sq. ft. within AA.	0			
		>10,000 sq. ft. within AA.	0			
F31	Outflow Duration (OutDura)	The most persistent surface water connection (outlet channel, pipe, ditch, or overbank water exchange) between the AA and the closest stream or lake located downslope is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of its wetland, OR the surface connection between the AA's wetland and a mapped stream or lake located within 300 ft downslope from this wetland].	W	The emphasis is on the connection to a mapped stream network. A larger difference in elevation between the wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration. Do not rely only on topographic maps or NWI maps to show this; inspect while in field if possible, and ask landowner. The durations given are only approximate and are for a "normal" year. The connection need not occur during the growing season. Assume that depressions with effective nearby ditches or tile drains will connect for shorter periods. [WS,WCv,SR,PR,NR,CS,OE,FA,FR,Sens]		Wetland has a hydrologic connection to a roadside ditch, located downslope. Water from the wetland flows into a roadside ditch, which discharges to Kelley Creek.
		Persistent (>9 months/year).	0			
		Seasonal (14 days to 9 months/year, not necessarily consecutive).	1			
		Temporary (<14 days, not necessarily consecutive).	0			
		None -- no surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. **Enter 1 and SKIP TO F33.**	0		NoOutlet	
F32	Outflow Confinement (Constric)	During **major runoff events**, in the places described above where surface water exits the AA, it:	W	**Major runoff events -** would include biennial high water caused by storms and/or rapid snowmelt. **Impeded** - means causing a delay or reduction in water velocity or volume. [WS,SR,PR,NR,CS,OE,Sens,STR]		Water leaves through a vegetated ditch.
		Is **impeded** as it mostly passes through a pipe, culvert, tidegate, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography).	0			
		Leaves mainly through natural surface exits, not largely through artificial or temporary features which **impede** or accelerate outflow.	0			
		Is exported more quickly than usual as it mostly passes through ditches or pipes intended to accelerate drainage. They may be within the AA or connected to its outlet or within 30 ft of the AA's edge.	1			
F33	Tributary or Overbank Inflow (Inflow)	At least once annually, surface water from upstream or another water body moves into the AA. It may enter directly, or as unconfined overflow from a contiguous river or lake. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. **Enter 1, if true. If false, SKIP to F36.**	0	[SRv,PRv, PD]	Inflow	
F34	Input Channel Gradient (SlopeInChan)	The gradient of the tributary with the largest inflow, averaged over the 150 ft. before it enters the AA (but excluding any portion of the distance where water travels through a pipe) is:		[SRv, PRv]		Skipped.
		<1%.	0			
		1 to <3%.	0			
		3 to 6%.	0			
		>6%.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.				For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F35	Throughflow Complexity (ThruFlo)	**[Skip this question if the AA lacks both an inlet and outlet.]** During peak annual flow, water entering the AA in channels encounters which of the following conditions as it travels through the AA: **Select the ONE encountered most.**		This mainly refers to surface water that moves between the inlet and outlet. Some judgment is required in assessing straight vs. indirect flow path. See ORWAP Manual Appendix B diagram. [WS,SR,PR,NR,OE,INV,FA,FR,WBF,WBN,PD]		Skipped.
		Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel within unvegetated (often incised) channels and has minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0			
		Bumps into herbaceous vegetation but mostly remains in fairly straight channels.	0			
		Bumps into herbaceous vegetation and mostly spreads throughout, or follows a fairly indirect path (in widely meandering, multi-branched, or braided channels).	0			
		Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.	0			
		Bumps into tree trunks and/or shrub stems and follows a fairly indirect path (meandering, multi-branched, or braided) from entrance to exit.	0			
F36	Internal Gradient (Gradient)	The gradient from the lowest to highest point of land within the AA (**or** from outlet to inlet) is:		Wetlands with no outlet, and wetlands where most surface water is impounded on site, should be considered flat (<2%). For other wetlands, estimate gradient as the elevation difference between the inlet and outlet (if any) divided by the distance between them, or the difference between the highest and lowest points in the wetland divided by the distance between them. [WS,SR,PR,NR,CS,OE,AM,WBF,WBN]		Slopes estimated 30-40%
		<2% (internal flow is absent or barely detectable; basically flat).	0			
		2 to <6%.	0			
		6 to 10%.	1		TooSteep1	
		>10%.	0		TooSteep2	
F37	Groundwater Strength of Evidence (Groundw)	**Select first one that applies:**		[WS,WC,NR,CS,OE,INV,FA,FR,PD]		Groundwater likely discharges into the wetland--however, shallow wells have not been installed. The AA's wetland is located at the base of a natural slope steeper than 15% and longer than 300 ft. Changed response based on AKS's notes above and response to #F36, which point to the second choice for this indicator.
		In the AA or its wetland: **(a)** Springs are observed, OR **(b)** Water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other local wetlands, OR **(c)** Measurements from shallow wells indicate groundwater is discharging to the wetland, OR **(d)** Water visibly seeps into pits dug within the AA during the driest time of the year and located >30 ft from the closest surface water.	0			
		The AA's wetland: **(a)** Is very close to the base of a natural slope steeper than 15% and longer than 300 ft or is located at a geologic fault, OR **(b)** Has no persistently flowing tributary AND one or more is true: (b1) Is on a natural slope of >5%, OR (b2) Has rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen, OR (b3) Is in an **Arid or Semi-arid hydrologic unit**.	1	**Arid or Semi-arid hydrologic unit** - See the ORWAP Report's Hydrologic Landscape Class (under Location Information).		
		The AA is not in an **Arid or Semi-arid hydrologic unit**, but has persistent ponded water, no tributary, and is not fed by wastewater, concentrated stormwater, or irrigation water, or by an adjacent river or lake.	0			
		None of above is true, OR AA contains a hot spring. Some groundwater may nonetheless discharge to or flow through the wetland.	0			
F38	Unshaded Herbaceous Vegetation (Extent) (HerbExpos)	The annual maximum areal cover of herbaceous vegetation (excluding SAV, ferns, and mosses, but including forbs & graminoids) that is not beneath a woody canopy reaches:		Do not include submersed and floating-leaved aquatics (SAV) in the category of "herbaceous vegetation", or when defining the "vegetated part" of the site. For sites larger than 10 acres, this should be determined from aerial imagery rather than estimated in the field. [WBF,WBN]		Approx. 100%
		<5% of the vegetated part of the AA. **Enter 1 and SKIP to F42.**	0		NoHerb	
		5 to <25% of the vegetated part of the AA.	0			
		25 to <50% of the vegetated part of the AA.	0			
		50-95% of the vegetated part of the AA.	0			
		>95% of the vegetated part of the AA.	1			
F39	Forb Cover (Forb)	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of **forbs** reaches an annual maximum of:		**Forbs -** are flowering non-woody vascular plants (excludes grasses, sedges, ferns, mosses). [POL]		Approx. 100%. Vegetation consists primarily of graminoids, not forbs.
		<5% of the herbaceous part of the AA.	1			
		5 to <25% of the herbaceous part of the AA.	0			
		25 to <50% of the herbaceous part of the AA.	0			
		50 to 95% of the herbaceous part of the AA.	0			
		>95% of the herbaceous part of the AA.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
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F40	Species Dominance - Herbaceous (HerbDom)	Determine which two native herbaceous (forb, fern, and graminoid) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. **Then select one:**		[INV,WBF,SBM,PD,POL,Sens,EC]		<20% of the vegetated cover is native.
		Those species together comprise more than half of the areal cover of native herbaceous plants at any time during the year, i.e., one dominant species or two co-dominants. **Also mark this if <20% of the vegetated cover is native species.**	1			
		Those species together comprise less than half of the areal cover of native herbaceous plants at any time during the year.	0			
F41	Invasive or Non-native - % of Vegetative Cover (Invas)	Vegetative cover (annual maximum) is:		In the ORWAP SuppInfo, see P_Invas worksheet for list of invasives and P_Exo for non-native species list. Examples of woody invasives are Himalayan blackberry, English ivy, scotch broom, and gorse. For known distributions of invasive plants in your area see: http://inr.oregonstate.edu/orbic/invasive-species and http://www.weedmapper.org/maps.html but do not limit your answer based only on that information. Consider most crops to be non-native. [WBF,PD,POL,Sens,EC]		10% Lotus corniculatus and Phalaris arundinacea. >50-80% of cover is non-native species.
		Overwhelmingly (>80% cover) non-native species AND >10% of the herbaceous cover is invasive species. (See ORWAP SuppInfo file for species designations).	0		InvasDom	
		Overwhelmingly (>80% cover) non-native species AND <10% of the herbaceous cover is invasive species; OR 50-80% of cover is non-native species regardless of invasiveness.	1			
		Mostly (50-80%) native species.	0			
		Overwhelmingly (>80%) native species.	0			
F42	Mowing, Grazing, Fire (VegCut)	There is evidence that grazing by domestic or wild animals -- or mowing (multiple times per year), plowing, herbicides, harvesting, or fire -- has **repeatedly** reduced the AA's vegetation cover (plants that normally grows taller than 4") to less than 4 inches, or has created an obvious browse line, over the following extent:		**Repeatedly** - means the condition occurred in at least half of the last 10 years. [SR,AM,WBN,SBM,PD,EC]		Mowing occurs periodically, but it does not keep vegetation to 4 inches or less.
		0% (No evidence of such activities).	0		NoMowGraze	
		Trace to 5% of the normally vegetated AA (grazing, mowing, or fire have occurred but vegetation height effects are mostly unnoticeable).	1			
		5 to <50% of the normally vegetated AA.	0			
		50 to 95% of the normally vegetated AA.	0			
		>95% of the normally vegetated AA.	0			
F43	Historically Lacking Trees (HistVeg)	According to the ORWAP Report, the presettlement vegetation class in the vicinity of the AA was prairie, sagebrush, or other open lands not dominated by trees. In addition, the AA is not within the biennial floodplain of a river where trees and shrubs typically dominate when conditions are unaltered. **Enter 1, if true.**	0	In the ORWAP Report's Location Information table. This question is used as a classification variable mainly to set appropriate expectations for the extent of forest cover.	HistOpenland	Douglas fir
F44	Moss Wetland (Moss)	The AA's ground cover is primarily a deep layer of moss, and/or soils are mainly peat or organic muck. Also, the soil remains water-saturated to within 3 inches of the surface during most of a normal year. Surface water within the AA often is absent or confined to small scattered pools or ditches. **Enter 1, if true.**	0	Includes most bogs and fens. May be a floating island. [NR,CS,OE,WBF,WBN,Sens]		No moss.
F45	Woody Extent (WoodyPct)	Within the vegetated part of the AA, woody vegetation (trees, shrubs, **robust vines**) taller than 3 ft occupies:		**Robust vines** - include Himalayan blackberry and others that are generally erect and taller than 1 ft.		
		<5% of the vegetated AA, and fewer than 10 trees are present. **Enter 1 and SKIP to F51.**	1		NoWoody	
		<5% of the vegetated AA, but more than 10 trees are present.	0	**Vegetated part** - should not include floating-leaved or submersed aquatics.		
		5 to <25% of the vegetated AA.	0			
		25 to <50% of the vegetated AA.	0	For sites larger than 1 acre, this should be determined from aerial imagery rather than estimated only in the field. [NR,WC,CS,SBM,PD,Sens]		
		50 to 95% of the vegetated AA.	0			
		>95% of the **vegetated part** of the AA.	0			
F46	Woody Diameter Classes (TreeDiams)	**Select All the types** that comprise >5% of the woody canopy cover in the AA or >5% of its **wooded upland edge** if any:		**Wooded upland edge**- includes woody plants located within one tree-height of the wetland-upland boundary.		Skipped.
		Deciduous 1-4" diameter (DBH) and >3 ft tall.	0			
		Evergreen 1-4" diameter and >3 ft tall.	0	**DBH** is the diameter of the tree measured at 4.5 ft above the ground.		
		Deciduous 4-9" diameter.	0			
		Evergreen 4-9" diameter.	0	[CS,SBM,POL,Sens]		
		Deciduous 9-21" diameter.	0			
		Evergreen 9-21" diameter.	0			
		Deciduous >21" diameter.	0			
		Evergreen >21" diameter.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
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F47	Snags (Snags)	The number of large **snags** (diameter >12 inches) in the AA plus 100 ft uphill of its edge is:		**Snags -** are standing trees at least 20 ft tall that are mainly without bark or foliage.		Skipped.
		Few or none.	0	[SBM,POL]		
		Several.	0			
F48	Abovewater Wood (WoodOver)	The number of horizontal wood pieces thicker than 4 inches that are partly submerged during most of the spring or early summer, thus potentially serving as basking sites for turtles, birds, or frogs and cover for fish is:		Only the wood that is at or above the water surface is assessed because of the impracticality of assessing underwater wood accurately when using a rapid assessment method.		Skipped.
		None.	0	[FA,FR,AM]		
		Few.	0			
		Several (e.g., >3 per 300 ft of channel or shoreline).	0			
F49	Downed Wood (WoodDown)	The number of downed wood pieces longer than 6 ft and with diameter >4 inches that are not submerged during most of the growing season, is:		Exclude temporary "burn piles."		Skipped.
		Few or none.	0	[INV,AM,SBM,POL]		
		Several.	0			
F50	Exposed Shrub Canopy (ShrExpos)	Within the **vegetated part** of the AA, shrubs shorter than 20 ft that are not overtopped by trees occupy: Select first statement that is true.		**Vegetated part** - should not include floating-leaved or submersed aquatics.		Skipped.
		<5% of the vegetated AA and <0.01 acre (400 sq ft).	0	[SBM,PD]		
		5 to <25% of the vegetated AA or the water edge (whichever is greater in early summer).	0			
		25 to <50% of the vegetated AA or the water edge (whichever is greater in early summer).	0			
		50 to 95% of the vegetated AA or the water edge (whichever is greater in early summer).	0			
		>95% of the vegetated part of the AA or the water edge (whichever is greater in early summer).	0			
F51	N Fixers (Nfix)	The percentage of the vegetated area in the AA or along its water edge (whichever has more) that contains nitrogen-fixing plants (e.g., alder, baltic rush, scotch broom, lupine, clover, alfalfa, other legumes) is:		For a more complete list, see ORWAP_SuppInfo, worksheet NFIX (includes native and non-native species). Do not include algae.		
		<1% or none.	1	[OE,INV,Sens]		
		1 to <25%.	0			
		25 to <50%.	0			
		50 to 75%.	0			
		>75%.	0			
Note for the next four questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter and outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.						
F52	Upland Perennial Cover - % of Perimeter (PerimPctPer)	The percentage of the AA's edge (perimeter) that is comprised of a band of upland **perennial cover** wider than 10 ft and taller than 6 inches, during most of the growing season is:		**Perennial cover** - vegetation that includes wooded areas, native prairies, sagebrush, as well as relatively unmanaged commercial lands in which the ground is disturbed less frequently than annually such as perennial ryegrass fields, hayfields, lightly grazed pastures, timber harvest areas, and rangeland.		Non-native grass field. 5% along roadside.
		<5%.	0			
		5 to <25%.	0	It does not include water, row crops (vegetable, orchards, Christmas tree farms), residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. [WCv,SRv,PRv,INV,FA,AM,WBF,WBN,SBM,PD,POL,POLv,Sens,STR]		
		25 to <50%.	0			
		50 to <75%.	0			
		75 to 95%.	0			
		>95%.	1			
F53	Upland Perennial Cover - Width (Buffer) (BuffWidth)	Along the greatest extent of the AA's **upland edge**, the width of **perennial cover** taller than 6 inches that extends upslope from the AA until mostly shorter or non-perennial cover is reached is: [NOTE: the width is not necessarily the maximum width. Base on vegetation that occurs most of the growing season.]		**Upland edge** - is the land within 3 ft of the wetland's perimeter that is not wetland. [WCv,SRv,PRv,INV,FA,AM,WBN,SBM,PD,POL,Sens,STR]		Transitions from perennial grasses to perennial forest.
		< 5 ft, or none.	0		NoUpPerCov	
		5 to <30 ft.	0			
		30 to <50 ft.	0			
		50 to <100 ft.	1			
		100 to 300 ft.	0			
		> 300 ft.	0		AllUpPerren	

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
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F54	Upland Trees as % of All Perennial Cover (UpTreePctPer)	Within 100 f.t landward from the AA's edge (perimeter), the percentage of the upland perennial cover that is woody plants taller than 20 ft is:		Base this on the cumulative canopy width of the trees. [WSv,FA,WBF,WBN,SBM]		
		<5%, or there is no upland perennial cover along the upland edge.	1			
		5 to <25% of perennial cover.	0			
		25 to <50% of perennial cover.	0			
		50 to <75% of perennial cover.	0			
		75 to 95% of perennial cover.	0			
		>95% of perennial cover.	0			
F55	Weeds - % of Upland Edge (UpWeed)	Along the AA's edge (perimeter), the cover of invasive woody or herbaceous plants occupies: [If vegetation is so senesced that apparently-dominant edge species cannot be identified even to genus, answer "none"].		See ORWAP SuppInfo file, worksheet P_Invas. Some of the most common invaders along upland edges of Oregon wetlands are Himalayan blackberry, knotweed, sweetbrier rose, Russian olive, English ivy, nightshade, pepperweed, medusahead, white clover, ryegrass, quackgrass, false brome, bentgrass, dandelion, oxeye daisy, pennyroyal, bull and creeping thistles, tansy ragwort, poison hemlock, and teasel. If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. [PD,STR]		CRAMON estimated at 3%
		<5%, or none.	0			
		5 to <25%.	1			
		25 to <50%.	0			
		50 to <75%.	0			
		75 to 95%.	0			
		>95%.	0			
F56	Bare Ground & Accumulated Plant Litter (Gcover)	Consider the parts of the AA that go dry during a normal year. Viewed from 6 inches above the soil surface, the condition in most of that area just before the year's longest inundation period begins is:		**Bare ground-** includes unvegetated soil, rock, sand, or mud between stems if any. Bare ground under a tree or shrub canopy should be counted. Wetlands that are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [WS,WC,SR,PR,NR,CS,OE,INV,AM,SBM,POL,Sens,EC]		Very little base ground present.
		Little or no (<5%) **bare ground** is visible between erect stems or under canopy and there is little or no dead detached plant tisuse (thatch) remaining on top of the ground surface and ground surface is extensively blanketed by moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1			
		Some (5-20%) bare ground or remaining thatch is visible. Herbaceous plants have moderate stem densities and do not closely hug the ground.	0			
		Much (20-50%) bare ground or thatch is visible. Low stem density and/or tall plants with little living ground cover during early growing season.	0			
		Mostly (>50%) bare ground or thatch.	0			
		Not applicable. All of the AA is inundated throughout most years.	0			
F57	Ground Irregularity (Girreg)	In parts of the AA that lack persistent water, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, islands, natural levees, wide soil cracks, and microdepressions is:		**Microtopography** - refers mainly to vertical relief of <3 ft and is represented only by inorganic features, except where plants have created depressions or mounds of soil. Consider the microtopography to be "few or none" if one could walk easily through most of the AA once any slash and logs are removed. Consider it to be "several" if one has to constantly look down and check balance. [WS,SR,PR,NR,INV,AM,SBM,PD,POL,EC]		Hummocks present throughout. AKS's response of "few or none" does not appear to match their note of "Hummocks present throughout".
		Few or none, or the entire AA is always water-covered. Minimal **microtopography**; <1% of the AA, e.g., many flat sites having a single hydroperiod.	0			
		Intermediate.	1			
		Several (extensive micro-topography).	0			
F58	Soil Composition (SoilTex)	Based on digging into the substrate and examining the surface layer of the soil (2 inch depth) that was mapped as being predominant, its composition (excluding **duff** and living roots) is mostly:		Do not base the texture on soil maps unless the AA is inaccessible. See ORWAP Manual's protocol (Step 2 of section 5.3 and the soil chart in Appendix B). Judge which soil type is predominant only in the part of the AA that is not inundated at the time of your visit. **Duff** - is loose organic surface material, e.g., dead plant leaves and stems). Organic soils are much less common in floodplains. [WS,PR,NR,CS,OE,PD,Sens]		SiL
		Loamy: includes silt, silt loam, loam, sandy loam.	1			
		Clayey: includes clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam.	0			
		Organic: includes muck, mucky peat, peat, and mucky mineral soils (blackish or grayish). Exclude live roots unless they are moss.	0			
		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0			
F59	Cliffs or Banks (Cliff)	Within 300 ft of the AA, there are elevated terrestrial features such as cliffs, bluffs, talus slopes, or unarmored stream banks that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. **Enter 1, if true.**	0	[SBM,POL]		

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.				For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F60	Restored or Created Wetland (NewWet)	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or other factors affecting what was upland (non-hydric) soil. Or, some part of the AA was originally a wetland, was artificially drained for many years, and has since had its water regime partly or wholly restored or rehabilitated (e.g., by ditch plugs, berms, tile breakage, non-maintenance).		Include wetlands whose area was likely expanded by road berms which impeded runoff, but do not include wetlands created by beaver dams except for the part where flooding affected uplands (not just existing wetlands and streams). Determine this using historical aerial photography, old maps, soil maps, consultation with landowners, and/or permit files as available.		
		Yes, and constructed or restored mostly within last 3 years.	0	See ORWAP Map Viewer's Hydric Soil layer (expend Soils). Also, locations of some restoration wetlands can be found in the ORWAP Map Viewer under Restoration. Another potential source is the Conservation Registry: https://oregonexplorer.info/content/conservation-registry?topic&ptopic.		
		Yes, and constructed or restored mostly 3-7 years ago.	0			
		Yes, and constructed or restored mostly >7 years ago.	0			
		Yes, but time of origin or restoration unknown.	0			
		No.	1	[PR,NR,CS,OE,PD,Sens]	NotNewWet	
		Unknown if wetland is constructed, restored, or natural.	0			
F61	Ownership (Ownership)	Most of the AA is:		An initial indication of ownership can be found on the ORWAP Map Viewer under the Land Ownership layer (expand Land Classification). However, it is advisable to ask local sources or use local maps with higher precision. [PUv]		
		Publicly owned (municipal, county, state, federal).	0			
		Owned by non-profit conservation organization or easement holder who allows public access to this AA.	0			
		Other private ownership, including tribal. **Enter 1 and SKIP to F63.**	1		PrivateOwn	
F62	Special Protected Area Designation (Desig)	The AA is part of an area designated as a Special Protected Area according to the USGS Protected Areas Database of the U.S. **Enter 1, if true.**	0	See the ORWAP Map Viewer Report under the Location Information section for "In Special Protected Area?" [PUv]		Skipped.
F63	Conservation Investment (ConsInvest)	The AA is not a mitigation wetland, but public funds or community volunteer efforts have been applied to preserve, create, restore, or enhance the condition or functions of the wetland. (e.g. CRP or WRP wetlands, community projects). **Enter 1, if true. (If unknown, leave 0).**	0	Locations of some restoration wetlands can be found in the ORWAP Map Viewer under Restoration. Another potential source is the Conservation Registry: https://oregonexplorer.info/content/conservation-registry?topic&ptopic [PUv]		Privately funded.
F64	Compensation Wetland (MitWet)	The AA is all or part of a compensation site used explicitly to offset impacts elsewhere. **Enter 1, if true. (If unknown, leave 0).**	0	Answer to the best of your knowledge. Sources for information include the property owner, DSL, and/or the ACOE. [PUv]		
F65	Sustained Scientific Use (SciUse)	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. **Enter 1, if true. (If unknown, leave 0)**	0	[PUv]		No.
F66	Visibility (Visibil)	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 300 ft of the AA is **(Select ONE):**		[WBFv,WBNv,SBMv,PUv,STR]		Approx. 10% visible from the road.
		<25%.	0			
		25 - 50%.	0			
		>50%.	1			
F67	Non-consumptive Uses - Actual or Potential (RecPoten)	**Select All statements that are true** of this AA as it currently exists:		The question assumes access is allowed. [PUv]		Approx. 20 feet from the edge of the AA to 190th Drive.
		Walking is physically possible in >5% of the AA during most of year (e.g., free of deep water and dense shrub thickets).	1			
		All or part of the AA (or an area within sight of the AA and within 100 ft) would be physically accessible to people in wheelchairs (e.g., paved and flat).	0			
		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed most of the year by boat.	1			
		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0			
F68	Core Area 1 (VisitNo)	The percentage of the AA almost never walked or driven by humans during an average growing season probably comprises: [Note: If more than half the wetland is visible from areas within 100 ft of the AA, include visits by people to those areas that are actually walked or driven (not simply viewed from].		Judge this based on proximity to population centers, roads, trails, accessibility of the AA to the public, wetland size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or that are not an annual occurrence (e.g., by construction, maintenance, or monitoring crews). [AM,WBF,WBN,SBM,PD,PUv,STR]		
		<5% and no inhabited building is within 300 ft of the AA.	1			
		<5% and inhabited building is within 300 ft of the AA.	0			
		5 to <50% and no inhabited building is within 300 ft of the AA.	0			
		5 to <50% and inhabited building is within 300 ft of the AA.	0			
		50 to 95% with or without inhabited building nearby.	0			
		>95% of the AA with or without inhabited building nearby.	0			

Date: 2/23/2023	Name: Craig Tumer	Site: Veranda Pleasant Valley- Wetland 1				
Form F Field Data (nontidal Wetlands) ORWAP V 3.2	Conduct an assessment only after reading the accompanying Manual and explanations in column E below. **For each affirmative answer, change the 0 in the "Data" column to a "1".** Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a **"W" MUST be answered for the ENTIRE wetland and bordering waters.**	For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors.				For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H.

#	Indicators	Condition Choices	Data	Explanations, Definitions (Column E)	Cell Name	Comments
F69	Core Area 2 (VisitOften)	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [The Note in the preceding question applies here as well].		See note above. [AM,WBF,WBN,SBM,PD,PUv,STR]		
		<5%.	1			
		5 to <50%.	0			
		50 to 95%.	0			
		>95% of the AA.	0			
F70	Consumptive Uses (Provisioning Services) (Hunt)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. **Select All that apply.**		Evidence of these consumptive uses may consist of direct observation, or presence of physical evidence (e.g., recently cut stumps, fishing lures, shell cases), or might be obtained from communication with the land owner or manager. [FRv,WBFv,PUv]		
		Low-impact commercial timber harvest (e.g., selective thinning).	0			
		Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0			
		Waterfowl hunting.	0			
		Fishing.	0			
		Trapping of furbearers.	0			
		None of the above.	1			
F71	Domestic Wells (Wells)	Wells or water bodies that currently provide drinking water are:		If unknow, assume this is true if there is an inhabited structure within the specified distance and the neighborhood is known to not be connected to a municipal drinking water system (e.g., is outside an urban growth boundary or other densely settled area). [NRv]		Over 3,000 feet downslope of the AA.
		<300 ft and downslope from the AA or at same elevation.	0			
		300 to 1500 ft and downslope or at same elevation.	0			
		>1500 ft downslope, or none downslope, or no information.	1			
F72	Wetland Type of Conservation Concern (RareType)	Does the AA contain, or is it part of, any of these wetland types? **Select All that apply.**	W	Consult the ORWAP Report under the Location Information table for "Rare Wetland Types." But be aware that it may not apply to the exact AA you have delimited. [PDv, Sens]		
		Mature forested wetland (anywhere): a wetland in which mean diameter of trees (d.b.h., FACW and FAC species only) exceeds 18 inches, and/or the average age of trees exceeds 80 years, or there are >5 trees/acre with diameter >32 inches.	0	To qualify, the diameter of >18 inches must be the mean measured from at least 10 trees.		
		Bog or Fen: contains a sponge-like organic soil layer which covers most of the AA and often has extensive cover of sedges and/or broad-leaved evergreen shrubs (e.g., Ledum). Often lacks tributaries, being fed mainly by groundwater and/or direct precipitation.	0			
		Playa, Salt Flat, or Alkaline Lake: a nontidal ponded water body usually having saline (salinity >1 ppt or conductivity >1000 µS) or alkaline (conductivity >2000 µS and pH >9) conditions and large seasonal water level fluctuations (if inputs-outputs unregulated). If a playa or salt flat, vegetation cover is sparse and plants typical of saline or alkaline conditions (e.g., Distichlis, Atriplex) are common.	0	See ORWAP_SuppInfo file, worksheet P_Salt for species typically occurring in tidal or saline conditions.	Playa	
		Hot spring (anywhere): a wetland where discharging groundwater in summer is >10 degrees (F) warmer than the expected water temperature.	0			
		Native wet prairie (west of the Cascade crest): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, and dominated primarily by native graminoids often including species in column E.	0	Deschampsia caespitosa, Danthonia californica, Camassia quamash, Triteleia hyacinthina, Carex densa, C. aperta, and/or C. unilateralis		
		Vernal pool (Willamette Valley): a seasonally inundated wetland, underlain by hardpan or claypan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and with native plant species distinctly different from those in slightly higher areas, and often including species in column E.	0	Downingia elegans, Isoetes nuttallii, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys figuratus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Lasthenia glaberrima , Cicendia quadrangularis, Kickxia elatine, Gnaphalium palustre, and/or Callitriche spp.		
		Vernal pool (Medford area): a seasonally inundated acidic wetland, underlain by hardpan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and having concentric rings of similar native vegetation, often including species in column E.	0	Downingia vina, Isoetes nuttalli, Pilularia americana, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys brachteatus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Alopecurus saccatus, Lasthenia californica, Deschampsia danthonioides, and/or Callitriche spp.		
		Vernal pool (Modoc basalt & Columbia Plateau): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located on shallow basalt bedrock and often having species in column E.	0	Blennosperma nanum, Camassia quamash, Epilobium densiflorum, Callitriche marginata, Cicendia quadrangularis, Eryngium vaseyi, Psilocarphus brevissimus, and/or Sedella pumila.		
		Interdunal wetland (Coastal ecoregion): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located between sand dunes where wind has scoured the sand down to the water table (deflation plain, blowout pond), and often with significant cover of the native species in column E.	0	Carex obnupta, Argentina egedii, Juncus lesueurii, J. nevadensis, J. falcatus, Sisyrinchium californicum, and/or Salix hookeriana		
		Ultramafic soil wetland (mainly southwestern Oregon): a low-elevation wetland, usually with a sponge-like organic soil layer, occurring in an area with exposed serpentine or peridotite rock, and/or in soils with very low Ca:Mg ratios.	0			
		None of above.	1			

ORWAP V.3.2 Site Name:	**Veranda Pleasant Valley- Wetland 1**
Investigator Name:	**Craig Tumer, PWS**
Date of Field Assessment:	**2/2/2023**

Scores will appear below after data are entered in worksheets OF, F, T, and S. See Manual for definitions and descriptions of how scores were computed and ratings assigned.

Normalized Scores & Ratings for this Assessment Area (AA):

Specific Functions or Values:	**Function** Score	Function Rating	Rating Break Proximity	**Values** Score	Values Rating	Rating Break Proximity	Function Score (raw)	Values Score (raw)
Water Storage & Delay (WS)	5.45	Moderate		0.00	Lower		5.45	0.00
Sediment Retention & Stabilization (SR)	3.44	Lower	LM	4.18	Moderate		3.75	3.18
Phosphorus Retention (PR)	3.47	Moderate	LM	1.73	Lower		3.73	1.44
Nitrate Removal & Retention (NR)	4.58	Moderate		1.38	Lower		5.62	1.44
Anadromous Fish Habitat (FA)	8.14	Higher	MH	10.00	Higher		7.15	10.00
Resident Fish Habitat (FR)	0.00	Lower		0.00	Lower		0.00	0.00
Amphibian & Reptile Habitat (AM)	5.91	Moderate		6.67	Moderate	MH	5.36	6.67
Waterbird Nesting Habitat (WBN)	0.00	Lower		0.00	Lower		0.00	0.00
Waterbird Feeding Habitat (WBF)	0.00	Lower		0.00	Lower		0.00	0.00
Aquatic Invertebrate Habitat (INV)	3.33	Lower		2.00	Lower		4.96	2.52
Songbird, Raptor, Mammal Habitat (SBM)	3.41	Lower	LM	4.67	Moderate		5.14	4.67
Water Cooling (WC)	6.35	Higher		3.64	Moderate		5.56	3.47
Native Plant Diversity (PD)	5.74	Moderate	MH	3.12	Lower	LM	5.14	3.12
Pollinator Habitat (POL)	6.00	Moderate		3.61	Moderate		5.24	2.92
Organic Nutrient Export (OE)	6.59	Moderate	MH				5.83	
Carbon Sequestration (CS)	2.18	Lower					2.68	
Public Use & Recognition (PU)				2.18	Lower			2.96

Other Attributes:	Score	Rating	Rating Break Proximity		
Wetland Sensitivity (SEN)	1.42	Lower			3.91
Wetland Ecological Condition (EC)	4.09	Moderate			5.31
Wetland Stressors (STR)	5.94	Higher	MH		5.47

GROUPS	Selected Function	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity
Hydrologic Function (WS)	Water Storage & Delay (WS)	Moderate		Lower	
Water Quality Support (SR, PR, or NR)	Phosphorus Retention (PR)	Moderate	LM	Lower	
Fish Habitat (FA or FR)	Anadromous Fish Habitat (FA)	Higher	MH	Higher	
Aquatic Habitat (AM, WBF, or WBN)	Amphibian & Reptile Habitat (AM)	Moderate		Moderate	MH
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Water Cooling (WC)	Higher		Moderate	

NOTE: A score of 0 does not always mean the function or value is absent from the wetland. It usually means that this wetland has equal or less capacity than the lowest-scoring one, for that function or value, from among the 200 calibration wetlands that were assessed previously by Oregon Department of State Lands.