Appendix A4-Wetland Investigation & Delineation Report

Wetland Investigation and Delineation Report

East West Corridor Project Yakima County, Washington



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ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
FEMA	Federal Emergency Management Agency
NEPA	National Environmental Policy Act
NRCS	National Resources Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

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1. EXECUTIVE SUMMARY

Yakima County is proposing to build a new east to west transportation corridor connecting the City of Yakima downtown area to the Terrace Heights community. This corridor is part of a larger plan that will eventually connect Fruitvale Boulevard in western Yakima to 57th Street in Terrace Heights. The East-West Corridor project will involve the construction of five bridges: one over I-82, a vehicular bridge and a pedestrian bridge over the Yakima River and a vehicular and a pedestrian bridge over Roza Canal. In addition to roadway and bridge construction, the proposed project will involve improvements to I-82 including a new interchange for access from the new East-West Corridor and improvements to the existing interchange at East Yakima Avenue. This project will also involve restoration and levee work along the Yakima River floodplain including removal and/or setback of levees and floodplain habitat restoration. The goal is to improve traffic flow within the growing region, as current and projected population growth in Terrace Heights is expected to result in increasing congestion and delays.

A wetland delineation was conducted within the project area to determine the extent of wetlands and other "Waters of the U.S." The study area encompasses approximately 544.5 acres of existing natural lands, floodplain, roads, residential development, and commercial and industrial enterprises located within Township 13N Range 18E Section 13 and Township 13N Range 19E Sections 7, 17, 18, 20, and 29. Field investigations were conducted multiple years between late 2015, 2016, and 2019.

Based on the data collected prior to and during site visits, thirty-nine wetlands were found, covering 81.287 acres. Of these, three wetlands were determined to be non-jurisdictional while the remaining thirty-six fall under USACE jurisdiction.

This report documents the investigation, best professional judgement and conclusions of the investigators. It should be considered a preliminary jurisdictional and boundary determination

until it has been reviewed and approved in writing by the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act.

2. INTRODUCTION

2.1 Authorizing Agency and Reason for the Investigation

This Wetland Investigation and Delineation Report was prepared by Widener and Associates on behalf of the Yakima County (County) to delineate the location and extent of "Waters of the United States" (33 CFR Part 328, 1986), including wetlands, within the study area.

The primary objective of the delineation was to identify and delineate the waters/wetlands within the project boundaries consistent with the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE, 2008b).

2.2 Site Location

The study area includes the proposed location of a transportation corridor through the City of Yakima, encompassing a total of 544.5 acres. In addition to the footprint of the project, a large area east of the Yakima River in the Terrace heights area was assessed to aid in the project planning and allow for the minimization of wetland impacts.

The study area is within the geographic area of Township 13N Range 18E Section 13 and Township 13N Range 19E Section 7, 17, 18, 20, 29. *Refer to Figure 1 – Vicinity Map and Figure 2 – Study Area.* This page intentionally left blank.



Figure 1. Vicinity Map



February 3, 2017

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Figure 2. Study Area







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2.3 Project description

2.3.1 Existing Conditions

The area at the western terminus of the proposed construction, west of Interstate 82, is within the Boise Cascade Mill Redevelopment Area and is zoned as Regional Development. This area was a part of a lumber mill from 1903 to 2006, with log ponds remaining until the 1960's. It currently consists of 225 acres of cleared land for redevelopment of mixed use, commercial, and light industrial purposes. The project area east of I-82 is predominantly zoned as Suburban Residential with some Light Industrial at the eastern terminus (Yakima County, 2014). There are several private residences and commercial businesses along the proposed route within the community of Terrace Heights, east of I-82. However, the majority of the project area is undeveloped land. Existing impervious areas within the proposed project area include portions of Hartford Road and Butterfield Road as well as several driveways.

The proposed project area is characterized by the Yakima River and its associated floodplain immediately east of I-82. The Yakima River separates the City of Yakima from Terrace Heights and flows generally north to south through the proposed project area. The southern portion of the project area east of the river is comprised of lowlands while the northern portion rises abruptly through a series of terraces to form the Yakima Ridge. Each of these terraces was formed in alluvium from past configurations of the Yakima River. Beginning at the southern end of the project area and heading north, the first terrace encountered is the Rest Haven Bench which is occupied by Rest Haven Road and its adjacent residential properties. The next terrace heading north is completely occupied by the Selah-Moxee Canal. The third terrace is occupied entirely by the Roza Canal, the main canal for the Roza Irrigation District (RID). The Roza Canal runs generally north-south through the eastern portion of the proposed project area.

2.3.2 Proposed Work

The project proposes to create a new transportation corridor between the City of Yakima and the community of Terrace Heights. As the population of Terrace Heights has grown rapidly in recent years and the population is projected to continue increasing, an additional corridor is necessary to provide an alternative crossing of the Yakima River. The Yakima River is a significant barrier to transportation between these two areas and only one direct crossing currently exists; the Yakima Avenue/ Terrace Heights Drive route. Upon project completion, the completed section of the East-West corridor will consist of a 5-lane roadway with two vehicular travel lanes in both directions, a center turn lane, sidewalks, curbing, gutters, and illumination. The proposed bridges aside from the Yakima River pedestrian bridge will have two 14-foot travel lanes, two 12-foot travel lanes, and a 7-foot sidewalk on one side. A 14-foot wide surface for pedestrians and bicycles will also run along a portion of the new roadway including crossing I-82 and the Roza Canal, as well as a stand-alone bridge over the Yakima River directly north of the vehicular bridge.

Five bridges are being proposed with maximum span lengths, girder types, and spacing designed following the Washington State Department of Transportation (WSDOT) Bridge Design Manual. One bridge and interchange will be constructed over I-82 to accommodate the proposed alignment. This bridge would be a 194-foot long, single-span structure consisting of spliced prestressed standard WSDOT WF83G concrete girders. Both a vehicular bridge and pedestrian bridge over the Yakima River will also be constructed approximately 650-850 feet south of the existing Central Washington Railroad bridge crossing. The vehicular bridge will be an 851.5-foot long, 4-span structure consisting of two 185.75-foot spans and two 240-foot spans. The vehicular bridge will be constructed with WSDOT WF83PTG prestressed concrete girders and have 3 intermediate piers with two 6-foot columns sitting on two 10-foot drilled shafts. The adjacent pedestrian bridge will be a 783-foot long, 4-span structure consisting of one 143-foot outer span, two 240-foot spans, and one 160-foot span. The pedestrian bridge will be constructed steel trusses on three intermediate piers with a 4-foot column sitting on a 7-foot drilled shaft. A 129-foot long, single-span vehicular bridge will be

built with standard WSDOT WF58G prestressed concrete girders across Roza Canal near the project's eastern boundaries. A single-span pedestrian bridge will also be built across Roza Canal, constructed with a prefabricated steel truss. All five bridges will generally run eastwest.

Some of the piers for the proposed permanent bridges over the Yakima River will need to be drilled below the Ordinary High-Water Mark (OHWM) of the river while others will be drilled within the limits of the 100-year floodplain. There will be no rise in the 100-year or 500-year floodplain (Shannon & Wilson 2019). The proposed pier locations and roadway alignment will have the least environmental impact of any of the analyzed alternatives.

3. Methods

3.1 Wetland Delineation, Identification, and Classification

Waters of the U.S., including wetlands, were delineated within the study area consistent with the technical approaches outlined in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987), and the Regional Supplement to USACE Wetland Delineation Manual: Arid West Region (Version 2.0) (U.S. Army Corps of Engineers, 2008b).

In general, the wetland delineation consisted of three main tasks: (1) assessing vegetation, soil, and hydrologic characteristics to identify areas meeting the wetland technical standards, (2) evaluating constructed drainage features to determine if they would be regulated as wetlands, and (3) marking and surveying wetland boundaries.

Sampling points were selected at sites representative of the wetland area. Dominant plant species in each of the three strata (tree, scrub shrub, and herbaceous) were identified and quantified by visual assessment. A determination of the presence of hydrophytic vegetation was made at each observation point using the dominant test or prevalence index in accordance with the USACE guidelines (U.S. Army Corps of Engineers, 2008b).

Hydrology data was collected from field observations of direct and indirect hydrologic indicators and compared to records of historic climate data. Methodology for determination of wetland hydrology field indicators was consistent the USACE guidelines (U.S. Army Corps of Engineers, 2008b).

Identification of the presence of hydric soils was consistent with the Arid West Regional Supplement to the Corps of Engineers Wetland Delineation Manual (U.S. Army Corps of Engineers, 2008b) and NRCS Field Indicators of Hydric Soils in the United States (USDA, NRCS, 2018). Where possible, soils were examined in test pits to a depth of approximately 20 inches, or the depth at which it could be confirmed that positive indicators were either present or absent. Soil colors were described in data forms using the Munsell soil color chart numbering system (Munsell Color, 2000).

Wetland boundaries flagged by the wetland professional were surveyed by a Yakima County survey crew with a Trimble GPS.

With permission from contacts with the U.S. Army Corps of Engineers and the Washington Department of Ecology in September 2016 (Cade, 2016), the boundaries of several islands within the Yakima River channel were determined by aerial photography rather than a GPS survey. These wetlands were sampled and flagged, but flooding had washed away the flags before they could be surveyed with GPS units. Because of this, some wetland determination data forms (found in Appendix A) may lack specific coordinates. Rather than re-delineating the entire area, all upland areas were flagged and surveyed while recent aerial imagery was used to distinguish between open water, unconsolidated shore, and vegetated wetland. Surveyed and aerially-delineated wetlands can be distinguished on the maps provided in Appendix F. It is likely these aerially-delineated riverine island wetlands will include upland areas, therefore their respective boundaries are likely overestimated. If these wetlands will be impacted by the project, the wetlands will be surveyed at a finer scale and be re-delineated to ensure accurate analysis of potential impacts. Wetlands to be impacted will be rated after project areas are finalized. All ratings and impacts will be included in a separate mitigation report, which will also detail how impacts will be mitigated for according to federal, state, and local guidelines.

3.2 Pre-field Review of Information

Existing information was reviewed prior to field studies to aid in the delineation and inform the wetland professional of current site conditions and known environmental data. Thirty years of climate records for Yakima, WA were obtained from the National Resource Conservation Service (NRCS), National Water and Climate Center website to compare rainfall conditions at the time of fieldwork and determine whether conditions are drier or wetter than normal (NRCS, 2019). The NRCS Web Soil Survey provided background information regarding the general characterization of the soils in the area, the parent material, as well as series, taxonomy and subgroup information (NRCS, 2016). USGS river gauge data was reviewed to analyze the magnitude of recent floods to aid in delineation of the OHWM.

Aerial photos and project maps of the area were reviewed to help orientate the delineator in the field. Existing information concerning the project area was reviewed prior to fieldwork to identify vegetation patterns, topography, soils, streams, and other natural resources potentially located within the project boundaries. National Wetlands Inventory Maps (USFWS, 2016) (Appendix E), the National Wetland Plant List (Lichvar, 2016), and FEMA flood maps (FEMA, 2016) were reviewed prior to field investigations.

4.1 Project Area Setting

The project area is in a historic reach of the Yakima River floodplain within the City of Yakima between downtown and the Terrace Heights neighborhood. The river has since been leveed on either side, which constricts the river and reduces the overall floodplain area. Much of land in the City of Yakima was historically agricultural, however, little remains within the Yakima city limits. Overall, much of the project area is natural and undeveloped land, but still contains roadways, residential development, and commercial and industrial enterprises.

4.2 Hydrology

The project is located within the Yakima River drainage basin. The Yakima River originates in the Cascade Mountain Range and flows through the project area until it reaches the Columbia River near the Tri-Cities. Much of the contributing water is held in reservoirs that regulate water flow and provide water for agriculture during the summer when rainfall is typically low. Intensive irrigation practices have largely changed hydroperiods for stream and groundwater levels, often displaying the highest levels in late spring and summer rather than during the winter rainy season. All delineated wetlands were associated to water derived from the Yakima River or associated hyporheic groundwater.

The growing season in the project area is 178 days in length from April 21st to October 16th assuming 50% probability of 28°F or higher temperatures (NRCS, 2019). Average annual rainfall for the area as measured at the Yakima Airport is 7.97 inches. Data obtained from the NRCS Yakima Airport Station (WA243) indicated a range from drier than normal to wetter than normal during the time when wetland delineations occurred. In general, hydrological conditions for three months prior to each month were drier than normal during all 2015 site investigations, wet during the February 2016 investigations, and normal during the March,

September, and October 2016 site investigations. To complete and revise delineations, more investigations took place in January and October 2019, where the prior periods were normal and wetter than normal, respectively. Table 1 summarizes data by month, taking into consideration precipitation data from 3 months prior, and comparing it to averages over the previous 30-year period, as per NRCS standard methods. Additional hydrologic data is available in Appendix B.

Table 1. Hydrologic Conditions During Site InvestigationsBased on data from three months prior from NRCS WETS Table data (NRCS, 2019)

	January	February	March	September	October	November	December
2015	-	-	-	-	Dry	Dry	Dry
2016	-	Wet	Normal	Normal	Normal	-	-
2019	Normal	-	-	-	Wet	-	-

4.3 Plant Community

The project area is located within the Big Sagebrush – Blue Bunch Wheatgrass Zone of the Shrub-Steppe major vegetation area (Franklin and Dyrness 1973; Jackson and Kimerling 1993). As the study area is large, it contains multiple plant communities.

The most abundant plant community included a forested black cottonwood (*Populus balsamifera*) overstory with an understory of willows (*Salix spp.*), red-osier dogwood (*Cornus sericea*), and reed canarygrass (*Phalaris arundinacea*). Along the edge of the forested zones are primarily shrubs and emergent vegetation areas on the cobble shore. Willows, roses (*Rosa spp.*), and weedy invasive species are common here. Areas within the shallow but permanently inundated side channels of the Yakima River, particularly on the northeastern side of the larger river islands, generally supported emergent species mixed with shrubs. Many of these communities consisted of reed canarygrass and narrowleaf willow (*Salix exigua*).

Upland potions of the study area are primarily dominated by noxious weeds typical of the region including tall tumblemustard (*Sisymbrium altissimum*), small tumbleweed mustard

(Sisymbrium loeselii), hoary cress (Lepidium draba), pepperweed (Lepidium latifolium), Canada thistle (Cirsium arvense), and cheatgrass (Bromus tectorum).

Many of the plants found along the shores of the river islands were invasive, weedy upland species. Generally, only well-dispersed and fast-growing r-strategists establish along these margins as they get washed away and replaced each year. These conditions favor upland species that are not typically found in stable wetland areas.

For a list of plants observed in the study area's wetlands, refer to Appendix C.

4.4 Soils Mapped and Found

The Web Soil Survey identified ten soil series found in the study area including: Ashue loam, Logy silt loam, Naches loam, Track loam, Weirman sandy loam channeled, Weirman fine sandy loam, Weirman gravelly fine sandy loam, Weirman fine sandy loam wet, Yakima silt loam, and Zillah silt loam (NRCS 2016)(Appendix D). Mapped soils and their hydric ratings can be found in Table 2 and Appendix D.

Soil Series	Hydric Rating	Acres in Study Area	% of Study Area
Ashue loam	10	3.5	0.6%
Logy silt loam, 0 to 2 % slopes	5	0.5	0.1%
Naches Ioam	0	5.1	0.9%
Track loam	95	0.7	0.1%
Weirman sandy loam, channeled	100	255.9	47.0%
Weirman fine sandy loam	5	48.8	9.0%
Weirman gravelly fine sandy loam	5	97.8	18.0%
Weirman fine sandy loam, wet	5	15.3	2.8%
Yakima silt loam	0	3.2	0.6%
Zillah silt loam	0	4.0	0.7%
Water	0	109.8	20.2%
TOTALS	-	544.5	100%

Table 2. Project Area Soils: Hydric Ratings and Area

4.5 Existing Wetland Mapping

The National Wetlands Inventory (NWI) maps extensive wetlands throughout the Yakima River corridor. Small areas of additional wetlands are mapped around high flow channels of the Yakima River and beside irrigation ditches. Mapped features include riverine, freshwater pond, freshwater emergent, and freshwater forested/shrub wetlands. NWI maps are provided in Appendix E.

5. Results

5.1 Yakima River

The ordinary high water (OHW) boundary was marked in late 2015 by biologists with Widener and Associates and surveyed by Yakima County. Data obtained from USGS indicates that high water levels occurring in late 2015 were roughly equivalent to a two-year flood, or what is typically considered the elevation of OHW. Water had reached the discharge and gage height of this event 4 times in the last 10 years since collection began from USGS at Union Gap (Figure 3) (USGS, 2019). Based on this data, the 1-year flood occurs at an approximate gage height of 46 feet, 2 feet less than the 2-year flood. The river left behind wracked debris during the most recent high-water event and provided a strong OHW indicator.

The OHW of the Yakima River was estimated around an upland island identified in 2019 using high resolution LiDAR data from 2013 (Quantum Spatial 2014), comparing elevations of nearby surveyed OHW boundaries, recent aerial imagery, and field verification of upland habitat.





5.2 Roza Canal

The OHWM of Roza Canal's Wasteway 2, south of Hartford Road, was surveyed within the study area (see Figure 4). This canal is part of a system that diverts water from the Yakima River at the Roza Dam to irrigate agricultural lands throughout Yakima and Benton County. Roza Canal's Wasteway 2 connects with the Yakima River just upstream of the Terrace Heights Drive Bridge.

5.3 Wetlands

Many of the delineated wetlands are within the limits of the Yakima River's surveyed OHWM as they associate with river hydrology. The majority of wetlands within the study area occur along the shorelines and floodplain of the Yakima River. Wetlands within the study area not occurring within the floodplain were observed to receive groundwater or stormwater inputs, and most often outlet to the Yakima River via culvert.

The following summaries of wetlands characterize their location, vegetation, hydrology, and soils found. An overview map of the delineated wetlands is shown in Figure 3, Wetland delineation data sheets can be found in Appendix A, and more detailed wetland maps can be found in Appendix F.

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Wetland A

Wetland A is in a depression between a road (Industrial Road), highway (Interstate 82), and railroad track (Central Washington Railroad). Water drains into the northern part of the wetland through culverts and flows south, leaving through long pipes connected to Wetland D and J. Wetland A is triangular in shape and tapers near the outfall on the south end. The area of the wetland is 0.887 acres (38,631 sq. feet). Scrub-shrub and emergent vegetation are present in the wetland area. It is a USACE jurisdictional wetland as the water eventually reaches the Yakima River and other downstream Waters of the U.S.

Vegetation: Vegetative species include *Phalaris arundinacea*, *Iris pseudacorus, Typha latifolia, Cirsium arvense, Rosa woodsii, Salix exigua, Rumex crispus, Populus balsamifera, Lepidium latifolium, Salix fragilis, Solanum dulcamara, Brassica sp..* The wetland met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: Portions of the wetland were inundated during the site visit, primarily in a small ditch through the center. Oxidized rhizospheres were found along living roots at sampling points, meeting hydrology indicator C3.

Soil: The top soil layer was depleted and had redox concentrations, meeting the Depleted Matrix (F3) indicator.

Conclusion: Wetland A satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland A

Wetland B

Wetland B is located in a small depression on the west side of Industrial Road, opposite of Wetland A. The wetland appears to receive its hydrology from groundwater, which flows east into Wetland A through a culvert. The area of the wetland is 0.010 acres (416 sq. feet) and contains mostly emergent vegetation. Wetland B is a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the US.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea* and *Robinia pseudoacacia*. It met the prevalence index indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: Portions of the wetland were inundated during the site visit, primarily in lower elevation areas in the center. Hydrology indicators High Water Table (A2), Saturation (A3), and Hydrogen Sulfide Odor (C1) were observed in the wetland.

Soil: The top soil layer was a dark muck meeting the Loamy Mucky Mineral (F1) hydric soil indicator as well as producing a sulfuric smell, meeting the Hydrogen Sulfide (A4) hydric soil indicator.

Conclusion: Wetland B satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland B

Wetland C

Wetland C is located on both sides of I-82, connecting via an underpass. Water flows into the wetland from a culvert on the west side of the interstate that feeds into a perennial pond on the east side of the interstate. The water then drains southward into Wetland P through a grated spillway. Much of the wetland surrounds the open water, and Wetland C features both lacustrine and depressional characteristics. The area of the wetland is 1.555 acres (67,722 sq. feet). Both scrub-shrub and emergent vegetation are present in the wetland. It a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland contained many species including: *Salix fragilis, Phalaris arundinacea, Iris pseudacorus, Typha latifolia, Cirsium arvense, Rosa woodsii, Salix exigua, Rumex crispus, Populus balsamifera, Lepidium latifolium, Euthamia occidentalis, Arctium minus, Sonchus arvensis, Lythrum salicaria, Cornus sericea, Plantago lanceloata, Juncus effusus, Schoenoplectus americanus, Ribes aureum,* and *Tanacetum vulgare*. It met the prevalence index indicator for hydrophytic vegetation at a sampling point that was representative of the wetland area.

Hydrology: The wetland was inundated at the site visit ranging from deep water habitat to shallows areas near the wetland margins. The hydrology indicator at the sampling point was High Water Table (A2) at 8 inches depth, and Saturation (A3) to the surface.

Soil: Soils to eight inches were sandy loams, with pure cobble encountered at 8 inches depth. Redox concentrations were encountered between four and eight inches, meeting the Sandy Redox (S5) hydric soil indicator.

Conclusion: Wetland C satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland C

Wetland D

Wetland D is in a small depression located just east of I-82. Hydrology is provided from the north through a pipe connected to Wetland A. The wetland's water outlets westward to Wetland J through a culvert underneath an I-82 off-ramp. The wetland area is 0.044 acres (1,915 sq. feet). Both scrub-shrub and emergent vegetation are present in the wetland. It a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Salix fragilis, Salix exigua, Rumex crispus, Phalaris arundinacea, Iris pseudacorus, Lythrum salicaria, and Solanum dulcamara*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was inundated at the site visit, particularly in the central lower elevation area. The hydrology indicators at the sampling point were nearby Surface Water (A1) with a depth of approximately 2 inches, High Water Table (A2) at 11 inches depth, and Saturation (A3) at 7 inches depth.

Soil: Soils observed were sandy in nature with some silt particles. A layer containing redox concentrations as pore linings was encountered at a depth of six inches, meeting the Sandy Redox (S5) hydric soil indicator.

Conclusion: Wetland D satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland D

Wetland E

Wetland E is located in a small depression west of I-82, north of Wetland C and east of Wetland T. The main source of hydrology appears to be ground water, which drains into Wetland C through a small culvert under a gravel road (Freeway Lake Road). It is a USACE jurisdictional wetland as its waters eventually drain into the Yakima River and other downstream Waters of the U.S. The area of the wetland is 0.041 acres (1,807 sq. feet). Scrubshrub and emergent vegetation comprise the majority of the wetland area.

Vegetation: The wetland was primarily inhabited by *Phalaris arundinacea, Lythrum salicaria, Salix exigua, Solidago lepida, Equisetum arvense, Carex spp., Typha latifolia, Populus balsamifera,* and *Clematis ligusticifolia*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit but met hydrology indicators Water-Stained leaves (B9), Shallow Aquitard (D3), and FAC-Neutral Test (D5).

Soil: Soils to three inches were silt loams mixed with cobbles, with primarily cobbles below. This made sampling soils for hydric soil indicators very difficult, and none were found in the top three inches. As this soil is naturally problematic, wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Wetland E, though containing problematic soils, provides vegetation and hydrology indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland E

Wetland F

Wetland F is in a small depression southwest of I-82, between the interstate and Freeway Lake Road, north of Wetlands C and E. Water flows into the wetland from a large concrete culvert under I-82 and drains southward, under Freeway Lake Road into a channelized ditch paralleling the road, eventually meeting with Wetland C. The area of the wetland is 0.012 acres (527 sq. feet). Both scrub-shrub and emergent vegetation are present in the wetland
area. It is a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea, Ulmus pumila, Salix exigua, and Euthamia occidentalis.* It met the dominance test indicator for hydrophytic vegetation at a sampling point representative of the wetland area.

Hydrology: Wetland F met the hydrology indicators Water-Stained leaves (B9), Shallow Aquitard (D3), and FAC-Neutral Test (D5).

Soil: Soils were naturally problematic in this wetland. Soil textures of silt loams were encountered from 0 to 5 inches depth until a layer of cobble rock was found. As hydric soil indicators do not readily form in such coarse materials, wetland determination was made based on vegetative and hydrological indicators.

Conclusion: Wetland F satisfies the vegetation and hydrology indicators of wetlands with problematic soils thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland F

Wetland G

Wetland G is located on an island within the Yakima River in the northern part of the study area. Wetland hydrology is provided from the Yakima River which inundates the island during periods of high water. It is a USACE jurisdictional wetland as the waters drain directly into other Waters of the U.S. The area of the wetland is 0.072 acres (3,120 sq. feet). Scrub-shrub vegetation comprises much of the wetland area.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea* and *Salix exigua*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit, but met the hydrology indicators Drift Deposits (B3) and Drainage Patterns (B10).

Soil: Soils were comprised of streambed cobble and presented naturally problematic conditions. Pits could not be adequately dug in rock and hydric soil indicators do not readily

form on newly formed entisols. Wetland determinations were made based on the vegetation and hydrology since soil could not be used to as indicator for wetland presence.

Conclusion: Wetland G satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland G

Wetland H

Wetland H is located in a linear depression west of I-82, south of Wetland C. Hydrology is provided by a connected ditch that runs west to east, parallel to a gravel offshoot of Industrial Road, and outlets southward to Wetland I through a culvert. The area of the wetland is 0.200 acres (8,713 sq. feet). Emergent vegetation comprises the majority of the wetland area. It is a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the US.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea, Juncus effusus, Scirpus sp., Equisetum arvense, Cirsium arvense, Iris pseudacorus, Typha latifolia, Euthamia*

occidentalis, Carex obnupta, Rumex crispus, Polygonum sp., Lythrum salicaria, Salix fragilis, Equisetum hyemale, Schoenoplectus americanus, Solidago lepida, and Oenothera sp. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit, but met hydrology indicators Inundation Visible on Aerial Imagery (B7), Water-Stained leaves (B9), Saturation Visible on Aerial Imagery (C9), and Shallow Aquitard (D3).

Soil: Soils were comprised of cobble rock and presented naturally problematic conditions. Pits could not be adequately dug in rock and hydric soils do not always form in dense rock sediments. Wetland determinations were made based on the vegetation and hydrology since soil could not be used to as indicator for wetland presence.

Conclusion: Wetland H meets vegetation and hydrology indicators in problematic soil conditions thereby satisfying regulatory technical standards to be classified as a wetland.



Wetland H

Wetland I

Wetland I is located in south of Wetland H and contains an area of open water that contains concrete structures. Hydrology is provided by a culvert, passing water from Wetland H, and drains to the east via a culvert under I-82. The wetland area is 0.084 acres (3,642 sq. feet). Emergent plants comprise the majority of vegetation in the wetland area. It is a USACE jurisdictional wetland as the water eventually drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Typha latifolia, Cirsium arvense, Phalaris arundinacea, Rumex crispus, Euthamia occidentalis, Iris pseudacorus, Lythrum salicaria, Bidens sp., and Scirpus sp.*. It met the prevalence index indicator for hydrophytic vegetation at a sampling point representative of the wetland area.

Hydrology: The wetland was mostly inundated during the site visit and the hydrology indicator of Water-Stained leaves (B9) was observed at the sample point taken near the wetland margins.

Soil: A thick layer of peat was found underneath a silt loam surface layer, meeting the hydric soil indicator of Histosol (A1).

Conclusion: Wetland I satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland I

Wetland J

Wetland J is located in a small depression between I-82 and the eastbound Exit 33A offramp. Water flows westward into the wetland from a culvert connected to Wetland D and outlets through a culvert underneath I-82 and into the Yakima River. The area of the wetland is 0.040 acres (1,757 sq. feet). Scrub-shrub species comprise most of the wetland vegetation. It is a USACE jurisdictional wetland as the water directly drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea, Salix fragilis,* and *Robinia pseudoacacia*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland met the hydrology indicators of High Water Table (A2) at 2 inches depth, Saturation (A3) to the soil surface, and Shallow Aquitard (D3).

Soil: Soils to six inches were mucky in texture. A layer of cobble was encountered at six inches depth. The Loamy Mucky Mineral (F1) hydric soil indicator was met.

Conclusion: Wetland J satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland J

Wetland K

Wetland K is along the western edge of the Yakima River, adjacent to the Yakima Greenway trail, and is periodically flooded during high water events. The edges of Wetland K are defined by quarry spall rock, supporting and armoring the adjacent paved trail as part of a federal levee. The area of the wetland is 0.351 acres (15,278 sq. feet), most of which is forested or scrub-shrub with an emergent understory. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Rosa woodsii, Salix exigua, Conium maculatum, Symphoricarpos albus, Acer saccharinum, Phalaris arundinacea, Rumex crispus,* *Tanacetum vulgare, Lepidium latifolium, and Robinia pseudoacacia*. This wetland had vegetation that had been previously cut prior to a 2015 visit, and therefore was resampled in 2019.

Hydrology: The wetland was not inundated during the site visit, but met hydrology indicators Water-Stained leaves (B9), Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soils encountered were silty sandy loams in texture with consistent color to a depth of 20 inches. These entisols were naturally problematic due to being subjected to frequent flooding, deposition, and erosion. Wetland determination was made based on the vegetation and hydrology technical indicators since soil could not be used to as indicator for wetland presence.

Conclusion: Wetland K satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland K

Wetland L

Wetland L is along the west edge of the Yakima River beside the Yakima Greenway trail and is periodically flooded during high water events. The area of the wetland is 0.427 acres (18,588 sq. feet), most of which is forested and scrub-shrub. It is a USACE jurisdictional wetland as it is directly hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Lepidium latifolium, Cornus sericea, Rosa woodsii, Salix exigua, Populus balsamifera, Bassia scoparia,* and *Ailanthus altissima*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit but met hydrology indicator Water-Stained leaves (B9).

Soil: Soils encountered were sandy silty loams. Redoximorphic features were found at 19 inches depth but did not meet technical requirements of a hydric soil indicator. As these soils are naturally problematic in nature due to their position in an active floodplain with active deposition and erosion processes, wetland determination was based on vegetative and hydrologic indicators.

Conclusion: Wetland L satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland L

Wetland M

Wetland M is in a depression east of I-82, opposite of the interstate from Wetlands D and J, near the western bank of the Yakima River. The source of hydrology for this wetland is groundwater, which then drains into the Yakima River through a dual culvert. The area of the wetland is 0.044 acres (1,921 sq. feet). Forested and scrub-shrub vegetation comprise most of the wetland area, with an emergent understory also appearing in areas. It is a USACE jurisdictional wetland as the water eventually drains into the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Robinia pseudoacacia, Ribes aureum, Typha latifolia,* and *Carex obnupta*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit but met hydrology indicator Water-Stained leaves (B9).

Soil: Soils were sands and sandy loams with many redox concentrations, meeting the Sandy Redox (F3) hydric soil indicator.

Conclusion: Wetland M satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland M

Wetland N

Wetland N is along the west edge of the Yakima River and is periodically flooded during high water events. The area of the wetland is 0.482 acres (20,992 sq. feet), most of which is forested and scrub-shrub. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea, Populus balsamifera, Ribes aureum, Lepidium latifolium, Rosa woodsii, Cornus sericea, Salix exigua,* and, *Euthamia occidentalis*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area. **Hydrology**: The wetland was not inundated during the site visit but met hydrology indicator Water-Stained leaves (B9), Sediment Deposits (B2), and Drift Deposits (B3).

Soil: As entisols within the Yakima River floodplain, soils within Wetland N were naturally problematic and not used in wetland determination. Entisols do not always display hydric soils characteristics so the determination was based on vegetation and hydrology indicators. In general, soils encountered were silty loams in texture.

Conclusion: Wetland N satisfies the vegetation and hydrology indicators with problematic soils, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland N

Wetland O

Wetland O is along the west edge of the Yakima River and is periodically flooded during high water events. Wetland O also receives water from a plastic culvert originating in Wetland P to the north. The area of the wetland is 1.103 acres (48,052 sq. feet), and includes forested,

scrub-shrub, and emergent vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland contained vegetation such as *Phalaris arundinacea, Populus balsamifera, Hypericum perforatum, Ribes aureum, Lepidium latifolium, Rosa woodsii, Cornus sericea, Salix exigua, Euthamia occidentalis, Iris pseudacorus, Typha latifolia, Lythrum salicaria, Dipsacus fullonum, Juncus effusus, Rumex crispus, Conium maculatum, Scirpus sp.,* and *Carex sp.* It met the prevalence test indicator for hydrophytic vegetation at sampling points representative of the wetland area.

Hydrology: Portions of the wetland were inundated during the site visit. Indicators met at the sample point location include Water-Stained leaves (B9), Sediment Deposits (B2), and Drift Deposits (B3).

Soil: Soils were silty sandy loams with many redox features, meeting the indicator Depleted Matrix (F3).

Conclusion: Wetland O satisfies the vegetation, hydrology, and hydric soil indicators, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland O

Wetland P

Wetland P is located east of I-82, between the interstate and the Yakima River around the fringe of a small lake. Water flows into the wetland from Wetland Q, Wetland C, and Wetland I through culverts. It also floods during periods of high water from the Yakima River. Water from Wetland P is able to flow southward into Wetland O via a plastic culvert, then is discharged into the Yakima River. Much of the wetland surrounds an open water area and exhibits both lacustrine and depressional characteristics. The area of the wetland is 4.079 acres (177,701 sq. feet). Both scrub-shrub and emergent vegetation are present in the wetland. Wetland P is a USACE jurisdictional wetland as its water eventually drains into the Yakima River and other downstream Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Salix fragilis, Phalaris arundinacea, Iris pseudacorus, Typha latifolia, Cirsium arvense, Rosa woodsii, Salix exigua, Rumex crispus, Populus balsamifera, Lepidium latifolium, Euthamia occidentalis, Arctium minus, Sonchus arvensis, Lythrum salicaria, Cornus sericea, Plantago lanceloata, Juncus effusus,* *Schoenoplectus americanus, Ribes aureum, Tanacetum vulgare, Hypericum perforatum,* and *Capsella bursa-patoris*. It met the prevalence index indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was inundated at the site visit ranging from deep water habitat to shallows areas of wetland margins. The hydrology indicators at the sampling point were Water-Stained leaves (B9) and Oxidized Rhizospheres along Living Roots (C3).

Soil: Soils to nine inches were silty loams, with many redoximorphic features appearing at two inches in depth, meeting the Depleted Matrix (F3) hydric soil indicator.

Conclusion: Wetland P satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland P

Wetland Q

Wetland Q is located on the western bank of the Yakima River. It is riverine in nature and outlets both into the Yakima River and Wetland P. The wetland interweaves through and

around the ordinary high water mark of the nearby Yakima River and floods during periods of high flows. Wetland Q is 10.827 acres (471,628 sq. feet) in size. The wetland contains forested and scrub shrub vegetation, with emergent vegetation lining ponded areas. Wetland Q is a USACE jurisdictional wetland as its waters outlet into the Yakima River and other downstream Waters of the U.S.

Vegetation: Vegetation varied between the three wetland sample plots. Species included *Populus balsamifera, Robinia pseudoacacia, Rosa woodsii, Salix exigua, Phalaris arundinacea, Lepidium latiflolium,* and *Carex obnupta*. All three wetland survey points met the dominance indicator for hydrophytic vegetation.

Hydrology: The wetland contained some areas of inundation during the site visits, and exhibited indicators of hydrology at the sampling points such as High Water Table (A2), Saturation (A3), Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10). All wetland test points contained multiple indicators of wetland hydrology to satisfy the technical requirements.

Soil: The three wetland test plots exhibited different soil properties.

The most northern test pit had soils that were sandy loams in texture. These soils contained redoximorphic features starting at one-inch depth and continued as particle size grew larger to sandier soils. This plot met the hydric soil indicator of Sandy Redox (S5).

The easternmost test pit did not display hydric soil indicators and had a sandy silt loam texture intermixed with cobble to twenty inches. As this pit lies the closest to the Yakima River, it may experience the most amount of flooding, erosion, and general disturbance. Therefore, only this test pit's vegetative and hydrological indicators were used to determine wetland presence.

The westernmost test pit's soils were also problematic in nature. Soils had a texture of fibric muck from the surface to 4 inches, where cobble underlain the area. This met the indicator for problematic hydric soil "2cm Muck" (A10).

Conclusion: All three test pits for Wetland Q display strong indicators of wetland vegetation and hydrology. Disregarding problematic soils, Wetland Q meets technical standards to be classified as a wetland.



Wetland Q

Wetland R

Wetland R is located between I-82 and the Yakima River, north of Wetland P and south of Wetland C. It is depressional in nature and groundwater appears to be a main source of hydrology. Like the wetlands surrounding Wetland R, it also floods during periods of high water from the Yakima River. Wetland R does not appear to have an outlet of water and therefore may not be a USACE jurisdictional wetland. The area of the wetland is 0.214 acres (9,319 sq. feet). Areas of forested and emergent vegetation are present in the wetland area.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Carex obnupta, and Lepidium latlifolium. It also contained Elaeagnus angustifolia, Rhus glabra, and Euthamia occidentalis.* It met the dominance indicator for hydrophytic vegetation at sampling points representative of the wetland area. **Hydrology**: The wetland was not inundated during the site visit but exhibited indicators of hydrology at the sampling location such Oxidized Rhizospheres along Living Roots (C3), Sediment Deposits (B2), and Drift Deposits (B3).

Soil: Soils to ten inches were sandy silt loams. From ten to twenty inches in depth, clayey silt loams were encountered with prominent redox features. These soils met the hydric soil indicator of Depleted Matrix (F3).

Conclusion: Wetland R satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland R

Wetland S

Wetland S is in a depression northeast of I-82, across the highway from Wetland T. It is a depressional wetland surrounded by road fill on its borders. Groundwater appears to be the wetlands main source of hydrology, with no observed outlet. Therefore, this wetland may not

be under USACE jurisdiction. The area of the wetland is 0.122 acres (5,298 sq. feet). Scrubshrub vegetation comprises the majority of the wetland area, with an emergent understory.

Vegetation: The wetland was primarily dominated by *Elaeagnus angustifolia*, *Cornus sericea*, *Rosa woodsii*, *and Euthamia occidentalis*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was inundated during the site visit, with surface water present at a depth of one inch. The wetland met hydrology indicators Surface water (A1) and Water-Stained Leaves (B9).

Soil: Cobble with a thin one-inch muck surface layer was encountered. Thus, the indicator 2cm Muck (A10) was met, signifying problematic hydric soil.

Conclusion: Wetland S satisfies the vegetation and hydrology indicators as well as a problematic hydric soil indicator, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland S

Wetland T

Wetland T is located in a linear depression south east of I-82, west of the intersection of Freeway Lake Road and Industrial Road. It is depressional in nature and has no observed outlet, therefore may not be under USACE jurisdiction. The area of the wetland is 0.164 acres (7,146 sq. feet). Emergent vegetation comprises much of the wetland area.

Vegetation: The wetland was primarily dominated by *Phalaris arundinacea, Rosa woodsii, and Cirsium arvense*. It met the prevalence test indicator for hydrophytic vegetation at sampling points representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit but met the hydrology indicators High Water Table (A2) at 8 inches depth, Saturation (A3) at 6 inches depth, and Water-Stained Leaves (B9).

Soil: Soils were cobbly silt loams from the surface to a depth of six inches. From six to twenty inches depth, muck with cobble intermixed was encountered. This satisfied the requirements of hydric soil indicator Loamy Mucky Mineral (F1).

Conclusion: Wetland T satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland T

Wetland U

Wetland U is along the west edge of the Yakima River and is periodically flooded during high water events. The area of the wetland is 0.840 acres (36,574 sq. feet) and includes forested and scrub-shrub wetland vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Rosa woodsii,* and *Cornus sericea*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: Indicators met at the sample point location include Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soils were sandy silty loams in texture. Redoximorphic concentrations were found below depths of seven inches, therefore meeting the hydric soil indicator of Depleted Matrix (F3).

Conclusion: Wetland U satisfies the vegetation, hydrology, and hydric soil indicators, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland U

Wetland V

Wetland V is located along the eastern edge of the Yakima River, surrounded by the river's side channels and wetlands X, Y, LL and MM. Wetland V is periodically flooded during high water events and is 1.223 acres (48,916 sq. feet) in size. Wetland V is mainly composed of scrub-shrub wetland vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Salix exigua, Salix fragilis, Rumex crispus, Centaurea sp., Linaria dalmatica,* and *Polygonum cuspidatum.* It met the dominance test indicator for hydrophytic vegetation at a sampling point representative of the wetland area.

Hydrology: Indicators met at the sample point location include Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soils were sandy in texture. A layer of cobble was encountered at six inches depth. This made sampling soils difficult. As the wetland lies entirely within an active floodplain, the soils can be considered naturally problematic and wetland determination will be made based on vegetative and hydrological indicators.

Conclusion: Wetland V satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland V

Wetland W

Wetland W is located on the western bank of the Yakima River. It is 1.281 acres (55,779 sq. feet) in size and is hydrologically associated with the Yakima River, lying entirely within the Ordinary High Water Mark and flooding during periods of high water. Thus, Wetland W is a USACE jurisdictional wetland. Wetland W contains a range of forested, scrub shrub, and emergent vegetation.

Vegetation: The wetland was primarily dominated by Phalaris arundinacea, Populus balsamifera, Rosa woodsii, Salix exigua, and Euthamia occidentalis. It met the dominance test indicator for hydrophytic vegetation at a sampling point representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit. Indicators met at the sample point location included Sediment Deposits (B2), and Drift Deposits (B3).

Soil: Soils were silty sandy loams with redox features occurring to the surface. The soils met the hydric soil indicator Depleted Matrix (F3).

Conclusion: Wetland W satisfies the vegetation, hydrology, and hydric soil indicators, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland W

Wetland X

Wetland X is located on the eastern bank of the main stem of the Yakima River and is 9.014 acres (392,630 sq. feet). Forested, scrub shrub, and emergent vegetation all occupy Wetland X. It is a USACE jurisdictional wetland as its hydrology is directly associated with the Yakima River and thus other downstream Waters of the U.S.

Vegetation: The wetland was primarily inhabited by *Populus balsamifera, Acer saccharinum, Rosa woodsii, Sonchus arvensis, Euthamia occidentalis, Cirsium arvense,* and *Phalaris arundinacea.* It met the dominance test indicator for hydrophytic vegetation at sampling points representative of the wetland area. **Hydrology:** The wetland was not inundated during the site visit but met hydrology indicators Water-Stained leaves (B9), Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soils to nine inches were sandy mixed with rock. Cobble rock was encountered at nine inches depth. This made sampling soils for hydric soil indicators very difficult. As this soil is naturally problematic due to its location in an active floodplain, wetland determinations were made based on vegetative and hydrologic indicators.

Conclusion: Wetland X satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland X

Wetland Y

Wetland Y is located on the eastern bank of the Yakima river just south of Wetland X and Wetland V. It is 9.941 acres (433,036 sq. feet) in size. Wetland hydrology is provided from the Yakima River which inundates the wetland during periods of high water. Forested vegetation comprises the majority of the wetland area with an emergent understory. It is a USACE jurisdictional wetland as the waters drain directly into other Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Rosa woodsii, Phalaris arundinacea, Centaurea sp.*. It met the dominance test indicator for hydrophytic vegetation at a sampling point representative of the wetland area. **Hydrology:** The wetland was not inundated during the site visit but met hydrology indicators Water-Stained Leaves (B9), Sediment Deposits (B2), Drift Deposits (B3) and Drainage Patterns (B10).

Soil: Soils were comprised of sand and streambed cobble and presented naturally problematic conditions. Pits could not be adequately dug in rock and hydric soil indicators do not readily form on newly formed entisols. Wetland determinations were made based on the vegetation and hydrology since soil could not be used to as indicator for wetland presence.

Conclusion: Wetland Y satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland Y

Wetland Z

Wetland Z is a thin wetland strip that lines the edge of the Yakima River. Wetland Z is 0.978 acres (42,594 sq. feet). Areas of forested, scrub-shrub, and emergent vegetation are all present in the wetland area. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: Dominant species primarily include *Phalaris arundinacea, Salix exigua, Salix fragilis, Populus balsamifera,* and *Betula occidentalis*. It met the dominance test indicator for hydrophytic vegetation at all sampling points.

Hydrology: The wetland was inundated in lower elevation locations during site visits. At test pit locations, hydrology indicators included Sediment Deposits (B2), Drift Deposits (B3), Drainage Patterns (B10), and FAC-Neutral Test (D5).

Soil: Much of the soil was natural problematic as it was primarily newly deposited or eroded entisols. Wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Wetland Z satisfies the vegetation and hydrologic indicators in problematic soil conditions, thereby meeting regulatory technical standards to be classified as a wetland.



Wetland Z

Wetland AA

Wetland AA is within a high flow channel that is inundated during periods of flooding. The area of the wetland is 0.056 acres (2,434 sq. feet), most of which forested with an herbaceous understory. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Phalaris arundinacea, and Rosa woodsii.* It met the dominance test indicator for hydrophytic vegetation at a sampling point that was representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit, but met hydrology indicator Sediment Deposits (B2), Drainage Patterns (B3), and FAC-Neutral Test (D5).

Soil: Soil were silt loams with abundant redox features meeting the hydric soil indicator Redox Dark Surface (F6).

Conclusion: Wetland AA satisfies the vegetation, hydrology, and hydric soil indicators, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland AA

Wetland BB

Wetland BB is located at the edge of the Yakima River, just east of the Roza Canal. The area of the wetland is 0.074 acres (3,243 sq. feet), most of which is scrub-shrub. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S. It slopes into the river along a riprap bank.

Vegetation: The wetland was primarily dominated by *Salix exigua, Salix fragilis, Phalaris arundinacea, Betula occidentalis,* and *Clematis ligusticifolia*. It met the dominance test indicator for hydrophytic vegetation at a sampling point representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit, but met hydrology indicator Sediment Deposits (B2), Drift Deposits (B3), and FAC-Neutral Test (D5).

Soil: Soil was naturally problematic as it was primarily in a riprap bank and wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Wetland BB satisfies the vegetation and hydrology in problematic soils, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland BB

Wetland CC

Wetland CC is located within a vegetated sandbar island in the Yakima River, north of the railroad bridge. It is hydrologically associated with the Yakima River, and therefore is under USACE jurisdiction. Wetland CC is 0.042 acres (1,822 sq. feet).

Vegetation: Vegetation in Wetland CC includes *Salix exiqua, Cornus sericea,* and *Betula pumila.* These species and their absolute cover meet the dominance test to satisfy the requirements for hydrophytic vegetation presence.

Hydrology: Indicators of hydrology were present, including Surface Soil Cracks (B6), Sediment Deposits (B2), Drift Deposits(B3), and Drainage Patterns (B10).

Soils: Wetland CC contains naturally problematic soils, as it is located directly within the floodplain of the Yakima River and is subjected to frequent flooding, erosion, and deposition. Soils here are entisols and sandy in nature, thus wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Based on hydrophytic vegetation and hydrology, Wetland CC meets technical requirements to be classified as a jurisdictional wetland.



Wetland CC

Wetland DD

Wetland DD is an island within the primary channel of the Yakima River. It is 3.927 acres (171,045 sq. feet) with mostly scrub shrub vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland was primarily dominated by *Salix exigua, Populus balsamifera,* and *Phalaris arundinacea*. It met the dominance test indicator for hydrophytic vegetation at a sampling point that was representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit, but met hydrology indicator Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soil was naturally problematic as the wetland lies within a vegetated sand bar within the floodplain. Soils are primarily entisols consisting of sand and cobble. Therefore, wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Wetland DD satisfies the vegetation and hydrology in problematic soils, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland DD

Wetland FF

Wetland FF lies within a vegetated sandbar in the Yakima River. It is 0.089 acres (3,886 sq. feet) with mostly scrub shrub vegetation. It is hydrologically associated with the Yakima River, and therefore is under USACE jurisdiction.

Vegetation: Vegetation in Wetland FF includes *Salix exiqua, Cornus sericea,* and *Robinia pseudoacacia.* These species and their absolute cover meet the dominance test to satisfy the requirements for hydrophytic vegetation presence.

Hydrology: Indicators of hydrology were present, including Surface Soil Cracks (B6), Sediment Deposits (B2), Drift Deposits(B3), and Drainage Patterns (B10).

Soils: Wetland FF contains naturally problematic soils, due to its location within the floodplain of the Yakima River. The wetland is subjected to frequent flooding, erosion, and deposition.

Soils here are entisols and sandy in nature, thus wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Based on hydrophytic vegetation and hydrology, Wetland FF meets technical requirements to be classified as a jurisdictional wetland.



Wetland FF

Wetland HH

Wetland HH lies within a vegetated sandbar in the Yakima River. It is 0.688 acres (29,956 sq. feet) and is hydrologically associated with the Yakima River, and therefore is under USACE jurisdiction.

Vegetation: Vegetation in Wetland HH is dominated by *Populus balsamifera*. This species and its absolute cover meet the dominance test to satisfy the requirements for hydrophytic vegetation presence.
Hydrology: Many indicators of hydrology were present, including a High Water Table (A2) at 8 inches depth, Saturation (A3) at 6 inches, Sediment Deposits (B2), Drift Deposits(B3), and Drainage Patterns (B10).

Soils: Wetland HH contains naturally problematic soils, due to its location within the floodplain of the Yakima River. The wetland is subjected to frequent flooding, erosion, and deposition. Soils here are entisols and sandy in nature, thus wetland determination was made based on vegetative and hydrologic indicators.

Conclusion: Based on hydrophytic vegetation and hydrology, Wetland HH meets technical requirements to be classified as a jurisdictional wetland.



Wetland HH

Wetland II

Wetland II is on an island within the main channel of the Yakima River north of the Central Washington Railroad bridge. It is 2.060 acres (89,726 sq. feet) in size. Wetland hydrology is provided from the Yakima River which inundates the island, except for a small area of delineated upland, during periods of high water. Scrub-shrub vegetation comprises much of the wetland area. It is a USACE jurisdictional wetland as the waters drain directly into other Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Salix exigua, Populus balsamifera, Linaria dalmatica, and Centaurea sp.*. It met the prevalence index indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was not inundated during the site visit but met hydrology indicators Sediment Deposits (B2) and Drainage Patterns (B10).

Soil: Soils were comprised of fine sand and streambed cobble and presented naturally problematic conditions. Pits could not be adequately dug in rock and hydric soil indicators do not readily form on newly formed entisols. Wetland determinations were made based on the vegetation and hydrology since soil could not be used to as indicator for wetland presence.

Conclusion: Wetland II satisfies the vegetation and hydrology indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland II

Wetland JJ

Wetland JJ is an island within the main stem of the Yakima River. It lies south of Wetland II and north of the Central Washington Railroad bridge, with its southern nexus abutting a bridge pier. It is 0.570 acres (24,833 sq. feet) in area. The wetland is mainly composed of scrub shrub vegetation.

Vegetation: The wetland was primarily dominated by *Populus balsamifera, Salix exigua, Alnus rhombifolia,* and *Rosa woodsii.* It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland met the hydrology indicators of Oxidized Rhizospheres along Living Roots (C3) and Sediment Deposits (B2).

Soil: Soils to six inches were silty sands in texture with distinct redoximorphic concentrations. A layer of cobble was encountered at six inches depth and soils were unable to be sampled further. The horizon closest to the surface was able to meet the hydric soil indicator Sandy Redox (S5). **Conclusion:** Wetland JJ satisfies the vegetation, hydrology, and hydric soil indicators thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland JJ

Wetland KK

Wetland KK is along the east edge of the Yakima River south of the Central Washington Railroad bridge and is periodically flooded during high water events. The area of the wetland is 0.508 acres (22,135 sq. feet), and contains forested, scrub shrub, and emergent vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River and other Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Salix fragilis, Salix exigua, Bassia scoparia, Rumex crispus, Tanacetum vulgare, Centaurea sp.,* and *Lythrum salicaria*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area. **Hydrology**: The wetland was not inundated during the site visit but met hydrology indicator Water-Stained leaves (B9), Water Marks (B1), Sediment Deposits (B2), Drift Deposits (B3), and Drainage Patterns (B10).

Soil: Soils encountered were sandy in texture with pure riverbed cobble occurring at 10 inches depth. As these soils are naturally problematic in nature due to their position in an active floodplain, wetland determination was based on vegetative and hydrologic indicators.

Conclusion: Wetland KK satisfies the vegetative and hydrologic indicators in problematic soil conditions thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland KK

Wetland LL

Wetland LL spans an area of 2.305 acres (100,411 sq. feet). It includes areas along the eastern bank of the Yakima River and surrounds a vegetated high flow channel. Scrub-shrub and emergent wetlands are present, and some areas on the high water channel's western bank have forested overstories. Wetland LL is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Wetland LL was surveyed over multiple years after the East West Corridor project's location was further finalized. Much of the adjacent, previously aerially-delineated island was resurveyed and found to be upland.

Vegetation: The wetland has multiple plant communities and a diverse array of vegetation. Some of the more abundant species include *Populus balsamifera, Phalaris arundinacea, Salix exigua, Salix fragilis, Rosa woodsii, Ribes aureum, Cornus sericea, Carex obnupta,* and *Typha latifolia.* It met the dominance test indicator for hydrophytic vegetation at all sampling points.

Hydrology: The wetland was inundated in lower elevation areas during site visits. At test pit locations in 2016, hydrology indicators included Sediment Deposits (B2), Drift Deposits (B3), Drainage Patterns (B10), and FAC-Neutral Test (D5). Primary indicators of hydrology were observed in 2019 as a High Water Table (A2) at 8 inches depth and Saturation (A3) present to the surface.

Soil: Much of the soil in Wetland LL is naturally problematic as the wetland occurs along a seasonally-flooded high water channel of the Yakima River. Most soils observed were entisols characterized by recent deposition. In these areas, wetland determination was made based on wetland vegetative and hydrologic indicators. One test pit located near the railroad crossing exhibited redoximorphic features and met hydric soil indicator Redox Dark Surface (F6).

Conclusion: Wetland LL meets indicators of wetland vegetation, hydrology, and where not naturally problematic, hydric soils. Wetland LL meets regulatory technical standards to be classified as a wetland.



Wetland LL

Wetland MM

Wetland MM is a large wetland complex spanning an area of 16.230 acres (706,974 sq. feet). It includes areas along the northeastern bank of the Yakima River, river islands, and vegetated high flow channels. Forested, scrub-shrub, and aquatic bed wetlands are all present in the wetland area. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River, a Water of the U.S.

Vegetation: The wetland has multiple plant communities and a diverse array of vegetation. Some abundant species include *Populus balsamifera*, *Phalaris arundinacea*, *Salix exigua*, *Salix fragilis*, *Phalaris arundinacea*, *Rosa woodsii*, *Ribes aureum*, *Cornus sericea*, *Carex obnupta*, and unknown aquatic bed species. It met the dominance test indicator for hydrophytic vegetation at all sampling points.

Hydrology: The wetland was inundated in lower elevation locations during site visits. At test pit locations, hydrology indicators included Sediment Deposits (B2), Drift Deposits (B3), Drainage Patterns (B10), Oxidized Rhizospheres along Living Roots (C3), and FAC-Neutral Test (D5).

Soil: Much of the soil was natural problematic as it was primarily entisols along gravel bar islands. In these areas, wetland determination was made based on vegetative and hydrologic indicators. Certain locations along the mainland formed redoximorphic features and met hydric soil indicator Redox Dark Surface (F6).

Conclusion: Wetland MM satisfies the vegetation, hydrology, and hydric soil indicators in certain locations, or in some cases a determination was made based on vegetation and hydrology alone. This wetland meets regulatory technical standards to be classified as a wetland.



Wetland MM

Wetland NN

Wetland NN is a vegetated gravel island within the main stem of the Yakima River. It is located within the main stem of the river between Wetland K and Wetland Y and is periodically flooded during high water events. It is 0.132 acres (5,739 sq. feet), most of which is cobble rock with scrub-shrub and emergent vegetation. It is a USACE jurisdictional wetland as it is hydrologically associated with the Yakima River and other Waters of the U.S.

Vegetation: The wetland was primarily dominated by *Salix exigua* and *Phalaris arundinacea*. It met the dominance test indicator for hydrophytic vegetation at sampling points that were representative of the wetland area.

Hydrology: The wetland was inundated with two inches of water during the site visit, meet hydrology indicator Surface Water (A1) as well as exhibiting Sediment Deposits (B2).

Soil: As entisols within the Yakima River floodplain, soils within Wetland NN were naturally problematic and not used in wetland determination. Entisols do not always display hydric soils characteristics so the determination was based on vegetation and hydrology indicators. In general, soils encountered were pure cobble to the surface.

Conclusion: Wetland NN satisfies the vegetation and hydrology indicators with problematic soils, thereby meeting the regulatory technical standards to be classified as a wetland.



Wetland NN

Wetland PP

Wetland PP is an island between the Yakima River and a web of side channels. It is 10.677 acres (465,072 sq. feet) and hydrologically associated with the Yakima River, and therefore is under USACE jurisdiction.

Vegetation: Vegetation in Wetland PP consists of mainly forested and scrub shrub species. They include *Populus balsamifera, Acer saccharinum, Alnus rhombifolia, Ribes aureum,* and *Cornus sericea*. These species and their absolute cover meet the dominance test to satisfy the requirements for hydrophytic vegetation presence.

Hydrology: Indicators of hydrology were present, including Sediment Deposits (B2), Drift Deposits(B3), and Drainage Patterns (B10).

Soils: Wetland CC contains naturally problematic soils, as it is located directly within the floodplain of the Yakima River and is subjected to frequent flooding, erosion, and deposition. Soils here are entisols and sandy in nature, thus wetland determination was made based on vegetative and hydrologic indicators. Soils found were fine sand to silty sand in texture.

Conclusion: Based on hydrophytic vegetation and hydrology, Wetland CC meets technical requirements to be classified as a jurisdictional wetland



Wetland PP

6. CONCLUSION

Based on the data collected, 39 wetlands exist within the study area. The wetlands listed in Table 3 were determined to be jurisdictional under USACE guidelines. Water from these wetlands eventually reach the Yakima River, which drain into the Columbia River, a navigable water and classifying them under USACE jurisdiction. In our professional opinion, wetlands R, S, and T were determined to fall outside of USACE justification, however a USACE jurisdictional determination will be required to confirm this conclusion. All wetlands will be regulated at the state and local level regardless of federal jurisdiction. The combined acreage of all 39 wetlands is approximately 81.287 acres, or roughly 14.9% of the study area's total 544.5 acres. Of note, the total wetland acreage is expected to be an overestimate due to the approved aerialdelineation of some riverine islands, which may include some upland areas.

Wetland Name	Area (acres)	Wetland Name	Area (acres)	Wetland Name	Area (acres)	Wetland Name	Area (acres)
Α	0.887	J	0.04	v	1.123	FF	0.089
В	0.01	к	0.351	w	1.281	нн	0.688
С	1.555	L	0.427	X	9.014	П	2.060
D	0.044	м	0.44	Y	9.941	11	0.570
E	0.041	N	0.482	Z	0.978	КК	0.508
F	0.012	0	1.103	AA	0.056	LL	2.305
G	0.072	Р	4.079	BB	0.072	ММ	16.230
н	0.200	Q	10.827	СС	0.042	NN	0.132
I	0.084	U	0.840	DD	3.927	PP	10.677

Table 3. Jurisdictional Wetlands

Table 4. Non-Jurisdictional Wetlands

Wetland Name	Area (acres)
R	0.214
S	0.122
т	0.164

Once impacts to wetlands have been identified and quantified, mitigation will be undertaken in accordance with USACE guidelines if necessary. Wetland ratings and mitigation strategies will be included in a separate mitigation report document.

This report documents the investigation, best professional judgment and conclusions of the investigators. It should be considered a preliminary jurisdictional determination until it has been reviewed and approved in writing by the USACE in accordance with Section 404 of the Clean Water Act.

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Wetland Determination Data Forms

Wetland A	A1
TP-1 (WET A)	A1
TP-15 (UPL A)	A3
Wetland B	A5
TP-2 (WET B)	A5
TP-16 (UPL B)	Α7
Wetland C	Α9
TP-201 (WET C)	Α9
TP-10 (UPL C)	
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TP-203 (WET D)	A13
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TP-5 (WET E)	A17
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TP-6 (WET F)	
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TP-33 (WET S)	A71
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TP-36 (UPL T)	
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Wetland W	A87
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TP-218 (UPL Y)	
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TP-80 (UPL Z)	
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TP-82 (UPL Z)	
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TP-97 (UPL AA)	
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TP-100 (WET BB)	
TP-99 (UPL BB)	
Wetland CC	A115
TP-52 (WET CC)	
Wetland DD	A117
TP-53 (WET DD)	
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Wetland FF	A119
TP-55 (WET FF)	A119
Wetland HH	A121
TP-57 (WET HH)	A121
Wetland II	A123
TP-58 (WET II)	A123
Wetland JJ	A125
TP-59 (WET JJ)	A125
TP-61 (UPL JJ)	A127
Wetland KK	A129
TP-206 (WET KK)	A129
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TP-84 (WET LL)	A133
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Wetland NN	A159
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Wetland PP	A161
TP-69 (WET PP)	A161
TP-68 (UPL PP)	A163

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Project Site: East-West Corridor					City/Count	ty: <u>Yakima/Yakima</u> Samplir	g Date:	10/6/1	15	
Applicant/Owner: Yakima County						State: <u>WA</u> Samplin	g Point:	<u>TP-1,</u>	WE	<u>T A</u>
Investigator(s): Jason Cade, Widener and Assoc	iates				Section, To	ownship, Range: <u>18, 13N, 19E</u>				
Landform (hillslope, terrace, etc.): terrace				Loc	cal relief (cor	ncave, convex, none): <u>concave</u>	Slop	oe (%):	<u>0</u>	
Subregion (LRR): <u>B</u>	Lat: 4	46.614	4775			Long: <u>-120.492686</u> Da	atum: <u>N</u>	IAD83		
Soil Map Unit Name: Weirman fine sandy loam, wet						NWI classification: <u>r</u>	ione			
Are climatic / hydrologic conditions on the site typic	cal for this	s time	e of yea	ar?	Yes 🛛	No 🔲 (If no, explain in Remarks.)				
Are Vegetation D, Soil D, or Hydrology	🗌 sigi	nificar	ntly dis	sturbed	? Are "	Normal Circumstances" present?	Yes	\boxtimes	No	
Are Vegetation □, Soil □, or Hydrology	🗌 nat	turally	proble	ematic?	lf ne	eded, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site man st	owina	sami	olina	point	locations	transects important features etc				
Hydrophytic Vegetation Present?	Yes		No			······································				
Hydric Soil Present?	Yes		No		Is the Sam	pled Area within a Wetland?	Yes		No	
Wetland Hydrology Present?	Yes		No					_		_
Remarks:				-						
VEGETATION – Use scientific names of plants	5.									
Tree Stratum (Plot size:30')	Absolute % Cove	e l	Domin: Specie	ant s?	Indicator <u>Status</u>	Dominance Test Worksheet:				
1. <u>none</u>			<u> </u>			Number of Dominant Species	2			(A)
2		-				That Are OBL, FACW, or FAC:	<u> </u>			(A)
3		-				Total Number of Dominant	2			(B)
4		-				Species Across All Strata:	<u> </u>			(D)
50% =, 20% =	<u>0</u>	:	= Total	l Cover		Percent of Dominant Species	100			(A/B)
Sapling/Shrub Stratum (Plot size: <u>15'</u>)						That Are OBL, FACW, or FAC:	100			(778)
1. <u>Salix exigua</u>	<u>10</u>	2	yes		FACW	Prevalence Index worksheet:				
2		-				<u>Total % Cover of :</u>	Multiply	<u>/ by:</u>		
3		-				OBL species	x1 =		-	
4		-				FACW species	x2 =		-	
5		-				FAC species	x3 =		-	
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	:	= Total	l Cover		FACU species	x4 =		_	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)						UPL species	x5 =		_	
1. <u>Phalaris arundinacea</u>	<u>98</u>	2	yes		FACW	Column Totals: (A)			(B)
2. <u>Brassica rapa</u>	<u>2</u>	<u> 1</u>	no		FACU	Prevalence Index = B/A =				
3		_				Hydrophytic Vegetation Indicators:				
4		_				Dominance Test is >50%				
5		_				\square Prevalence Index is <3.0 ¹				
6		_				Morphological Adaptations ¹ (Provi	de supp	ortina		
7		_				data in Remarks or on a separate	sheet)	3		
8		_				Problematic Hydrophytic Vegetation	on ¹ (Exp	lain)		
50% = <u>50,</u> 20% = <u>20</u>	100	:	= Total	l Cover				,		
Woody Vine Stratum (Plot size:15')						¹ Indicators of hydric soil and wetland hydrolog	y must			
1		-								
2		-				Hydrophytic				
50% =, 20% =	<u>0</u>	:	= Total	l Cover		Vegetation Yes	\boxtimes	No		
% Bare Ground in Herb Stratum 0	% Co	ver of	Biotic	Crust		Present?				
Remarks:										

US Army Corps of Engineers

soi	L										Sampli	ng Poin	t: <u>TP-1,</u>	WET A
Prof	ile Descri	ption: (Describe t	o the depth	needed to d	ocumen	t the indic	ator or conf	irm the absence	of indica	ators.)				
C	Depth	Matrix				Redox Fe	eatures							
<u>(ir</u>	nches)	Color (moist)	%	Color (Mo	ist)	<u>%</u>	Type ¹	Loc ²	Text	ure <u>Re</u> r	marks			
	<u>0-5</u>	<u>2.5Y 4/2</u>	<u>95</u>	<u>10YR 4/</u>	<u>6</u>	<u>5</u>	<u>C</u>	<u>PL</u>	<u>si l</u>	<u>o</u>				
ł	<u>5-20</u>	<u>10YR 2/2</u>	<u>95</u>	<u>10YR 4/</u>	<u>6</u>	<u>5</u>	<u>C</u>	<u>PL, M</u>	<u>si l</u>	<u>o</u>				
_														
-						<u> </u>								
-			·											
¹ Typ	e: C= Cor	centration, D=Dep	letion, RM=	Reduced Matr	ix, CS=C	Covered or	Coated Sand	d Grains. ² Locati	ion: PL=F	Pore Lining, M=M	atrix.			
Hyd	ric Soil In	dicators: (Applica	ble to all L	RRs, unless o	otherwis	e noted.)			Inc	licators for Prob	lematic I	Hydric	Soils ³ :	
	Histosol	(A1)			Sandy	Redox (S5	5)			1 cm Muck (A	A9) (LRR	C)		
	Histic Ep	pipedon (A2)			Strippe	ed Matrix (S	6)			2 cm Muck (A	A10) (LR	RB)		
	Black Hi	stic (A3)			Loamy	Mucky Mir	neral (F1)			Reduced Ve	rtic (F18)			
	Hydroge	en Sulfide (A4)			Loamy	Gleyed Ma	atrix (F2)			Red Parent I	Material (TF2)		
	Stratified	d Layers (A5) (LRR	C)	\boxtimes	Deplete	ed Matrix (F3)			Other (Expla	in in Rem	narks)		
	1 cm Mu	ıck (A9) (LRR D)			Redox	Dark Surfa	ace (F6)							
	Depleted	d Below Dark Surfa	ice (A11)		Deplete	ed Dark Su	urface (F7)							
	Thick Da	ark Surface (A12)			Redox	Depressio	ns (F8)			³ Indicators of	f hydroph	vtic voa	etation a	nd
	Sandy M	lucky Mineral (S1)			Vernal	Pools (F9))			wetland hy	/drology r	nust be	present,	
	Sandy G	Bleyed Matrix (S4)								unless di	isturbed o	or proble	ematic.	
Res	trictive La	ayer (if present):												
Туре	e:													
Dep	th (Inches)):						Hydric Soils Pr	resent?		Yes	\boxtimes	No	
Rem	narks:													
НҮ	OROLOG	βY												
Wet	land Hydr	ology Indicators:												
Prim	ary Indica	tors (minimum of o	ne required	check all that	t apply)				Seco	ondary Indicators	(2 or mo	re requi	red)	
	Surface	Water (A1)			Salt Cr	ust (B11)				Water Marks (B	1) (River	ine)		
	High Wa	ater Table (A2)			Biotic (Crust (B12))			Sediment Depo	sits (B2)	(Riverir	ne)	
	Saturati	on (A3)			Aquatio	c Invertebra	ates (B13)			Drift Deposits (E	33) (Rive	rine)		

Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? \boxtimes Yes No Depth (inches): \boxtimes Water Table Present? Depth (inches): Yes No Saturation Present? Wetland Hydrology Present? \boxtimes Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Hydrogen Sulfide Odor (C1)

Oxidized Rhizospheres along Living Roots (C3)

Drainage Patterns (B10)

Dry-Season Water Table (C2)

 \boxtimes

Remarks:

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Water Marks (B1) (Nonriverine)

Sediment Deposits (B2) (Nonriverine)

Arid West - Version 2.0

Yes

 \boxtimes

No

Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/8/15</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-15, U</u>	<u>P A</u>
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>		Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Loc	cal relief (cor	icave, convex, none): <u>convex</u>	Slop	be (%): <u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	14727		Long: <u>-120.492817</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman fine sandy loam, wet				NWI classif	ication: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation 🛛, Soil 🖾, or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes	□ No	\boxtimes
Are Vegetation □, Soil □, or Hydrology	naturall	y problematic?) (If ne	eded, explain any answers in Remark	.s.)		
SLIMMARY OF FINDINGS - Attach site man st	owing san	nling point	locations	transacts important features	oto		
Hydrophytic Vegetation Present?			iocations,	transects, important reatures,	610.		
Hydric Soil Present?			ls the Sam	nled Area within a Wetland?	Vas		
Wetland Hydrology Procent?			is the ball		163		
Remarks: TP-15 within limits of fill for access road	res 🗋						
VECETATION - Use scientific names of plant							
Tree Stretum (Plot size:20)	Absolute	Dominant	Indicator	Deminence Test Worksheet			
Tree Stratum (Plot size. <u>30</u>)	% Cover	Species?	<u>Status</u>	Dominance Test worksheet:			
1. <u>none</u>				Number of Dominant Species	<u>1</u>		(A)
2				That Are OBL, FACW, of FAC:			
3				Total Number of Dominant	3		(B)
4				Species Across All Strata.	_		
50% =, 20% =	<u>0</u>	= Total Cover		Percent of Dominant Species	33		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:			()
1. <u>Rosa woodsii</u>	<u>25</u>	yes	FACU	Prevalence Index worksheet:			
2. <u>Salix exigua</u>	<u>15</u>	yes	FACW	<u>Total % Cover of :</u>	Multiply	<u>v by:</u>	
3. <u>Robinia pseudoacacia</u>	<u>10</u>	<u>yes</u>	FACU	OBL species	x1 =		
4				FACW species <u>15</u>	x2 =	<u>30</u>	
5				FAC species	x3 =		
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cover		FACU species <u>35</u>	x4 =	<u>140</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =		
1. <u>none</u>				Column Totals: <u>50</u> (A)		<u>170</u> (B)	
2				Prevalence Ind	ex = B/A = <u>3.4</u>		
3.				Hydrophytic Vegetation Indicator	s:		
4.				Dominance Test is >50%	6		
5.				Prevalence Index is <3 (11		
6					, na ¹ (Dravida auna	artina	
7				data in Remarks or on a	separate sheet)	brung	
8					Vagatation ¹ (Expl		
50% = 20% =	0	= Total Cover				airi)	
Woody Vine Stratum (Plot size:15')	<u>v</u>			¹ Indicators of hydric soil and wetland	d hydrology must		
1				be present, unless disturbed or prob	lematic.		
2							
<u> </u>	0	- Total Cover		Hydrophytic Vegetation	Yes 🗆	No	
90 / 0, 20 / 0	<u>v</u> % Cover	- Total Cover		Present?		-	_
⁷⁰ bare Ground in Herb Stratum <u>100</u>	% Cover (DI BIOLIC CRUST					
Remarks:							

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Project Site:	East-West Corridor
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SOIL										Sampling Point: <u>TP-15, U</u>	<u>P A</u>
Profile Descr	iption: (Descri	ibe to th	ne depth	n neede	ed to d	ocument the indicator or conf	irm the abs	sence of	indica	tors.)	
Depth	Mat	rix				Redox Features					
(inches)	Color (moist	<u>t)</u>	%	Col	lor (Mo	ist) <u>%</u> Type ¹	Loc	2	Textu	<u>ire</u> <u>Remarks</u>	
<u>0+</u>		-						_	gravel	<u> fill</u>	
		-						_			
		-						_			
		-			<u> </u>			_			
		-						_			
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.											
Hyaric Soli in	(A1)	plicable	to all L	RRS, U		Sondy Rodey (SE)				1 cm Muck (A0) (I BB C)	
	(AI) ninadan (AQ)					Sandy Redox (SS)					
	pipedon (AZ)					Supped Matrix (So)				2 cm muck (A10) (LRR B) Reduced Vortic (E18)	
	$\operatorname{Sub}(A3)$					Loamy Gloved Matrix (E2)				Reduced Venic (176)	
	$d \downarrow avors (A5) ($					Doplotod Matrix (F2)				Other (Evelain in Pemarks)	
	u Layers (A3) (Bedox Dark Surface (E6)					
	d Below Dark 9	Surface	(Δ11)			Depleted Dark Surface (F7)					
	ark Surface (Δ1	12)	(////)			Reday Depressions (F8)					
	Aucky Mineral ((S1)				Vernal Pools (E9)				³ Indicators of hydrophytic vegetation and	
□ Sandy 0	Gleved Matrix ((54)			0					unless disturbed or problematic	
Restrictive La	aver (if presen	t):									
Type:		.,									
Depth (Inches):						Hydric S	oils Pres	sent?	Yes 🔲 No 🗵	3
Remarks:	Gravel fill enco	untered	. Unable	to dig	to sam	ple native soils.	-				
Wetland Hyde	Y T	ore									
Primary Indica	ators (minimum	of one i	required	. check	all that	t apply)			Seco	ndary Indicators (2 or more required)	
	Water ($\Delta 1$)		lequireu	, oncor		Salt Crust (B11)				Water Marks (B1) (Riverine)	
	ater Table (A2)	`				Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)	
	ion (A3)	,				Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)	
	Marks (B1) (No	nriverin	ne)		П	Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)	
	ent Deposits (B	2) (Non	, riverine	`		Oxidized Rhizospheres along	l ivina Root	s (C3)		Dry-Season Water Table (C2)	
	eposits (B3) (No	onriveri	ne)	,	П	Presence of Reduced Iron (C4	L)			Cravfish Burrows (C8)	
	soil Cracks (E	36)	,		П	Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)	
Inundat	ion Visible on A	Aerial Im	naderv (I	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)	
 □ Water-S	Stained Leaves	(B9)	5 7 (,		Other (Explain in Remarks)				FAC-Neutral Test (D5)	
Field Observa	ations:	. ,								. /	
Surface Water	r Present?	Yes		No	\boxtimes	Depth (inches):					
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):					
Saturation Pre	esent?	Yee		No		Denth (inches)		Wetla	nd Hvd	rology Present? Yes 🗆 No	
(includes capil	llary fringe)	000 001		nitoring	د المير		as) if availa	hle:			لالت
Describe Reco		eani yai	uye, 110	moning	well, a	enai priotos, previous inspectior	ıs), ıı avalla	ule.			

Remarks: US Army Corps of Engineers

Project Site: East-West Corridor				City/Count	y: <u>Yakima/Yakin</u>	<u>1a</u>	Sampling	g Date:	10/6/15	5
Applicant/Owner: Yakima County					:	State: <u>WA</u>	Samplinç	g Point:	TP-2, \	VET B
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>			Section, To	ownship, Range:	<u>18, 13N, 19E</u>				
Landform (hillslope, terrace, etc.): terrace			Loc	al relief (con	icave, convex, no	ne): <u>concave</u>		Slo	pe (%):	<u>3</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	614479			Long: <u>-120.4</u>	<u>9291</u>	Da	tum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman fine sandy loam, wet						NWI classifi	cation: <u>n</u>	one		
Are climatic / hydrologic conditions on the site typic	cal for this ti	ne of year?	?	Yes 🛛	No 🗆	(If no, explain in Rem	ıarks.)			
Are Vegetation □, Soil □, or Hydrology	signific	antly distur	rbed?	? Are "I	Normal Circumsta	nces" present?		Yes		lo 🗆
Are Vegetation □, Soil □, or Hydrology	natura	lly problem	atic?	' (If ne	eded, explain any	answers in Remarks	s.)			
SUMMARY OF FINDINGS – Attach site map sh	nowing sa	mpling po	oint	locations,	transects, imp	oortant features, e	etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No [ו							
Hydric Soil Present?	Yes 🛛	No 🗆	ו	Is the Sam	pled Area withir	a Wetland?		Yes		lo 🗌
Wetland Hydrology Present?	Yes 🛛	No 🗆								
Remarks:										
VEGETATION - Use scientific names of plant										
Tree Stratum (Plot size:30')	Absolute	Dominant	t	Indicator	Dominance Te	st Worksheet				
<u>1</u> none	<u>% Cover</u>	Species?	-	Status	Dominance re-					
1. <u>none</u>					Number of Dom	inant Species		<u>1</u>		(A)
2					(1100) (100)					
s					Total Number of Species Across	f Dominant All Strata		<u>2</u>		(B)
4		- Total C			epecies / lorese					
	<u>u</u>	= Total C	over		Percent of Dom	inant Species		<u>50</u>		(A/B)
Sapling/Shrub Stratum (Plot size: 15)	10			FAOL						
1. <u>Robinia pseudoacacia</u>	10	<u>yes</u>		FACU	Prevalence Ind			N 4 145 1		
2						al % Cover of :		Multipl	<u>y by:</u>	
3					OBL species			x1 =		
4					FACVV species	<u>100</u>		x2 =	200	
5				—	FAC species			x3 =		
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total C	over		FACU species	<u>10</u>		x4 =	<u>40</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)					UPL species			x5 =		
1. <u>Phalaris arundinacea</u>	<u>100</u>	yes		FACW	Column Totals:	<u>110</u> (A)			<u>240</u> (E	3)
2						Prevalence Inde	x = B/A =	<u>2.18</u>		
3					Hydrophytic V	egetation Indicators	6 .			
4					Don Don	ninance Test is >50%)			
5					Prev Prev	alence Index is <u><</u> 3.0	1			
6					- Mor	phological Adaptatior	าร ¹ (Provid	de supp	ortina	
7					L data	in Remarks or on a	separate s	sheet)	5	
8					Prot	enatic Hydrophytic	Vegetatio	n ¹ (Exp	lain)	
50% = <u>50,</u> 20% = <u>20</u>	100	= Total C	over			, , ,	0		,	
Woody Vine Stratum (Plot size: <u>15'</u>)					¹ Indicators of hy	dric soil and wetland	hydrolog	y must		
1					be present, unit		ernatic.			
2										
50% = , 20% =	0	= Total C	over		Hydrophytic Vegetation		Yes	\boxtimes	No	
% Bare Ground in Herb Stratum 0	– % Cover	of Biotic Cr	rust		Present?					
. contraction										

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	nt the indic	tor or confirm	the absence	of indicators)	Sampling Point: TP-2, WET B
ume	Redox Fe	atures		or mulcators.)	
)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
				muck	
	·				

SOIL	
Profile Description: (Describe to the depth needed to do	с

Depth Matrix					Redox Features											
<u>(in</u>	nches)	Color (moist	:)	%	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc ²		Texture	<u>Remarks</u>				
<u>(</u>	<u>0-20</u>	<u>10YR 2/2</u>		100						_	<u>muck</u>					
_			_							_						
_			_							_						
_			_							_						
_			_							_						
_			_							_						
1Тур	e: C= Cor	centration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Co	ated San	d Grains. 2	Location	: PL=Pore	e Lining, M=Matrix.				
Hydı	ric Soil In	dicators: (App	olicable	to all L	RRs, u	nless	otherwise noted.)				Indica	ators for Problemat	ic Hydric	Soils ³ :		
	Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (L	RR C)			
	Histic Ep	oipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LRR B)			
	Black Hi	stic (A3)				\boxtimes	Loamy Mucky Mine	al (F1)				Reduced Vertic (F	18)			
\boxtimes	Hydroge	en Sulfide (A4)					Loamy Gleyed Matr	x (F2)				Red Parent Materia	al (TF2)			
	Stratified	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in R	emarks)			
	1 cm Mu	uck (A9) (LRR I	D)				Redox Dark Surface	e (F6)								
	Deplete	d Below Dark S	Surface (A11)			Depleted Dark Surfa	ace (F7)								
	Thick Da	ark Surface (A1	2)				Redox Depressions	(F8)				3 Indiantara of hydro	nhutio voo	atation .	a na d	
	Sandy N	/lucky Mineral (S1)				Vernal Pools (F9)					wetland hydrolog	iv must be	present	and	
	Sandy G	Bleyed Matrix (S	54)									unless disturbe	d or probl	ematic.	,	
Rest	trictive La	ayer (if presen	t):													
Туре	e:															
Dept	th (Inches):							Hydric Sc	oils Pres	sent?	Yes	\boxtimes	No		
Rem	arks:	·														
HYD	DROLOG	SY														
Wetl	land Hydi	ology Indicate	ors:													
Prim	ary Indica	tors (minimum	of one r	equired	; check	all that	t apply)				Second	ary Indicators (2 or r	nore requi	red)		
	Surface	Water (A1)					Salt Crust (B11)					/ater Marks (B1) (Ri v	/erine)			
\boxtimes	High W	ater Table (A2)					Biotic Crust (B12)				□ s	ediment Deposits (B	2) (Riveri	ne)		
\boxtimes	Saturati	ion (A3)					Aquatic Invertebrate	s (B13)			D D	rift Deposits (B3) (R i	verine)			
	Water N	/larks (B1) (No i	nriverin	e)			Hydrogen Sulfide O	dor(C1)				rainage Patterns (B1	0)			
							Hydrogen Gallac G									
	Sedime	nt Deposits (B2	2) (Nonr	iverine))		Oxidized Rhizosphe	res along	Living Roots	s (C3)		ry-Season Water Ta	ble (C2)			
	Sedime Drift De	nt Deposits (B2 posits (B3) (No	2) (Nonr onriverir	iverine) 1e))		Oxidized Rhizosphe Presence of Reduce	res along ed Iron (C4	Living Roots 4)	s (C3)		ry-Season Water Ta rayfish Burrows (C8	ble (C2)			
	Sedime Drift De Surface	nt Deposits (B2 posits (B3) (No Soil Cracks (B	2) (Nonr onriverir 66)	iverine) 1e))		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	res along ed Iron (C4 on in Tille	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>i</i>	ble (C2)) Aerial Imag	gery (C9)	
	Sedime Drift De Surface Inundat	nt Deposits (B2 posits (B3) (No Soil Cracks (B ion Visible on <i>A</i>	2) (Nonr onriverir 6) Aerial Ima	i verine) 1 e) agery (E) 37)		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface	res along ed Iron (C4 on in Tille C7)	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>i</i> hallow Aquitard (D3)	ble (C2)) Aerial Ima	gery (C9)	
	Sedime Drift De Surface Inundat Water-S	nt Deposits (B2 posits (B3) (No Soil Cracks (B ion Visible on <i>A</i> Stained Leaves	2) (Nonr onriverin 6) Aerial Ima (B9)	iverine) 1e) agery (E) 37)		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re	res along ed Iron (C4 on in Tille C7) emarks)	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>i</i> hallow Aquitard (D3) AC-Neutral Test (D5	ble (C2)) Aerial Imag)	gery (C9)	
	Sedime Drift De Surface Inundat Water-S	nt Deposits (B2) posits (B3) (No Soil Cracks (B ion Visible on A Stained Leaves ations:	2) (Nonr onriverin 6) Aerial Ima (B9)	iverine) 1e) agery (E) 37)		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re	res along ed Iron (C4 on in Tille C7) emarks)	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on / hallow Aquitard (D3) AC-Neutral Test (D5	ble (C2)) Aerial Imag)	gery (C9)	
	Sedime Drift De Surface Inundat Water-S d Observa ace Water	nt Deposits (B2 posits (B3) (No Soil Cracks (B ion Visible on A Stained Leaves ations: Present?	2) (Nonr onriverin 66) Aerial Ima (B9) Yes	iverine) 1e) agery (E) 37) 		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re Depth (inches):	res along ed Iron (C4 on in Tille C7) marks)	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>I</i> hallow Aquitard (D3) AC-Neutral Test (D5	ble (C2)) Aerial Imag)	gery (C9)	
C Field Surfa Wate	Sedime Drift De Surface Inundat Water-S d Observa ace Water er Table P	nt Deposits (B2) posits (B3) (No soil Cracks (B ion Visible on A Stained Leaves ations: Present? resent?	2) (Nonr onriverin 6) Aerial Ima (B9) Yes Yes	iverine) ne) agery (I) 37) No 		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re Depth (inches): Depth (inches):	res along ad Iron (C4 on in Tille C7) marks)	Living Roots 4) d Soils (C6)	s (C3)		ry-Season Water Ta rayfish Burrows (C8 aturation Visible on <i>i</i> hallow Aquitard (D3) AC-Neutral Test (D5	ble (C2)) Aerial Imag)	gery (C9)	
Field Surfa Satu	Sedime Drift De Surface Inundat Water-S d Observa ace Water er Table P iration Pre	nt Deposits (B2) posits (B3) (No soil Cracks (B ion Visible on A Stained Leaves ations: Present? resent?	2) (Nonr onriverir 6) Aerial Im (B9) Yes Yes Yes	iverine) agery (f) 37) No No		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re Depth (inches): Depth (inches):	res along ad Iron (C4 on in Tille C7) marks) <u>10</u> 2	Living Roots 4) d Soils (C6)	s (C3) Wetlar		ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>i</i> hallow Aquitard (D3) AC-Neutral Test (D5 logy Present?	ble (C2) Aerial Imag) Yes	gery (C9) No	
Field Surfa Vate Satu (inclu	Sedime Drift De Surface Inundat Water-S d Observa ace Water er Table P Iration Pre udes capil	nt Deposits (B2) posits (B3) (No soil Cracks (B ion Visible on A Stained Leaves ations: Present? tresent? lary fringe) preded Data (stre	2) (Nonr onriverir (6) Aerial Im. (B9) Yes Yes Yes	iverine) agery (F) 37) No No No		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re Depth (inches): Depth (inches): Depth (inches):	res along ad Iron (C- on in Tille C7) marks) <u>10</u> 2	Living Roots 4) d Soils (C6)	s (C3) Wetlar	D D C S S S S F A	ry-Season Water Ta rayfish Burrows (C8 aturation Visible on <i>i</i> hallow Aquitard (D3) AC-Neutral Test (D5 logy Present?	ble (C2)) Aerial Imag) Yes	gery (C9) No	
Field Surfa Wate Satu (inclu Desc	Sedime Drift De Surface Inundat Water-5 d Observa ace Water er Table P rration Pre udes capil cribe Reco	nt Deposits (B2) posits (B3) (No Soil Cracks (B ion Visible on A Stained Leaves ations: • Present? • Present? • sent? • lary fringe) • orded Data (stree	2) (Nonr porriverin (6) Aerial Im. (B9) Yes Yes Yes Yes eam gau	iverine) agery (E) B7) No No No nitoring		Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (Other (Explain in Re Depth (inches): Depth (inches): Depth (inches):	res along ad Iron (C- on in Tille C7) <u>marks)</u> <u>10</u> <u>2</u> inspection	Living Roots 4) d Soils (C6)	s (C3) Wetlar	D D C S S S F M d Hydrol	ry-Season Water Ta rayfish Burrows (C8) aturation Visible on <i>I</i> hallow Aquitard (D3) AC-Neutral Test (D5 logy Present?	ble (C2)) Aerial Imag) Yes	gery (C9) No	

US Army Corps of Engineers

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/8/15</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-16, U</u>	РВ
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Lo	ocal relief (cor	ncave, convex, none): <u>convex</u>	Slop	be (%): <u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	<u>514513</u>		Long: <u>-120.49291</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman fine sandy loam, wet				NWI classi	fication: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tir	ne of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)		
Are Vegetation 🛛, Soil 🖾, or Hydrology	signific	antly disturbe	d? Are "	Normal Circumstances" present?	Yes	□ No	
Are Vegetation 🔲, Soil 🔲, or Hydrology	natura	lly problematio	:? (If ne	eded, explain any answers in Remark	(s.)		
SLIMMARY OF FINDINGS - Attach site man sh	owing sa	malina noin	t locations	transacts important features	oto		
Hydrophytic Vegetation Present?				, transects, important leatures,	elc.		
Hydric Soil Prosont?	Voc C		le the San	anlod Aroa within a Wotland?	Voc		
Wetland Hydrology Procent?			is the Sali	ipieu Area within a wetianu?	Tes		
Pomarke: TP 16 within limits of fill for access road							
VECETATION Lies scientific names of plant							
Tree Stretum (Plot size:20)	Absolute	Dominant	Indicator	Deminence Test Workshoet			
Tree Stratum (Plot size:30)	% Cover	Species?	<u>Status</u>	Dominance Test worksneet:			
1. <u>none</u>				Number of Dominant Species	<u>1</u>		(A)
2	<u> </u>			That Are OBL, FACW, of FAC:	_		
3	<u> </u>			Total Number of Dominant	2		(B)
4	<u> </u>			Species Across All Strata:	_		. ,
50% =, 20% =	<u>0</u>	= Total Cove	er	Percent of Dominant Species	50		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, of FAC:			. ,
1. <u>none</u>				Prevalence Index worksheet:			
2				Total % Cover of :	Multiply	<u>v by:</u>	
3				OBL species	x1 =	<u> </u>	
4				FACW species	x2 =	<u> </u>	
5				FAC species <u>4</u>	x3 =	<u>12</u>	
50% =, 20% =	<u>0</u>	= Total Cove	er	FACU species 2	x4 =	<u>8</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	. <u> </u>	
1. <u>Bassia scoparia</u>	<u>3</u>	yes	FAC	Column Totals: <u>8</u> (A)		<u>20</u> (B)	
2. <u>Cirsium arvense</u>	<u>2</u>	<u>yes</u>	FACU	Prevalence Ind	ex = B/A = <u>2.5</u>		
3. <u>Asclepias speciosa</u>	<u>1</u>	no	FAC	Hydrophytic Vegetation Indicator	s:		
4				Dominance Test is >509	%		
5				Prevalence Index is <3.	0 ¹		
6				— Morphological Adaptatic	ons ¹ (Provide supp	ortina	
7				data in Remarks or on a	i separate sheet)	orung	
8.					- Vegetation ¹ (Exp	lain)	
50% = 3.20% = 1.2	6	= Total Cove			vegetation (Exp	iairi)	
Woody Vine Stratum (Plot size:15')	<u> </u>			¹ Indicators of hydric soil and wetlan	d hydrology must		
1				be present, unless disturbed or prol	plematic.		
2.							
50% = 20% =	0	= Total Cove		Hydrophytic Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 94	≚ % Cover	of Biotic Crust	 	Present?			
Remarks:	,, Oover	5. Biolio Ordal		1			
Normanito.							

US Army Corps of Engineers

Project Site:	East-West Corridor
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SOIL							Sampling Point: <u>TP-16, UP B</u>
Profile Description: (Describe t	o the dept	h neede	ed to d	ocument the indicator or conf	irm the abs	ence of indi	icators.)
Depth Matrix				Redox Features			
(inches) Color (moist)	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²	Te	<u>xture</u> <u>Remarks</u>
<u>0+</u>						gra	vel fill
<u></u>							
¹ Type: C= Concentration, D=Dep	letion, RM=	Reduce	ed Matr	rix, CS=Covered or Coated San	d Grains. 2	Location: PL	=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applica	ble to all L	_RRs, u	nless	otherwise noted.)		1	ndicators for Problematic Hydric Soils ³ :
Histosol (A1)				Sandy Redox (S5)		[1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)				Stripped Matrix (S6)		[2 cm Muck (A10) (LRR B)
Black Histic (A3)				Loamy Mucky Mineral (F1)		[Reduced Vertic (F18)
Hydrogen Sulfide (A4)				Loamy Gleyed Matrix (F2)		[Red Parent Material (TF2)
Stratified Layers (A5) (LRR	C)			Depleted Matrix (F3)		[Other (Explain in Remarks)
□ 1 cm Muck (A9) (LRR D)				Redox Dark Surface (F6)			
Depleted Below Dark Surfa	ce (A11)			Depleted Dark Surface (F7)			
Thick Dark Surface (A12)				Redox Depressions (F8)			³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)				Vernal Pools (F9)			wetland hydrology must be present,
Sandy Gleyed Matrix (S4)					1		unless disturbed or problematic.
Restrictive Layer (if present):							
Type:							
Depth (Inches):					Hydric So	oils Present	? Yes 🗌 No 🖾
Remarks: Unable to sample r	ative solis	beneath	i grave				
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of o	ne required	d; check	all tha	t apply)		Se	econdary Indicators (2 or more required)
Surface Water (A1)				Salt Crust (B11)			Water Marks (B1) (Riverine)
High Water Table (A2)				Biotic Crust (B12)			Sediment Deposits (B2) (Riverine)
Saturation (A3)				Aquatic Invertebrates (B13)			Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriv	erine)			Hydrogen Sulfide Odor (C1)			Drainage Patterns (B10)
Sediment Deposits (B2) (N	onriverine))		Oxidized Rhizospheres along	Living Roots	(C3)	Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriv	verine)			Presence of Reduced Iron (C4	4)		Crayfish Burrows (C8)
Surface Soil Cracks (B6)				Recent Iron Reduction in Tille	d Soils (C6)		Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aeria	I Imagery ((B7)		Thin Muck Surface (C7)			Shallow Aquitard (D3)
Water-Stained Leaves (B9))			Other (Explain in Remarks)			FAC-Neutral Test (D5)
Field Observations:							
Surface Water Present? Y	es 🗌	No	\boxtimes	Depth (inches):			
Water Table Present? Y	es 🗌	No	\boxtimes	Depth (inches):			
Saturation Present?	_	NI-		Death (inches);		Watland H	vdrology Present? Ves 🗆 No 🕅
(includes capillary fringe)	es 🛛	INO		Depth (inches):		Wellanu n	

Remarks: US Army Corps of Engineers

Project Site:	East-West Corri	<u>dor</u>		City/County:	Sampling I	Date:	<u>1-18-</u>	19			
Applicant/Owner:	<u>Yakima County</u>					State: <u>WA</u>	Sampling F	Point:	<u>TP-2</u> WET	2 <u>01 (0</u>)	2
Investigator(s):	<u>Teddi McFall, W</u>	idener and Associate	es	Section, Tow	nship, Range	: <u>18, 13N, 19E</u>				_	
Landform (hillslope,	terrace, etc.): flo	odplain_		Local relief (conca	ave, convex, n	ione): <u>concave</u>		Slo	pe (%)	<u> 1</u>	
Subregion (LRR)	: <u>B</u>	L	at: <u>46.6206809</u>		Long: <u>-120</u>	.4976110	Datu	m: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channeled				NWI class	ification: <u>nor</u>	e			
Are climatic / hyd	drologic condition	s on the site typical f	or this time of year?	Yes 🛛	No 🗌	(If no, explain in Re	emarks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly distur	bed? Are "No	ormal Circums	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	naturally problema	atic? (If need	led, explain ar	ny answers in Remar	ks.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No							
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sampled Area within a Wetland?	Yes	\boxtimes	No [
Wetland Hydrology Present?	Yes	\boxtimes	No							
Remarks: cobble rock encountered at 8 inch depth, hvdric soil indicators found above										

Remarks: cobble rock encountered at 8 inch depth, hydric soil indicators found above

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <u>none</u>			_	Number of Dominant Species	3
2				That Are OBL, FACW, or FAC:	,
3				Total Number of Dominant 2 (B	3
4				Species Across All Strata:	,
50% =, 20% =	<u>0</u>	= Total Cove	r	Percent of Dominant Species 50 (A	/B)
Sapling/Shrub Stratum (Plot size:15')				That Are OBL, FACW, or FAC:	,0)
1. <u>Rosa woodsii</u>	<u>20</u>	<u>yes</u>	FACU	Prevalence Index worksheet:	
2				Total % Cover of : Multiply by:	
3				OBL species 12 x1 = 12	
4				FACW species $\underline{32}$ $x2 = \underline{64}$	
5				FAC species 15 x3 = 45	
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u>	= Total Cove	r	FACU species <u>20</u> x4 = <u>80</u>	
Herb Stratum (Plot size:5')				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>ves</u>	FACW	Column Totals: <u>79</u> (A) <u>201</u> (B)	
2. <u>Lythrum salicaria</u>	<u>1</u>	no	<u>OBL</u>	Prevalence Index = $B/A = 2.54$	
3. Iris pseudacorus	<u>1</u>	<u>no</u>	OBL	Hydrophytic Vegetation Indicators:	
4. <u>Rumex crispus</u>	<u>5</u>	no	FAC	Dominance Test is >50%	
5. <u>Typha latifolia</u>	<u>10</u>	no	<u>OBL</u>	Prevalence Index is $\leq 3.0^1$	
6. <u>Juncus effusus</u>	<u>2</u>	<u>no</u>	FACW	Morphological Adaptations ¹ (Provide supporting	
7. <u>Lepidium latifolium</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>29.5</u> , 20% = <u>11.8</u>	<u>59</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetland hydrology must	
1					
2				Hudronhutio	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes No	נ
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		Present?	
Remarks:					

US Army Corps of Engineers

SOI	L									S	ampling	Point:]	ГР-201 ((C WET)
Profi	le Descri	ption: (Describe f	to the dept	th needed to de	ocument the ind	licator or confi	irm the absence	of indica	ators.)					
D	epth	Matrix			Redox	Features								
<u>(in</u>	ches)	Color (moist)	<u>%</u>	Color (Moi	<u>st) %</u>	Type ¹	Loc ²	Text	ure	Rer	marks			
	0-4	<u>10 YR 3/2</u>	<u>100</u>					sa	lo					
:	<u>4-8</u>	<u>10 YR 3/2</u>	<u>98</u>	<u>5 YR 8/5</u>	<u>5 2</u>	<u>C</u>	<u>PL</u>	<u>sa lo</u>	am					
	<u>8 +</u>							cobble	rock	<u>unable to</u>	o dig dee	eper		
_														
							<u> </u>							
1Туре	e: C= Con	centration, D=Dep	letion, RM	=Reduced Matri	x, CS=Covered	or Coated Sand	l Grains. ² Locati	ion: PL=l	Pore Lin	ing, M=Ma	atrix.			
Hydr	ic Soil In	dicators: (Applica	able to all	LRRs, unless o	otherwise noted	l.)		Inc	dicators	s for Prob	lematic	Hydric	Soils ³ :	
	Histosol	(A1)		\boxtimes	Sandy Redox (S5)			1 c	m Muck (A	49) (LRF	? C)		
	Histic Ep	ipedon (A2)			Stripped Matrix	(S6)			2 c	m Muck (A	A10) (LR	RB)		
	Black His	stic (A3)			Loamy Mucky	Mineral (F1)			Re	duced Ver	rtic (F18)			
	Hydroge	n Sulfide (A4)			Loamy Gleyed	Matrix (F2)			Re	d Parent M	Material (TF2)		
	Stratified	l Layers (A5) (LRF	R C)		Depleted Matri	x (F3)			Oth	ner (Explai	in in Ren	narks)		
	1 cm Mu	ck (A9) (LRR D)			Redox Dark Su	ırface (F6)								
	Depleted	l Below Dark Surfa	ace (A11)		Depleted Dark	Surface (F7)								
	Thick Da	ark Surface (A12)			Redox Depress	sions (F8)			³ Inc	dicators of	hvdroph	vtic vea	etation a	nd
	Sandy M	lucky Mineral (S1)			Vernal Pools (F	-9)			v	vetland hy	drology i	must be	present,	
	Sandy G	leyed Matrix (S4)								unless di	sturbed	or proble	ematic.	
Rest	rictive La	yer (if present):												
Туре	:													
Dept	h (Inches)	: <u> </u>					Hydric Soils Pr	resent?			Yes	\boxtimes	No	
Rem	arks: c	cobble rock encour	ntered at 8	inches depth.										
HYD	ROLOG	Y												
Wetl	and Hydr	ology Indicators:												
Prima	ary Indicat	tors (minimum of c	one require	d; check all that	apply)			Sec	ondary	Indicators	(2 or mo	re requi	red)	
	Surface	Water (A1)			Salt Crust (B11)			Water	Marks (B	1) (Rive i	rine)		
\boxtimes	High Wa	ater Table (A2)			Biotic Crust (B	12)			Sedim	ent Depos	sits (B2)	(Riverin	ie)	
\boxtimes	Saturatio	on (A3)			Aquatic Inverte	brates (B13)			Drift D	eposits (E	33) (Rive	rine)		
	Water N	larks (B1) (Nonriv	erine)		Hydrogen Sulfi	de Odor (C1)			Draina	age Patter	ns (B10)			
	Sedimer	nt Deposits (B2) (N	lonriverin	e) 🛛	Oxidized Rhizo	spheres along l	Living Roots (C3)		Dry-S	eason Wa	iter Table	e (C2)		
	Drift Dep	posits (B3) (Nonri v	verine)		Presence of Re	educed Iron (C4	.)		Crayfi	sh Burrow	/s (C8)			

Recent Iron Reduction in Tilled Soils (C6)

8

0

Thin Muck Surface (C7)

Depth (inches):

Depth (inches):

Depth (inches):

Other (Explain in Remarks)

Remarks: US Army Corps of Engineers

(includes capillary fringe)

Field Observations: Surface Water Present?

Water Table Present?

Saturation Present?

Surface Soil Cracks (B6)

Water-Stained Leaves (B9)

Inundation Visible on Aerial Imagery (B7)

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No

No

No

 \boxtimes

 \boxtimes

Yes

Yes

Yes

Arid West - Version 2.0

Yes

 \boxtimes

No

Saturation Visible on Aerial Imagery (C9)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Wetland Hydrology Present?

Project Site: East-West Corridor					City/Count	ty: <u>Yakima/Ya</u>	<u>ikima</u>	Samplin	g Date:	<u>10/7/</u>	<u>15</u>	
Applicant/Owner: Yakima County							State: <u>WA</u>	Sampling	g Point:	<u>TP-1(</u>	0, UF	<u> </u>
Investigator(s): Jason Cade, Widener and Assoc	iates				Section, To	ownship, Rang	e: <u>18, 13N, 19E</u>					
Landform (hillslope, terrace, etc.): terrace				Loc	al relief (cor	ncave, convex,	none): <u>none</u>		Slo	pe (%):	<u>0</u>	
Subregion (LRR): <u>B</u>	Lat: <u>4</u> 6	6.62063	3			Long: <u>-12</u>	0.497692	Da	tum: <u>N</u>	AD83		
Soil Map Unit Name: Zillah silt loam							NWI classi	fication: n	one			
Are climatic / hydrologic conditions on the site typic	cal for this	time of	vear	2	Yes 🕅	No 🗖	(If no explain in Re	marks)				
Are Vegetation Soil S or Hydrology	□ sian	ificantly	distu	rbeď	? Are "	Normal Circum	stances" present?	,	Yes	п	No	
Are Vegetation Soil or Hydrology	□ o.g □ natu	rally pro	oblem	atic?	(lf ne	eded evolain :	any answers in Remark	(s)				
		nuny pro	Joiom	ano:	(1110			(0.)				
SUMMARY OF FINDINGS – Attach site map sh	lowing s	amplir	ng po	oint	locations,	transects, i	mportant features,	etc.				
Hydrophytic Vegetation Present?	Yes	🛛 N	o [
Hydric Soil Present?	Yes	□ N	0	\triangleleft	Is the Sam	pled Area wit	hin a Wetland?		Yes		No	\boxtimes
Wetland Hydrology Present?	Yes	□ N	0									
Remarks: TP-10 on edge of fill for dirt access road				_								
VEGETATION – Use scientific names of plants	5.											
Tree Stratum (Plot size:30')	Absolute	Dor	minan	it S	Indicator	Dominance	Test Worksheet:					
1 none	70 COVEL	<u>spe</u>	ecies :	<u> </u>	Status	Number of D	ominant Spaciae					
2						That Are OB	L, FACW, or FAC:		<u>3</u>			(A)
2												
3. <u> </u>			_		—	I otal Numbe Species Acro	er of Dominant oss All Strata:		<u>4</u>			(B)
4		- T		`ovor								
	<u>u</u>	- 1		JUVEI		Percent of D That Are OB	ominant Species I FACW or FAC [.]		<u>75</u>			(A/B)
Sapiing/Shrub Stratum (Piot size: 15)					FAOL	D						
1. <u>Rosa woodsii</u>	<u>1</u>	<u>yes</u>			FACU	Prevalence	Index worksneet:					
2			_			· · · · ·	Total % Cover of :		Multipl	<u>y by:</u>		
3			_			OBL species			x1 =		_	
4			_			FACW speci	es		x2 =		-	
5			_			FAC species			x3 =		_	
50% =, 20% =	<u>1</u>	= T	otal C	Cover		FACU specie	es		x4 =		_	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)						UPL species			x5 =		_	
1. <u>Phalaris arundinacea</u>	<u>30</u>	yes			FACW	Column Tota	lls: (A)				_ (B	3)
2. <u>Bassia scoparia</u>	20	yes			FAC		Prevalence Inde	x = B/A =				
3. Lepidium latifolium	10	no			FAC	Hydrophytic	· Vegetation Indicator	's:				
4. Artemesia absinthium	2	no			NI		ominance Test is >50°	%				
5	-	_			_		Provalance Index is <2	01				
6			_					1				
7			_				/lorphological Adaptatic lata in Remarks or on a	ons' (Provid a separate :	de supp sheet)	orting		
7. <u> </u>			_					, oopalato				
8			_			L F	Problematic Hydrophytic	c Vegetatio	on ¹ (Exp	lain)		
50% = <u>31</u> , 20% = <u>12.4</u>	<u>62</u>	= Te	otal C	Cover		¹ Indicators of	f hydric soil and wetlan	d hydrolog	vmuet			
Woody Vine Stratum (Plot size: <u>15'</u>)						be present, L	inless disturbed or prol	olematic.	ymust			
1. <u>Clematis vitalba</u>	<u>10</u>	<u>yes</u>			<u>FAC</u>							
2			_			Hydrophytic	:		_			_
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Te	otal C	over		Vegetation		Yes	\boxtimes	No	1	
% Bare Ground in Herb Stratum <u>38</u>	% Cov	er of Bio	otic C	rust		Present?						
Remarks:												

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SOIL

SUL										Sampli	ng Poin	:: <u>TP-</u>	10, UF	<u>- C</u>
Profile Descr	iption: (Descri	be to th	e depti	n need	ed to d	ocument the indicator or con	firm the abs	sence of	indicato	rs.)				
Depth	Matr	ix				Redox Features								
(inches)	Color (moist	:)	%	Co	lor (Mo	ist) <u>%</u> Type ¹	Loc	2	Texture	Remarks				
0-2	2.5Y 4/1	_	100						si lo	cobbly				
2+								_	cobble					
								_						
		_												
		_						_						
		_						_						
¹ Type: C= Co	ncentration D=I	 Depletio	n RM=	Reduce	ed Mat	rix_CS=Covered or Coated San	d Grains	² Location	PI =Por	e Lining M=Matrix				
Hvdric Soil Ir	ndicators: (App	olicable	to all L	RRs. u	inless	otherwise noted.)		Looddor		ators for Problematic F	lvdric S	Soils ³ :		
☐ Histoso	l (A1)			,.		Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
	ninedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (I RF	2, 2, B)			
Black H	istic (A3)					Loamy Mucky Mineral (E1)				Reduced Vertic (F18)	,			
	en Sulfide (A4)					Loamy Gleved Matrix (F2)				Red Parent Material (1	F2)			
□ Stratifia	d Lavers (Δ5) (I	RR C)				Depleted Matrix (F3)				Other (Explain in Rem	·⊢/ arks)			
		ר)				Redox Dark Surface (E6)					arksj			
	d Bolow Dark S) Surfaco (A11)			Deploted Dark Surface (F7)								
			A11)			Bedex Depressions (E9)								
	ark Surface (Ar	2) 61)				Nerral Deals (F0)				³ Indicators of hydrophy	tic vege	etation	and	
		51) 24)				vernai Pools (F9)				wetland hydrology m	iust be	presen	t,	
	Sleyed Matrix (S	54)								uniess disturbed o	r proble	matic.		
Restrictive L	ayer (if present	t):												
Type:	、									N.	_		N	7
Depth (Inches	<u> </u>	<u>.</u>					Hydric S	olis Pres	sent?	res		NO	×	
Remarks:	Cobble layer at	2 inch c	ieptn. U	Inable	to alg c	eeper to sample soils.								
HYDROLOG	GY													
Wetland Hyd	rology Indicate	ors:												
Primary Indica	ators (minimum	of one r	equired	; check	all tha	t apply)			Second	lary Indicators (2 or mor	e requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)				/ater Marks (B1) (Riveri	ne)			
🔲 High W	ater Table (A2)					Biotic Crust (B12)			🗆 s	ediment Deposits (B2) (Riverin	e)		
□ Saturat	ion (A3)					Aquatic Invertebrates (B13)				rift Deposits (B3) (River	ine)	-		
□ Water I	Marks (B1) (No i	nriverin	e)			Hydrogen Sulfide Odor (C1)				rainage Patterns (B10)				
Sedime	ent Deposits (B2	2) (Nonr	iverine)		Oxidized Rhizospheres along	Living Root	s (C3)		ry-Season Water Table	(C2)			
 □ Drift De	posits (B3) (No	nriverir	ne)	,	Π	Presence of Reduced Iron (C	4)	()		ravfish Burrows (C8)	(-)			
	e Soil Cracks (R	6)	-,			Recent Iron Reduction in Tille	, d Soils (C6)			aturation Visible on Aeri	al Imao	erv (Co))	
	tion Visible on A	-, Aerial Im	agery (l	B7)		Thin Muck Surface (C7)	()			hallow Aquitard (D3)		, (,	
□ Water-	Stained Leaves	(B9)	agory (i	51)		Other (Explain in Remarks)			⊠ F	AC-Neutral Test (D5)				
Field Observ	ations:	(==)						[
Surface Wate	r Present?	Yes		No		Depth (inches):								
Water Table	Procent?	Vee		No		Depth (inches):								
Saturation Dr	resent?	165		INU										
(includes capi	llary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetlar	nd Hydro	logy Present?	Yes		No	\boxtimes
Describe Rec	orded Data (stre	eam gau	ige, mo	nitoring	y well, a	erial photos, previous inspectio	ns), if availa	ble:						
Pomarks:														

US Army Corps of Engineers

Project Site:	East-West Corrid	or			City/County: Yakima/Yakima				ng Date:	<u>1-21-</u>	<u>19</u>	
Applicant/Owner:	Yakima County						State: <u>WA</u>	Samplin	g Point:	<u>TP-20</u> wet)	<u>)3 (</u> [<u>) -</u>
Investigator(s):	<u>Teddi McFall, Wi</u>	dener & Associ	ates		Section, Tov	wnship, Range	<u>18, 13N, 19E</u>					
Landform (hillslope, t	terrace, etc.): <u>ter</u>	race		Loca	I relief (conc	ave, convex, n	one): <u>none</u>		Slo	pe (%):	<u>0</u>	
Subregion (LRR):	<u>B</u>		La	t: <u>46.61100</u>		Long: <u>-120.</u>	490926	Da	atum: <u>N</u>	IAD83		
Soil Map Unit Name:	<u>Zillah silt loam</u>						NWI class	sification: <u>r</u>	none			
Are climatic / hyd	rologic conditions	on the site typi	ical fo	r this time of year?	Yes 🛛	No 🗌	(If no, explain in R	emarks.)				
Are Vegetation \Box ,	Soil □,	or Hydrology		significantly disturbed?	Are "N	ormal Circums	tances" present?		Yes	\boxtimes	No	
Are Vegetation \Box ,	Soil □,	or Hydrology		naturally problematic?	(If nee	ded, explain ar	ny answers in Rema	arks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes	\boxtimes	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks:							

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Salix fragilis</u> 2	<u>80</u>	<u>yes</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
3.				Total Number of Dominant	(B)
4				Species Across All Strata:	()
50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	= Total Cove	r	Percent of Dominant Species 100	(A/B)
Sapling/Shrub Stratum (Plot size:15 'r)				That Are OBL, FACW, or FAC:	(,,,,)
1. <u>Salix exigua</u>	<u>10</u>	<u>yes</u>	FACW	Prevalence Index worksheet:	
2. <u>Salix fragilis</u>	<u>10</u>	yes	FAC	Total % Cover of : Multiply b	<u>'Y:</u>
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>ves</u>	FACW	Column Totals: (A)	(B)
2. <u>Rumex crispus</u>	<u>10</u>	no	FAC	Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide support	ting
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explai	n)
50% = <u>55</u> , 20% = <u>22</u>	<u>110</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic	
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes	No 🗌
% Bare Ground in Herb Stratum 5	% Cover	of Biotic Crust	<u> </u>	Present?	
Remarks:					

US Army Corps of Engineers

SOIL

SOIL													Sampl	ing Point	: <u>TP-20</u>	<u>3 (D -w</u>	<u>/et)</u>	
Profile Des	scription: (Descrit	be to th	e depth	n neede	ed to d	ocument	t the indicat	or or conf	irm the abs	sence of	f indicat	ors.)						
Depth	Matri	х					Redox Feat	tures										
<u>(inches)</u>	(inches) Color (moist) <u>%</u> Col		lor (Mo	i <u>st)</u>	<u>%</u>	Type ¹	Loc	2	<u>Textu</u>	e	Re	marks						
<u>0-6</u>	<u>10 YR 3/2</u>		<u>100</u>							_	<u>sandy</u>	<u>si</u>						
<u>6-12</u>	<u>10 YR 3/2</u>		<u>98</u>	<u>2</u> .	5 YR 5	<u>/8</u>	<u>2</u>	<u>C</u>	<u>PL</u>		<u>sandy</u>	si						
		_								_								
		_								_								
		_					. <u> </u>			_								
							·			_								
¹ Type: C= 0	Concentration, D=[Depletio	n, RM=l	Reduce	ed Matr	ix, CS=C	overed or Co	pated Sand	d Grains.	² Locatio	n: PL=Po	ore Linin	ng, M=N	latrix.				
Hydric Soi	I Indicators: (App	licable	to all L	.RRs, u	nless	otherwis	e noted.)				Indi	cators f	for Prol	blematic	Hydric	Soils ³ :		
Histo	sol (A1)				\boxtimes	Sandy	Redox (S5)					1 cm	Muck ((A9) (LR I	R C)			
Histic	c Epipedon (A2)					Strippe	d Matrix (S6))				2 cm	Muck ((A10) (LF	RR B)			
Black	(Histic (A3)					Loamy	Mucky Mine	ral (F1)				Redu	uced Ve	ertic (F18)			
Hydro	ogen Sulfide (A4)					Loamy	Gleyed Matr	ix (F2)				Red	Parent	Material	(TF2)			
Strati	ified Layers (A5) (L	.RR C)				Deplete	ed Matrix (F3	5)				Othe	er (Expla	ain in Rei	marks)			
□ 1 cm	Muck (A9) (LRR D)				Redox	Dark Surface	e (F6)										
	eted Below Dark S	urface (A11)			Deplete	ed Dark Surfa	ace (F7)										
Thick	C Dark Surface (A1	2)				Redox	Depressions	(F8)				³ Indic	cators o	f hydropl	hytic veg	etation	and	
Sand	Sandy Mucky Mineral (S1)					Vernal	Pools (F9)					we	etland h	ydrology	must be	preser	it,	
Sand	ly Gleyed Matrix (S	4)							1			ι	unless c	listurbed	or proble	ematic.		
Restrictive	e Layer (if present):																
Туре:											_				_		_	_
Depth (Inch	nes):								Hydric So	oils Pre	sent?			Yes		No		J
Remarks:																		
HYDROLO	GY																	
Wetland H	ydrology Indicato	rs:																
Primary Ind	licators (minimum o	of one r	equired	; check	all that	t apply)					Secor	ndary Ind	dicators	s (2 or mo	ore requi	red)		
Surfa	ace Water (A1)					Salt Cr	ust (B11)					Water N	/larks (E	31) (Rive	rine)			
🖾 High	Water Table (A2)					Biotic C	Crust (B12)					Sedime	nt Depo	osits (B2)	(Riverin	ie)		
🖾 Satu	ration (A3)					Aquatio	lnvertebrate	es (B13)				Drift De	posits (B3) (Riv	erine)			
□ Wate	er Marks (B1) (Nor	riverin	e)			Hydrog	en Sulfide O	dor (C1)				Drainag	e Patte	rns (B10)			
🔲 Sedi	ment Deposits (B2) (Nonr	iverine))	\boxtimes	Oxidize	ed Rhizosphe	eres along	Living Root	s (C3)		Dry-Sea	ason Wa	ater Tabl	e (C2)			
Drift	Deposits (B3) (No	nriverir	ıe)			Presen	ce of Reduce	ed Iron (C4	4)			Crayfish	n Burrov	ws (C8)				
Surfa	ace Soil Cracks (Be	6)				Recent	Iron Reduct	ion in Tille	d Soils (C6)			Saturati	on Visit	ole on Ae	erial Imag	ery (C	9)	
Inundation Visible on Aerial Imagery (B7)						(C7)				Shallow	Aquita	rd (D3)						
□ Wate	er-Stained Leaves	(B9)				Other (Explain in Re	emarks)				FAC-Ne	eutral Te	est (D5)				
Field Obse	ervations:																	
Surface Wa	ater Present?	Yes	\boxtimes	No		De	pth (inches):	<u>2</u>										
Water Tabl	e Present?	Yes	\boxtimes	No		De	pth (inches):	<u>11</u>										
Saturation I (includes ca	Present? apillary fringe)	Yes	\boxtimes	No		De	pth (inches):	<u>7</u>		Wetla	nd Hydr	ology P	Present	?	Yes	\boxtimes	No	
Describe R	ecorded Data (stre	am gau	ige, mor	nitoring	well, a	erial pho	tos, previous	inspection	ns), if availa	ble:								

Remarks: US Army Corps of Engineers

Project Site:	East-Wes	t Corrid	or			City/Cou	nty: <u>Yakim</u>	a/Yak	ima	Samplir	ng Date:	<u>1-21-</u>	19	
Applicant/Owner:	<u>Yakima C</u>	ounty							State: <u>WA</u>	Samplin	g Point:	<u>TP-20</u> D)	<u>02 (L</u>	IPL
Investigator(s):	Teddi Mc	Fall, Wi	dener & Associ	ates		Section,	Township, F	Range	<u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, et	c.): <u>hill</u>	slope		Lc	ocal relief (co	oncave, con	vex, n	one): <u>convex</u>		Slo	pe (%):	<u>10</u>	
Subregion (LRR)	: <u>B</u>			Lat	t: <u>46.6110191</u>		Long: <u>-120.4908663</u>					AD83		
Soil Map Unit Name	: <u>Zillah sil</u>	t loam							NWI classif	ication: <u>r</u>	none			
Are climatic / hyd	drologic co	nditions	on the site typ	ical for	this time of year?	Yes 🛛	No No		(If no, explain in Rer	narks.)				
Are Vegetation D,	Soil	⊠,	or Hydrology		significantly disturbed	d? Are	"Normal Cir	cums	tances" present?		Yes		No	\boxtimes
Are Vegetation D,	Soil	⊠,	or Hydrology		naturally problematic	? (If n	eeded, exp	ain ar	ny answers in Remark	.s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No							
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖂			
Wetland Hydrology Present?	Yes		No	\boxtimes						
Remarks: Upland boundary within limits of fill slope for I-82										

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1			_	Number of Dominant Species 3	(A)
2				That Are OBL, FACW, or FAC:	(/ ()
3				Total Number of Dominant	(B)
4				Species Across All Strata:	()
50% =, 20% =		= Total Cove	r	Percent of Dominant Species 100	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:	()
1. <u>Salix fragilis</u>	<u>30</u>	<u>yes</u>	FAC	Prevalence Index worksheet:	
2				Total % Cover of : Multip	<u>oly by:</u>
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>20</u>	<u>ves</u>	FACW	Column Totals: (A)	(B)
2. <u>Bassia scoparia</u>	<u>20</u>	yes	FAC	Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide sup	porting
7				data in Remarks or on a separate sheet)	1
8				Problematic Hydrophytic Vegetation ¹ (Ex	(plain)
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology mus	t
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes	No 🗌
% Bare Ground in Herb Stratum 50	% Cover	of Biotic Crust		Present?	
Remarks:					

US Army Corps of Engineers
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) 2.5 Y 5/4 100 10 + sandy loam 10 +
Depth Matrix Redox Features linchesi Color (moist) % Color (Moist) % Type ! Loc2 Texture Remarks 0-10 2.5 Y 5/4 100
Indicators Color (Moist) % Color (Moist) % Type! Loc2 Texture Remarks 0-0 2.5 Y.5/4 100
0-10 2.5 Y.5/4 100
10+ Cobble rock Unable to dig to sample deeper "Interpretation in the interpretation interpretation in the interpretation interpretation in the interpretation interest interpretation interpretation interestrip interpretation inte
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solis ³ : Histosol (A1) Sandy Redox (S5) 1 or Muck (A9) (LRR C) Histosol (A2) Stripped Matrix (S6) 2 or Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Sulved Watrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I or Muck (A9) (LRR D) Redox Dark Surface (F6) Pepleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Pepth (inches): Hydric Soils Present? Yes No M Remarks: Read fill rock encountered at 10 inches depth- problematic to survey Hydric Soils Present? Yes No M Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Red P arent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Vernal Pools (F9) **utand hydrology must be present; Type: Depth (Inches): Primary Indicators: Road fill rock encountered at 10 inches depth- problematic to survey **Utand Hydrology Indicators (2 or more required) Primary Indicators (Matrix (G1) Surface Water (A1) Startic Water (A1)
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histosol (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Dark Surface (F6) 0 Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (Inches): Yes No Ø Remarks: Road fill rock encountered at 10 inches depth- problematic to survey Hydric Soils Present? Yes No Ø Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histosol (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) andicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Yera No Restrictive Layer (If present): Type:
"Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histos (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): unless disturbed or problematic. Type:
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A0) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Red vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratifed Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Stripped Matrix (S4) Sandy Gleyed Matrix (S4) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:
I Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:
□ Histic Epipedon (A2) □ Stripped Matrix (S6) □ 2 cm Muck (A10) (LRR B) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Red Parent Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4)
□ Black Histic (A3) □ Loamy Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Red Parent Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ Depleted Bak Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Hydric Soils Present? Yes No ⊠ Remarks: Road fill rock encountered at 10 inches depth- problematic to survey Hydric Soils Present? Yes No ⊠ Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) □ Surface Water (A1) □ Salt Crust (B11) □ Water Marks (B1) (Riverine)
Image: Hydrogen Sulfide (A4) Image: Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Image: Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Image: Stratified Layers (A5) (LRR D) Redox Dark Surface (F6) Image: Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Image: Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:
□ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:
□ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ③ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:
□ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present):
□ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present):
Sandy Mucky Mineral (S1) ↓ Vernal Pools (F9) Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present):
□ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:
Restrictive Layer (if present): Type: Depth (Inches): Memarks: Road fill rock encountered at 10 inches depth- problematic to survey Hydric Soils Present? Yes No Remarks: Road fill rock encountered at 10 inches depth- problematic to survey Hydric Soils Present? Yes No Metland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11)
Type:
Depth (Inches): Yes No Image: Constraint of the second seco
Remarks: Road fill rock encountered at 10 inches depth- problematic to survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey Image: Apple of the survey
Image: Primary Indicators: Secondary Indicators (2 or more required) Image: Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)
☐ High Water Table (A2) ☐ Biotic Crust (B12) ☐ Sediment Deposits (B2) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine)
Drift Deposits (B3) (Nonriverine)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)
Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No Depth (inches):
Water Table Present? Yes No Depth (inches):
Saturation Present? Yes D No D Dopth (inches): Watland Hydrology Present? Yes D No M
(includes capillary fringe) Tes I No I Deput (inclues) Wethand Hydrology Fresent ? Tes No X

Arid West – Version 2.0

A16

Project Site: East-West Corridor		City/County	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/7/15</u>	
Applicant/Owner: Yakima County			State: <u>WA</u>	Sampling Point:	<u>TP-5, W</u>	/ET E
Investigator(s): Jason Cade, Widener and Assoc	<u>viates</u>	Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): floodplain	Lo	cal relief (con	icave, convex, none): <u>concave</u>	Slope	e (%): <u>1</u>	<u>1</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.621025</u>		Long: <u>-120.497647</u>	Datum: <u>N/</u>	AD83	
Soil Map Unit Name: Weirman sandv loam, channel	ed		NWI classifi	cation: none		
Are climatic / hydrologic conditions on the site typi		Yes 🕅	No 🗍 (If no explain in Ren	narks)		
Are Vegetation Soil Soil Are Vegetation	□ significantly disturbed	1? Are "ľ	Normal Circumstances" present?	Yes '		
Are Vegetation \square Soil \square or Hydrology	naturally problematic'	2 (lfne	eded explain any answers in Remark	e)		
		: (11166		5.)		
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛 No 🗌					
Hydric Soil Present?	Yes 🛛 No 🗌	Is the Sam	pled Area within a Wetland?	Yes	N N	• 🗆
Wetland Hydrology Present?	Yes 🛛 No 🗌					
Remarks: TP-5 on edge of fill for gravel road						
VEGETATION – Use scientific names of plants	5.					
Tree Stratum (Plot size:30')	Absolute Dominant % Cover Species?	Indicator Status	Dominance Test Worksheet:			
1. <u>none</u>	<u></u>		Number of Dominant Species	_		
2			That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3.			Total Number of Dominant			
4.			Species Across All Strata:	<u>2</u>		(B)
50% =, 20% =	0 = Total Cove	.r	Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:15')			That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. <u>Salix exigua</u>	<u>60 yes</u>	FACW	Prevalence Index worksheet:			
2.			Total % Cover of :	Multiply	by:	
3.			OBL species	x1 =		
4.			FACW species	x2 =		
5.			FAC species	x3 =		
50% = 30, 20% = 12	60 = Total Cove		FACLI species	x4 =		
Herb Stratum (Plot size:5')	<u></u>			x5 =		
1 Bhalaria arundinaaaa	70			X0 -		(D)
	<u>70 yes</u>		Column Totals: (A)	D/A		(D)
2. <u>Lythrum sailcaria</u>	<u>5 no</u>	OBL	Prevalence Index	_= B/A =		
3. <u>Solidago lepida</u>	<u>5 no</u>	FAC	Hydrophytic Vegetation Indicators	*:		
4. <u>Equisetum arvense</u>	<u>1 no</u>	FAC	Dominance Test is >50%	3		
5. <u>Carex sp.</u>	<u>2 no</u>	-	Prevalence Index is <3.0	1		
6			Morphological Adaptation	ns ¹ (Provide suppo	orting	
? °						
			Problematic Hydrophytic	Vegetation ' (Expla	ain)	
$50\% = \frac{41.5}{20\%} = \frac{16.6}{10.0}$	83 = Total Cover	ſ	¹ Indicators of hydric soil and wetland	l hydrology must		
Woody Vine Stratum (Plot size: 15)			be present, unless disturbed or prob	lematic.		
1		—				
2	<u> </u>	—	Hydrophytic	Vaa M	N -	-
50% =, 20% =	<u>17</u> = Total Cover	r	Vegetation Present?	tes 🖄	NO	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust					
Remarks:						

US Army Corps of Engineers

e011

SOIL												Samplii	ng Point	: <u>TP-</u> {	5, WE	ΤE
Profile Desci	ription: (Descri	be to th	ie deptl	h need	ed to de	ocument the indicate	or or cont	firm the abs	ence of	indicato	ors.)					
Depth	Matr	ix				Redox Feat	ures									
(inches)	Color (moist)	%	Co	lor (Moi	st) <u>%</u>	Type ¹	Loc ²		Texture	<u>e Ren</u>	narks				
0-3	2.5Y 4/1		100						_	si lo	cobbly					
3+									_	cobble						
		_							_							
		_							-							
		-							-							
		-							-							
1Tume: C= Ce	neentration D-I			Dedue	ad Matri		atad Can	d Craina 2	_		na Lining M-Ma	-tuis:				
	ncentration, D=1			Reduc		x, CS=Covered of CC	aled San	d Grains.	Location	I: PL=P0	re Lining, M=Ma	aurix.	Judaio (2011031		
	ndicators: (App	licable	to all L	.RRS, I		otherwise noted.)					ators for Prob		Hyaric a	solis":		
	(A1)					Sandy Redox (S5)						(LRR				
	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A	(LR)	R B)			
Black H	listic (A3)					Loamy Mucky Miner	al (F1)				Reduced Ver	tic (F18)				
Hydrog	en Sulfide (A4)					Loamy Gleyed Matri	x (F2)				Red Parent M	Aaterial (TF2)			
Stratifie	d Layers (A5) (I	RR C)				Depleted Matrix (F3)			\boxtimes	Other (Explai	n in Rem	narks)			
□ 1 cm M	uck (A9) (LRR E))				Redox Dark Surface	e (F6)									
Deplete	ed Below Dark S	urface ((A11)			Depleted Dark Surfa	ace (F7)									
Thick D	ark Surface (A1	2)				Redox Depressions	(F8)				³ Indicators of	hvdroph	vtic vea	etation	and	
Sandy I	Mucky Mineral (S1)				Vernal Pools (F9)					wetland hy	drology n	nust be	presen	t,	
Sandy 0	Gleyed Matrix (S	64)									unless dis	sturbed c	or proble	matic.		
Restrictive L	ayer (if present	:):														
Туре:																
Depth (Inches	s):							Hydric So	ils Pres	ent?		Yes		No	\boxtimes]
Remarks:	seasonally-pon	ded dep	ression	with c	obble at	3 inches										
HYDROLO	GY															
Wetland Hyd	rology Indicato	ors:														
Primary Indica	ators (minimum	of one r	equired	l; check	c all that	apply)				Secon	dary Indicators	(2 or mor	re requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)					Vater Marks (B	1) (River	ine)			
High W	/ater Table (A2)					Biotic Crust (B12)					Sediment Depos	sits (B2) ((Riverin	e)		
Saturat	tion (A3)					Aquatic Invertebrate	s (B13)				Drift Deposits (B	3) (Rive	rine)			
Water	Marks (B1) (Nor	nriverin	e)			Hydrogen Sulfide O	dor (C1)				Drainage Patterr	ns (B10)				
Sedime	ent Deposits (B2) (Nonr	iverine)		Oxidized Rhizosphe	res along	Living Roots	s (C3)		Dry-Season Wat	ter Table	(C2)			
Drift De	eposits (B3) (No	nriverii	ne)			Presence of Reduce	d Iron (C4	4)			Crayfish Burrow	s (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reducti	on in Tille	d Soils (C6)			Saturation Visibl	e on Aer	ial Imag	ery (CS	9)	
Inunda	tion Visible on A	erial Im	agery (B7)		Thin Muck Surface (C7)	. ,		\boxtimes	Shallow Aquitaro	d (D3)	Ū			
⊠ Water-	Stained Leaves	(B9)	2 7 (Other (Explain in Re	marks)			🖾 F	AC-Neutral Tes	st (D5)				
Field Observ	ations:	. ,				· ·	,					、 /				
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches).										
Water Table	Present?	Yes		No		Depth (inches):										
Saturation Pre	esent?	100		110		Bopar (mones).								_	•	_
(includes capi	illary fringe)	Yes		No	\boxtimes	Depth (inches):			Wetlar	nd Hydro	ology Present?		Yes	\boxtimes	No	
Describe Rec	orded Data (stre	eam gau	ige, mo	nitoring	g well, a	erial photos, previous	inspectio	ns), if availal	ole:							
Remarks:																
US Army Cor	ps of Engineers											Arid	West -	Versio	n 2.0	

Project Site: East-West Corridor				City/Count	y: <u>Yakima/Yakir</u>	<u>na</u>	Sampling	Date:	<u>10/7/</u>	15	
Applicant/Owner: Yakima County						State: <u>WA</u>	Sampling	Point:	<u>TP-6,</u>	WE	TF
Investigator(s): Jason Cade, Widener and Assoc	iates			Section, To	wnship, Range:	<u>7, 13N, 19E</u>					
Landform (hillslope, terrace, etc.): terrace			Loc	cal relief (con	cave, convex, no	one): <u>concave</u>		Slop	be (%):	<u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.</u>	<u>6231</u>			Long: <u>-120.5</u>	501038 <u></u>	Date	um: <u>N</u>	IAD83		
Soil Map Unit Name: Zillah silt loam						NWI classific	cation: <u>no</u>	ne			
Are climatic / hydrologic conditions on the site typic	cal for this t	me of yea	ar?	Yes 🛛	No 🗌	(If no, explain in Rem	narks.)				
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 signifi	cantly dist	turbed	? Are "I	Normal Circumsta	ances" present?		Yes	\boxtimes	No	
Are Vegetation □, Soil □, or Hydrology	natura	ally proble	matic?) (If nee	eded, explain an	y answers in Remarks	s.)				
			• •								
SUMMARY OF FINDINGS – Attach site map sh Hydrophytic Vegetation Present?	Yes D		point	locations,	transects, imp	portant features, e	etc.				
Hydric Soil Present?	Ves D			le the Sam	nled Area withi	a Wotland?		Vac		No	
Wetland Hydrology Propert?	Veo D			is the ball	pieu Area within			103		NO	
Remarks: TP-6 within limits of cobble fill for adjace	nt roadway										
VEGETATION - Use scientific names of plant		3									
Tree Stretum (Dist size:20)	Absolute	Domina	ant	Indicator	Dominanaa Ta	at Warkshaat					
<u>Tree Stratum</u> (Plot size. <u>30</u>)	% Cover	Specie:	<u>s?</u>	Status	Dominance Te	st worksneet:					
1. <u>none</u>					Number of Dom	ninant Species	_	1			(A)
2	·				That Are OBL,	FACW, OF FAC.					
3	<u> </u>				Total Number of	f Dominant		1			(B)
4	·				Species Across	All Strata.					
50% =, 20% =	<u>0</u>	= Total	Cover		Percent of Dom	inant Species		100			(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15')</u>					That Are OBL,	FACW, of FAC:					. ,
1. <u>Salix exigua</u>	<u>50</u>	yes		FACW	Prevalence Inc	lex worksheet:					
2. <u>Ulmus pumila</u>	<u>10</u>	no		UPL	To	tal % Cover of :	<u>1</u>	Multiply	/ by:		
3	<u> </u>				OBL species		>	(1 =		_	
4	<u> </u>				FACW species		>	<2 =		_	
5					FAC species		>	<3 =		_	
50% = <u>30</u> , 20% = <u>12</u>	<u>60</u>	= Total	Cover		FACU species		>	< 4 =		_	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)					UPL species		>	‹ 5 =		_	
1. <u>none</u>					Column Totals:	(A)				(B	;)
2.						Prevalence Index	= B/A =				
3.					Hvdrophytic V	egetation Indicators					
4.					Dor Dor	ninance Test is >50%					
5.						valence Index is <3.01	1				
	·						1 (D)				
7						phological Adaptation	separate s	e supp heet)	orting		
•								1 (=			
o			0		L Pro	blematic Hydrophytic	Vegetation	ı' (Exp	lain)		
$50\% = _, 20\% = _$	<u>u</u>	= Iotai	Cover		¹ Indicators of h	ydric soil and wetland	hydrology	must			
Woody Vine Stratum (Piot size: <u>15</u>)					be present, unle	ess disturbed or probl	ematic.				
·				—							
2			~	—	Hydrophytic		Vos		No		
50% =	<u>U</u>	= Total	Cover		Vegetation Present?		103		NO		
% Bare Ground in Herb Stratum 100	% Cove	ot Biotic	Crust								
Remarks:											

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SOIL										Samplir	ng Point	: <u>TP-</u> 6	5, WE1	<u> </u>
Profile Descrip	tion: (Descri	ibe to th	ne depth	n neede	ed to d	ocument the indicator or con	firm the abs	sence of	indicato	ors.)				
Depth	Mat	rix				Redox Features								
(inches)	Color (moist	<u>t)</u>	<u>%</u>	Col	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	-	Texture	e <u>Remarks</u>				
<u>0-5</u>	<u>2.5Y 4/2</u>		<u>100</u>			<u> </u>		_	<u>si lo</u>					
<u>5+</u>		-						_	<u>cobble</u>	<u> </u>				
		-						_		. <u> </u>				
		-						_		. <u> </u>				
		-						_						
		_						_		<u></u>				
¹ Type: C= Conc	entration, D=	Depletic	on, RM=l	Reduce	ed Mati	ix, CS=Covered or Coated San	d Grains. 2	Locatior	n: PL=Po	re Lining, M=Matrix.				
Hydric Soil Ind	icators: (App	plicable	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Problematic H	lydric S	Soils ³ :		
Histosol (A	A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic Epi	pedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRF	R B)			
Black Hist	tic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydrogen	Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (T	F2)			
Stratified	Layers (A5) (LRR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain in Rem	arks)			
1 cm Muc	k (A9) (LRR	D)				Redox Dark Surface (F6)								
Depleted	Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)								
Thick Dar	k Surface (A	12)				Redox Depressions (F8)				³ Indicators of hydrophy	/tic vege	tation	and	
Sandy Mu	icky Mineral ((S1)				Vernal Pools (F9)				wetland hydrology m	nust be j	presen	t,	
Sandy Gle	eyed Matrix (S4)					1			unless disturbed o	r proble	matic.		
Restrictive Lay	er (if presen	t):												
Туре:											_			
Depth (Inches):							Hydric So	oils Pres	sent?	Yes		No	\boxtimes	
Remarks: se	easonally-pon	ided sha	allow dep	pressio	n with o	cobble at 5 inches								
HYDROLOG	(
Wetland Hydro	logy Indicate	ors:												
Primary Indicato	ors (minimum	of one r	equired;	; check	all tha	t apply)			Secon	dary Indicators (2 or mor	e requir	ed)		
Surface V	Vater (A1)					Salt Crust (B11)				Vater Marks (B1) (Riveri	ne)			
High Wat	er Table (A2))				Biotic Crust (B12)				Sediment Deposits (B2) (Riverin	e)		
Saturatio	n (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)			
U Water Ma	arks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
Sediment	t Deposits (B	2) (Non i	riverine))		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift Dep	osits (B3) (No	onriveri	ne)			Presence of Reduced Iron (C	4)			Crayfish Burrows (C8)				
Surface S	Soil Cracks (E	36)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeri	al Imag	ery (CS)	
Inundatio	n Visible on A	Aerial Im	nagery (E	B7)		Thin Muck Surface (C7)			\boxtimes s	Shallow Aquitard (D3)				
⊠ Water-Sta	ained Leaves	(B9)				Other (Explain in Remarks)			🖾 F	AC-Neutral Test (D5)				
Field Observat	ions:													
Surface Water F	Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table Pre	esent?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pres	ent?	Yee		No		Depth (inches)		Wetla	nd Hydro	ology Present?	Yes		No	
(includes capilla	ry fringe)	00m ac.		nitorina			nc) if avails	blo:				لالت		
		eann yal	.ye, mor	moning	wen, a	וואטנטא, אופאוטעא ווואטפכווט	noj, ii availa	NIC.						

Remarks: US Army Corps of Engineers

Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakim</u>	a	Sampling Date:	<u>10/7/15</u>	
Applicant/Owner: Yakima County				S	State: <u>WA</u>	Sampling Point:	<u>TP-7, UF</u>	<u> </u>
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range:	<u>7, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Lc	cal relief (cor	ncave, convex, nor	ne): <u>none</u>	Slo	pe (%): <u>0</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.62</u>	23127		Long: <u>-120.5</u>	<u>01119</u>	Datum: <u>I</u>	NAD83	
Soil Map Unit Name: Zillah silt loam					NWI classifi	cation: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🗌 (If no, explain in Rem	narks.)		
Are Vegetation □, Soil ⊠, or Hydrology	significa	antly disturbed	d? Are "	Normal Circumsta	nces" present?	Yes	🗌 No	
Are Vegetation D, Soil D, or Hydrology	naturall	y problematic	? (If ne	eded, explain any	answers in Remarks	s.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing sam	npling point	locations,	, transects, imp	ortant features, e	etc.		
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛						
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	npled Area within	a Wetland?	Yes	🗌 No	
Wetland Hydrology Present?	Yes 🗌	No 🛛						
Remarks: TP-7 within limits of fill for adjacent road	ways							
VEGETATION – Use scientific names of plants	5.							
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant	Indicator Status	Dominance Tes	t Worksheet:			
1. none	<u>/// Cover</u>	<u>opecies:</u>	<u>otatus</u>	Number of Domi	nant Species			
2.				That Are OBL, F	ACW, or FAC:	<u>1</u>		(A)
3.				Total Number of	Dominant			
4.				Species Across	All Strata:	<u>2</u>		(B)
50% =, 20% =	0	= Total Cove	r	Percent of Domi	nant Species			
Sapling/Shrub Stratum (Plot size:15')	_			That Are OBL, F	ACW, or FAC:	<u>50</u>		(A/B)
1. <u>Ulmus pumila</u>	<u>20</u>	<u>yes</u>	UPL	Prevalence Inde	ex worksheet:			
2. <u>Salix exigua</u>	10	yes	FACW	Tota	al % Cover of :	Multipl	y by:	
3		_		OBL species		x1 =		
4				FACW species	<u>10</u>	x2 =	<u>20</u>	
5				FAC species		x3 =		
50% = 15, 20% = 6	30	= Total Cove	r	FACU species		x4 =		
Herb Stratum (Plot size:5')	_			UPL species	20	x5 =	100	
1 none				Column Totolo:	30 (A)		120 (B)	
2				Column Totals:	Brovalanca Ind	$o_{X} = B/\Lambda = A$	<u>120</u> (D)	
2		—		Hydrophytic Vo	actation Indicators			
3. <u> </u>		—				••		
4. <u> </u>		—				1		
5				Prev	alence Index is <3.0			
o				D Morp data	hological Adaptatior in Remarks or on a	ns¹ (Provide supp separate sheet)	porting	
·						······································		
o				Prob	lematic Hydrophytic	Vegetation ' (Exp	olain)	
$50\% = 20\% = \$	<u>0</u>	= Total Cove	r	¹ Indicators of hy	dric soil and wetland	hydrology must		
Woody Vine Stratum (Piot size: 15)				be present, unle	ss disturbed or probl	ematic.		
·								
2				Hydrophytic			No	
50% =, 20% =	<u>v</u>	= I otal Cove	r	vegetation Present?			110	
% Bare Ground in Herb Stratum 100	% Cover of	of Biotic Crust		-				
Remarks:								

US Army Corps of Engineers

SOIL										Sampling Point: TP-7, UP F	
Profile Descri	iption: (Descri	be to th	ne depth	h neede	ed to d	ocument the indicator or conf	irm the abs	sence of	indicat	tors.)	
Depth	Matr	ix				Redox Features					
(inches)	Color (moist	<u>;)</u>	<u>%</u>	Co	or (Mo	ist) <u>%</u> Type ¹	Loc	-	Textur	re <u>Remarks</u>	
<u>0-3</u>	<u>2.5Y 4/2</u>		<u>100</u>					_	<u>si lo</u>	cobbly	
<u>3+</u>		-						_	<u>cobbl</u>	<u>e</u>	
		_						_			
		_						_			
		_						_			
		_						_			
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Mati	ix, CS=Covered or Coated San	d Grains. 🧳	² Location	: PL=Po	ore Lining, M=Matrix.	
Hydric Soil In	dicators: (App	olicable	to all L	.RRs, u	nless	otherwise noted.)			Indi	cators for Problematic Hydric Soils ³ :	
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)	
Histic Ep	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)	
Black Hi	istic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)	
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)	
Stratified	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)	
🔲 1 cm Mu	uck (A9) (LRR I	D)				Redox Dark Surface (F6)					
Deplete	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)					
Thick Da	ark Surface (A1	2)				Redox Depressions (F8)				³ Indicators of hydrophytic vegetation and	
Sandy N	/lucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology must be present,	
Sandy G	Bleyed Matrix (S	54)								unless disturbed or problematic.	
Restrictive La	ayer (if presen	t):									
Туре:											
Depth (Inches):						Hydric S	oils Pres	ent?	Yes 🔲 No 🛛	
Remarks:	cobble layer en	counter	ed at 3 i	inches,	made	digging test pit difficult					
HYDROLOG	Υ.										
Wetland Hydr	rology Indicato	ors:									
Primary Indica	tors (minimum	of one r	equired	l; check	all tha	t apply)			Secor	ndary Indicators (2 or more required)	
Surface	Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)	
High W	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)	
□ Saturati	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)	
□ Water M	Marks (B1) (No i	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)	
□ Sedime	nt Deposits (B2	2) (Nonr	, iverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table (C2)	
Drift De	posits (B3) (No	onriveri	ne)	,		Presence of Reduced Iron (C4	4)	()		Cravfish Burrows (C8)	
□ Surface	soil Cracks (B	6)	,		П	Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)	
□ Inundat	ion Visible on A	Aerial Im	agery (I	B7)		Thin Muck Surface (C7)	()			Shallow Aguitard (D3)	
□ Water-S	Stained Leaves	(B9)		,	П	Other (Explain in Remarks)			П	FAC-Neutral Test (D5)	
Field Observa	ations:	. /							_		
Surface Water	Present?	Yes	П	No	\bowtie	Depth (inches):					
Water Table P	resent?	Yes		No		Depth (inches):					
Saturation Pre	esent?				1						7
(includes capil	llary fringe) orded Data (stre	Yes		No nitoring	well a	Depth (Inches):	ns) if availa	vvetiar	ia Hydr	rology Present? Yes 🗀 No 🖄	<u> </u>
2000/100 11000	2.300 2010 (300	sam gat	-90, 110	·····y			,,	210.			

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>3/1/16</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-56, WET G</u>
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range: <u>7, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): floodplain		L	ocal relief (coi	ncave, convex, none): <u>convex</u>	Slop	e (%): <u>1</u>
Subregion (LRR): <u>B</u>	Lat:			Long:	Datum: <u>N</u>	AD83
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI class	ification: <u>R3UBH</u>	
Are climatic / hydrologic conditions on the site typic	cal for this tir	me of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)	
Are Vegetation □, Soil □, or Hydrology	signific	antly disturbe	d? Are "	Normal Circumstances" present?	Yes	🛛 No 🗌
Are Vegetation □, Soil ⊠, or Hydrology	natura	lly problemation	c? (If ne	eded, explain any answers in Remar	ˈks.)	
SLIMMARY OF FINDINGS - Attach site man sh	owing sa	mpling poir	t locations	transacts important foaturos	oto	
Hydrophytic Vegetation Present?				transects, important reatures	, etc.	
Hydria Sail Prosent?			le the San	anled Area within a Wotland?	Vos	
Watland Hydrology Procent?	Voc 🛛		is the ball	ipieu Area within a wettanu :	163	
			I			
Remarks: Island within the primary channel of the	Yakima Rive	er. Naturally	problematic s	soil - vegetated gravel bar within flo	odplain.	
VEGETATION – Use scientific names of plants	S.	Deminant	Indiaatar	1		
<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1. <u>None</u>				Number of Dominant Species	1	(4)
2				That Are OBL, FACW, or FAC:	<u> </u>	(A)
3				Total Number of Dominant	1	(D)
4				Species Across All Strata:	<u> </u>	(В)
50% =, 20% =	<u>0</u>	= Total Cov	er	Percent of Dominant Species	100	(A/P)
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW, or FAC:	<u>100</u>	(A/D)
1. <u>Salix exigua</u>	<u>30</u>	yes	FACW	Prevalence Index worksheet:		
2				Total % Cover of :	<u>Multiply</u>	by:
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cov	ər	FACU species	x4 =	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	
1. <u>None</u>				Column Totals: (A)		(B)
2.				Prevalence Inde	ex = B/A =	
3.				Hydrophytic Vegetation Indicato		
4				Dominance Test is >50	%	
5.				Prevalence Index is <3	0 ¹	
6					ana ¹ (Dravida ayınnı	a stin a
7.				data in Remarks or on a	a separate sheet)	Jiung
8					in Vagatation ¹ (Eval	
50% = 20% =	0	= Total Cov			c vegetation (Expl	anı)
Woody Vine Stratum (Plot size:15')	<u>u</u>	- 10tal 000	51	¹ Indicators of hydric soil and wetlar	nd hydrology must	
1 None				be present, unless disturbed or pro	blematic.	
2						
 50% =20% =	0	= Total Cov		Hydrophytic Vegetation	Yes 🛛	No 🗆
% Bare Ground in Herb Stratum 70	≚ % Cover	of Biotic Crue	, t	Present?		—
Pomorke:	70 O0ver	Si Diodo Orus	<u> </u>			
NGIIIAIKS.						

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SOIL										Sampl	ing Point:	<u>TP-56</u>	, WET	Г <u>G</u>
Profile Descri	iption: (Descri	be to the	e depth	neede	ed to d	ocument the indicator or co	onfirm the a	bsence of	indicato	rs.)				
Depth	Matr	ix				Redox Features								
(inches)	Color (moist	.)	%	Col	lor (Mo	<u>st) % Type</u>	<u>1</u> <u>Lo</u>	oc ²	Texture	Remarks				
<u>0+</u>		_							cobble	cobble to surface	e			
		_												
¹ Type: C= Cor	ncentration, D=	Depletior	n, RM=I	Reduce	ed Matr	ix, CS=Covered or Coated S	and Grains.	² Locatior	n: PL=Por	e Lining, M=Matrix.				
Hydric Soil In	dicators: (App	licable 1	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Problemati	c Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LF	R C)			
Histic Er	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (L	RR B)			
□	istic (A3)					Loamv Mucky Mineral (F1)				Reduced Vertic (F1	, B)			
□ Hvdroge	en Sulfide (A4)					Loamy Gleved Matrix (F2)				Red Parent Materia	(TF2)			
	d Lavers (A5) (I					Depleted Matrix (F3)				Other (Explain in Re	emarks)			
	uck (A9) (LRR I	-)				Redox Dark Surface (F6)					, maine)			
	d Below Dark S	-, Surface (A	Δ11)			Depleted Dark Surface (F7)							
	ark Surface (A1	2)	,			Redox Depressions (F8))							
	/ucky Mineral (2) S1)				Vernal Pools (F9)				³ Indicators of hydrop	hytic vege	etation	and	
	Cloved Matrix (S4)								wetland hydrology	/ must be	presen	τ,	
	over (if present	+)·										mauc.		
	ayer (il presen	<i>.</i>												
Type.	\						Hydric	Soils Pros	cont?	Vos		No		,
Depth (Inches)	matia aa		atata d	aroval	aarwihin floodalain. Cabbla	nyunc st surfage	30113 FTe:	Sentr	163		NO		4
Remarks.			Jii - veg	elaleu	graver		at surface.							
HYDROLOG	GY													
Wetland Hydr	rology Indicate	ors:												
Primary Indica	ators (minimum	of one re	equired;	; check	all tha	apply)			Second	dary Indicators (2 or m	ore requir	ed)		
Surface	Water (A1)					Salt Crust (B11)				Vater Marks (B1) (Riv	erine)			
High W	ater Table (A2)					Biotic Crust (B12)			🗆 s	Sediment Deposits (B2) (Riverin	e)		
Saturati	ion (A3)					Aquatic Invertebrates (B13)			Drift Deposits (B3) (Riv	verine)			
□ Water M	Marks (B1) (No i	nriverine	e)			Hydrogen Sulfide Odor (C1)			Prainage Patterns (B10)			
□ Sedime	ent Deposits (B2	2) (Nonri	iverine))		Oxidized Rhizospheres alo	ng Living Ro	ots (C3)) Pry-Season Water Tab	le (C2)			
Drift De	posits (B3) (No	nriverin	e)			Presence of Reduced Iron	(C4)	()		Cravfish Burrows (C8)	()			
 □ Surface	Soil Cracks (B	6)	- /		Π	Recent Iron Reduction in T	illed Soils (C	6)		Saturation Visible on A	erial Imaa	erv (CS))	
 □ Inundat	ion Visible on A	Aerial Ima	aderv (E	37)		Thin Muck Surface (C7)	(-	- /	— — s	Shallow Aguitard (D3)	5	J (,	
□ Water-S	Stained Leaves	(B9)			П	Other (Explain in Remarks)				AC-Neutral Test (D5)				
Field Observa	ations:	x - /				(]			<u> </u>					
Surface Water	r Present?	Yes		No		Depth (inches).								
Water Table B	Present?	Yee		No		Depth (inches):	_							
Saturation Pro	sent?	169		NU		Deput (mones).	_							_
(includes capil	llary fringe)	Yes		No	\boxtimes	Depth (inches):	_	Wetla	nd Hydro	ology Present?	Yes	\boxtimes	No	
Describe Reco	orded Data (stre	eam gau	ge, mor	nitoring	well, a	erial photos, previous inspec	tions), if avai	lable:						
Bomorko :														

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Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/8/15</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-11, V</u>	<u>NET H</u>
Investigator(s): <u>Jason Cade, Widener and Assoc</u>	iates		Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Lo	cal relief (cor	ncave, convex, none): <u>convex</u>	Slop	be (%): <u>{</u>	5
Subregion (LRR): <u>B</u>	Lat: <u>46.</u>	620205		Long: <u>-120.496987</u>	Datum: <u>N</u>	IAD83	
Soil Map Unit Name: Weirman fine sandy loam, wet				NWI classi	fication: <u>R4SBCx</u>		
Are climatic / hydrologic conditions on the site typic	cal for this ti	me of year?	Yes 🛛	No 🔲 (If no, explain in Rei	marks.)		
Are Vegetation 🔲, Soil 🖾, or Hydrology	🔲 signifi	cantly disturbed	? Are "	Normal Circumstances" present?	Yes	□ N	o 🛛
Are Vegetation □, Soil ⊠, or Hydrology	natura	ally problematic	? (If ne	eded, explain any answers in Remark	(s.)		
					·		
SUMMARY OF FINDINGS – Attach site map sh	lowing sa	mpling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛						_
Hydric Soil Present?	Yes 🛛	⊴ No ∐	Is the Sam	pled Area within a Wetland?	Yes	⊠ N	∘⊔
Wetland Hydrology Present?	Yes 🛛	No 🗌					
Remarks: TP-11 within limits of cobble spoil from c	litch excav	ation or access	s road const	ruction			
VEGETATION – Use scientific names of plants	.						
<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:			
1. <u>none</u>				Number of Dominant Species	2		(A)
2				That Are OBL, FACW, or FAC:	<u>~</u>		(~)
3				Total Number of Dominant	3		(B)
4				Species Across All Strata:	<u>5</u>		(D)
50% =, 20% =	<u>0</u>	= Total Cove	r	Percent of Dominant Species	66.7		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)				That Are OBL, FACW, of FAC:			. ,
1. <u>none</u>				Prevalence Index worksheet:			
2				<u>Total % Cover of :</u>	Multiply	<u>/ by:</u>	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% =, 20% =	<u>0</u>	= Total Cove	r	FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =		
1. <u>Cirsum arvense</u>	<u>30</u>	yes	FACU	Column Totals: (A)			(B)
2. Equisetum arvense	<u>30</u>	yes	FAC	Prevalence Inde	x = B/A =		
3. <u>Carex obnupta</u>	<u>20</u>	yes	OBL	Hydrophytic Vegetation Indicator	s:		
4. <u>Typha latifolia</u>	<u>10</u>	no	<u>OBL</u>	Dominance Test is >50%	%		
5. Iris pseudacorus	3	no	OBL	Prevalence Index is <3 (0 ¹		
6. Schoenoplectus americanus	1	no	OBL	Morphological Adoptatio	no ¹ (Brovido auna	orting	
7. Solidago lepida	1	no	FAC	data in Remarks or on a	i separate sheet)	orung	
8	-	_			Vogotation ¹ (Eva	loin)	
$50\% = 47.5 \ 20\% = 19$	95	= Total Cove	- <u></u>		, vegetation (Lxp	iairi)	
Woody Vine Stratum (Plot size: 15')	<u>35</u>		I	¹ Indicators of hydric soil and wetlan	d hydrology must		
1				be present, unless disturbed or prob	plematic.		
2							
<u>2.</u> 50% - 20% -		- Total Carro		Hydrophytic Vegetation	Yes 🖂	No	
3070 - 2070 -	<u>v</u> % Cove	- Total Covel	I	Present?	ല		-
	% Cover						
Remarks:							

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SOIL											Samplin	g Point:	<u>TP-11</u>	, WE	<u>Г Н</u>
Profile Descr	iption: (Descri	be to th	ne depth	n neede	ed to d	ocument the indicat	or or conf	irm the abs	ence of	indicat	ors.)				
Depth	Mati	rix				Redox Fea	tures								
(inches)	Color (moist	i)	%	Col	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²	2	Textu	re <u>Remarks</u>				
<u>0+</u>		-							_	cobbl	<u>e</u>				
		_							_						
		_							_						
		_							_						
		_							_						
		_							_						
¹ Type: C= Co	ncentration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or C	oated Sano	d Grains. 2	Locatior	n: PL=Po	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	plicable	to all L	.RRs, u	nless	otherwise noted.)				Indi	cators for Problematic	Hydric \$	Soils ³ :		
Histoso	l (A1)					Sandy Redox (S5)					1 cm Muck (A9) (LRF	₹C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LR	RB)			
Black H	istic (A3)					Loamy Mucky Mine	ral (F1)				Reduced Vertic (F18))			
Hydrog	en Sulfide (A4)					Loamy Gleyed Mati	rix (F2)				Red Parent Material	(TF2)			
☐ Stratifie	d Lavers (A5) (LRR C)				Depleted Matrix (F3	3)			\boxtimes	Other (Explain in Rer	narks)			
	uck (A9) (LRR I	D)				Redox Dark Surfac	, e (F6)					,			
Deplete	d Below Dark S	, Surface ((A11)			Depleted Dark Surf	ace (F7)								
□ Thick D	ark Surface (A1	12)	()			Redox Depressions	; (F8)				2				
 □Sandy I	Nucky Mineral ((S1)				Vernal Pools (F9)	()				Indicators of hydroph	ytic vege	etation	and t	
Sandy (Gleved Matrix (, S4)									unless disturbed	or proble	ematic.	ι,	
Restrictive L	aver (if presen	(t):													
Type:		,													
Depth (Inches	;):							Hydric So	oils Pres	sent?	Yes	\boxtimes	No]
Remarks:	seasonally-flow	ving veg	etated d	litch wit	h restri	ctive cobble		-							
HYDROLOG	GY														
Wetland Hyd	rology Indicate	ors:								-					
Primary Indica	ators (minimum	of one r	required	; check	all that	t apply)				Secor	ndary Indicators (2 or mo	re requir	red)		
	e Water (A1)					Salt Crust (B11)					Water Marks (B1) (Rive	rine)			
High W	ater Table (A2))				Biotic Crust (B12)					Sediment Deposits (B2)	(Riverin	ie)		
Saturat	ion (A3)					Aquatic Invertebrate	es (B13)				Drift Deposits (B3) (Rive	rine)			
U Water I	Marks (B1) (No	nriverin	ie)			Hydrogen Sulfide C	dor (C1)				Drainage Patterns (B10)	Į.			
Sedime	ent Deposits (B2	2) (Non i	riverine)		Oxidized Rhizosphe	eres along	Living Root	s (C3)		Dry-Season Water Table	∍(C2)			
Drift De	eposits (B3) (No	onriveri	ne)			Presence of Reduc	ed Iron (C4	1)			Crayfish Burrows (C8)				
	e Soil Cracks (E	6)				Recent Iron Reduct	ion in Tille	d Soils (C6)		\boxtimes	Saturation Visible on Ae	rial Imag	ery (CS	9)	
🛛 Inunda	tion Visible on A	Aerial Im	nagery (F	B7)		Thin Muck Surface	(C7)			\boxtimes	Shallow Aquitard (D3)				
Water-	Stained Leaves	(B9)				Other (Explain in R	emarks)				FAC-Neutral Test (D5)				
Field Observ	ations:														
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches)	:								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches)	:								
Saturation Pre (includes capi	esent? llary fringe)	Yes		No		Depth (inches)	: <u> </u>		Wetla	nd Hydr	ology Present?	Yes	\boxtimes	No	
Describe Rec	orded Data (str	eam gau	uge, mor	nitoring	well, a	erial photos, previous	s inspection	ns), if availa	ble:						

Project Site: East-West Corridor					City/Count	ty: <u>Yakima</u>	/Yakim	<u>a</u>	Samplir	ng Date:	10/8/	<u>15</u>	
Applicant/Owner: Yakima County							S	state: <u>WA</u>	Samplin	g Point:	<u>TP-1</u>	2, UF	<u>Р Н</u>
Investigator(s): Jason Cade, Widener and Assoc	<u>iates</u>				Section, To	ownship, Ra	ange:	<u>18, 13N, 19E</u>					
Landform (hillslope, terrace, etc.): terrace				Loca	al relief (cor	ncave, conv	vex, nor	ne): <u>convex</u>		Slo	pe (%):	<u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>4</u>	6.6202	22			Long:	-120.49	<u>96958</u>	Da	atum: <u>N</u>	AD83		
Soil Map Unit Name: Weirman sandy loam, channele	ed							NWI classi	fication: <u>r</u>	none			
Are climatic / hydrologic conditions on the site typic	cal for this	time c	of year?		Yes 🛛	No	□ (If no, explain in Re	marks.)				
Are Vegetation □, Soil ⊠, or Hydrology	🔲 sign	ificantl	y disturb	bed?	Are "	Normal Circ	cumstar	nces" present?		Yes		No	\boxtimes
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 natu	irally p	roblema	tic?	(If ne	eded, expla	ain any	answers in Remark	ks.)				
SUMMARY OF FINDINGS – Attach site map sh	nowing s	sampl	ing poi	int l	ocations,	transect	s, imp	ortant features,	etc.				
Hydrophytic Vegetation Present?	Yes		No 🗌										
Hydric Soil Present?	Yes		No 🛛		Is the Sam	pled Area	within	a Wetland?		Yes		No	\boxtimes
Wetland Hydrology Present?	Yes		No 🛛										
Remarks: TP-12 within limits of fill for access road													
VEGETATION – Use scientific names of plants	5.												
Tree Stratum (Plot size:30')	Absolute	Do	minant		Indicator	Dominan	ice Tes	t Worksheet:					
1 none	% Cover	<u>St</u>	ecles?		Status	Number	(D						
2						That Are	OBL, F	ACW, or FAC:		<u>2</u>			(A)
3						Tetel Num		Deminent					
4						Species A	Across /	All Strata:		<u>2</u>			(B)
50% =	0	= .	Total Co	over		Dereente	f Dami	nant Chaolea					
Sanling/Shrub Stratum (Plot size:15')	-					That Are	OBL, F	ACW, or FAC:		<u>100</u>			(A/B)
1 none						Prevalen	ce Inde	ex worksheet:					
2.							Tota	al % Cover of :		Multipl	v bv:		
3						OBL spec	cies	<u></u>		x1 =	<u>1 ~ 1.</u>		
4.						FACW so	ecies			x2 =			
5.						FAC spec	cies			x3 =		_	
50% = 20% =	0	= .	Total Co	ver		FACU sp	ecies			x4 =		_	
Herb Stratum (Plot size:5')	<u>v</u>									x5 =		_	
	40		•		EAC	OIL Spec		(4)		XJ -		_ /P	
	<u>40</u>	<u>ye</u>	<u>></u>			Column I	otals:	(A)				_ (D)
2. <u>Equisetum arvense</u>	<u>30</u>	<u>ye</u>	<u>s</u>		FAC		<i></i>	Prevalence inde	x = B/A =				
3. <u>Cirsium arvense</u>	<u>10</u>	nc	<u>-</u>		FACU	Hyaroph	ytic ve	getation indicator	'S:				
4							Dom	inance Test is >50%	%				
5							Preva	alence Index is <u><</u> 3.	0 ¹				
6		_					Morp	hological Adaptatio	ons ¹ (Provi	ide supp	orting		
7		_					uata	In Remarks of on a	separate	sneet)			
8							Prob	lematic Hydrophytic	c Vegetatio	on ¹ (Exp	olain)		
50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	= '	Total Co	over		Indicator	o of hu	dria acil and watlan	d hydrolog	n muot			
Woody Vine Stratum (Plot size: <u>15'</u>)						be preser	nt, unles	ss disturbed or prot	olematic.	y musi			
1		_											
2						Hydroph	ytic			-			_
50% =, 20% =	<u>0</u>	= '	Total Co	over		Vegetatio	on		Yes	\bowtie	No	•	Ц
% Bare Ground in Herb Stratum 20	% Cov	er of B	iotic Cru	ust		Present?							
Remarks:													

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Soll Sampling Point: TP-12, UP H													
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth	Matrix				Redox Features								
(inches)	Color (moist)	%	Co	olor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	2	Text	ure <u>Remarks</u>				
<u>0+</u>							_	grave	l fill				
					<u> </u>		_						
							_						
¹ Type: C= Cor	centration, D=De	pletion, RM	I=Reduc	ed Mati	rix, CS=Covered or Coated Sar	d Grains.	² Locatior	n: PL=F	Pore Lining, M=Matrix.				
Hydric Soil In	dicators: (Appli	able to all	LRRs, u	unless	otherwise noted.)			Inc	licators for Problematic H	lydric S	ioils ³ :		
Histosol	(A1)				Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic Ep	pipedon (A2)				Stripped Matrix (S6)				2 cm Muck (A10) (LRF	RB)			
Black Hi	stic (A3)				Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydroge	n Sulfide (A4)				Loamy Gleyed Matrix (F2)				Red Parent Material (1	F2)			
□ Stratified	Lavers (A5) (LR	R C)			Depleted Matrix (F3)				Other (Explain in Rem	, arks)			
	ick (A9) (LRR D)	,		Π	Redox Dark Surface (F6)					,			
Depleted	d Below Dark Sur	face (A11)			Depleted Dark Surface (F7)								
	ark Surface (A12)				Redox Depressions (F8)								
	lucky Mineral (S1)			Vernal Pools (F9)				³ Indicators of hydrophy	/tic vege	tation	and	
Sandy G	leved Matrix (S4	,)		-					unless disturbed o	r proble	matic	ι,	
Restrictive La	over (if present):	/									matio.		
	iyer (ii present).												
Denth (Inches)). 					Hydric S	oils Pros	ent?	Yes		No	R	1
Bemarks:	Gravel-only soils	ancountere	d Unabl	e to dia	to sample soils beneath	injunio e			100				
Remarks.		encountere		e to alg									
HYDROLOG	βY												
Wetland Hydr	ology Indicators	:											
Primary Indica	tors (minimum of	one require	ed; checł	k all tha	t apply)			Seco	ondary Indicators (2 or mor	e requir	ed)		
Surface	Water (A1)				Salt Crust (B11)				Water Marks (B1) (Riveri	ne)			
High W	ater Table (A2)				Biotic Crust (B12)				Sediment Deposits (B2) (Riverin	e)		
Saturati	on (A3)				Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)			
U Water N	/larks (B1) (Nonr i	verine)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
Sedime	nt Deposits (B2)	Nonriverin	e)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift De	posits (B3) (Non i	iverine)			Presence of Reduced Iron (C	4)			Crayfish Burrows (C8)				
Surface	Soil Cracks (B6)				Recent Iron Reduction in Tille	d Soils (C6))		Saturation Visible on Aeri	al Imag	ery (CS)	
Inundat	ion Visible on Aei	ial Imagery	(B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-S	Stained Leaves (E	9)	. ,		Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Observa	ations:			_	/			_	. ,				
Surface Water	Present?	Yes 🔲	No	\boxtimes	Depth (inches):								
Water Table P	resent?	Yes □	No		Depth (inches):	•							
Saturation Pre	sent?			-		-	14/ 11		Inclusion Decision	V	_	N -	
(includes capil	lary fringe)	Yes 🗌	No	\bowtie	Depth (inches):	-	Wetla	nd Hyd	irology Present?	Yes		NO	
Describe Reco	orded Data (strea	m gauge, m	onitoring	g well, a	erial photos, previous inspectio	ns), if availa	ible:						
D													

Project Site: East-West Corridor					City/Count	ty: <u>Yakima/Yakima</u>	<u>1</u>	Samplin	g Date:	<u>10/8/1</u>	15	
Applicant/Owner: Yakima County						St	ate: <u>WA</u>	Sampling	g Point:	<u>TP-13</u>	3, WI	<u>ET I</u>
Investigator(s): Jason Cade, Widener and Assoc	<u>iates</u>				Section, To	ownship, Range: <u>1</u>	18, 13N, 19E					
Landform (hillslope, terrace, etc.): terrace				Loc	cal relief (cor	ncave, convex, non	e): <u>convex</u>		Slo	pe (%):	<u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>4</u>	6.618	8582			Long: <u>-120.49</u>	<u>5231</u>	Da	atum: <u>N</u>	AD83		
Soil Map Unit Name: Weirman fine sandy loam, wet							NWI classific	ation: <u>F</u>	PAB4Hx			
Are climatic / hydrologic conditions on the site typic	cal for this	s time	of yea	ar?	Yes 🛛	No 🗌 (li	f no, explain in Rem	arks.)				
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 sign	nificar	ntly dis	turbed	? Are "	Normal Circumstan	ces" present?		Yes	\boxtimes	No	
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 natu	urally	proble	ematic?	? (If ne	eded, explain any a	answers in Remarks	s.)				
SUMMARY OF FINDINGS – Attach site map sh	nowing s	samp	oling	point	locations,	transects, impo	ortant features, e	etc.				
Hydrophytic Vegetation Present?	Yes	\boxtimes	No									
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sam	pled Area within a	a Wetland?		Yes	\boxtimes	No	
Wetland Hydrology Present?	Yes	\boxtimes	No									
Remarks:												
VEGETATION – Use scientific names of plants	6.											
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	e [Domin: Specie	ant s?	Indicator Status	Dominance Test	Worksheet:					
1. none	<u>/// 00/01</u>		5000		<u>olulus</u>	Number of Domin	ant Species					
2.		-				That Are OBL, FA	ACW, or FAC:		<u>1</u>			(A)
3.		-				Total Number of I	Dominant					
4.		-				Species Across A	Il Strata:		<u>2</u>			(B)
50% = , 20% =	0	:	= Total	l Cover		Percent of Domin	ant Species					
Sapling/Shrub Stratum (Plot size:15')						That Are OBL, FA	ACW, or FAC:		<u>50</u>			(A/B)
1. <u>none</u>		_				Prevalence Inde	x worksheet:					
2		_				Total	% Cover of :		Multipl	y by:		
3		_				OBL species	70		x1 =	70		
4		_				FACW species	5		x2 =	<u>10</u>		
5		_				FAC species			x3 =		_	
50% =, 20% =	0	=	= Total	l Cover		FACU species	25		x4 =	100		
Herb Stratum (Plot size:5')						UPL species			x5 =			
1. Typha latifolia	70	,	/es		OBL	Column Totals:	120 (A)			180 ((B)	
2 Cirsium arvense	25		/es		FACU	Column rotais.	Prevalence Inde	x = B/A =	:15	<u></u> ,	(-)	
3 Phalaris arundinacea	5	r	10		FACW	Hydrophytic Ver	etation Indicators					
4	<u>u</u>	<u>-</u>	10		<u></u>		nance Test is >50%					
5		-						1				
5. <u> </u>		-				🖾 Preva	lience index is <3.0					
o		-				□ Morph data i	nological Adaptation	is¹ (Provie separate	de supp sheet)	orting		
1. <u> </u>		-						ropulato				
8		-					ematic Hydrophytic	Vegetatio	on¹ (Exp	lain)		
$50\% = \frac{47.5}{20\%} = \frac{19}{19}$	<u>95</u>	=	= I otal	Cover	•	¹ Indicators of hvd	ric soil and wetland	hvdroloa	v must			
Woody Vine Stratum (Plot size: <u>15')</u>						be present, unles	s disturbed or probl	ematic.				
1		-										
2		-				Hydrophytic		Vas		No		
50% =, 20% =	<u>U</u>	=	= Total	Cover		Vegetation Present?		169		NO		
% Bare Ground in Herb Stratum 5	% Cov	er of	Biotic	Crust								
Remarks:												

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SOIL Sampling Point: TP-13, WET I														
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)														
Depth	Matr	ix				Redox Features								
(inches)	Color (moist)	<u>%</u>	Co	lor (Mo	ist) <u>%</u> Typ	e ¹ Lo	<u>c²</u>	Textur	e <u>Remarks</u>				
<u>0-5</u>	2.5Y 3/2		100						<u>si lo</u>					
<u>5-21</u>	5YR 2.5/1		<u>100</u>						fibric pe	eat				
		_				<u> </u>								
		_												
		_												
		_												
¹ Type: C= Cor	centration, D=I	Depletic	on, RM=	Reduce	ed Matr	rix, CS=Covered or Coated S	Sand Grains.	² Locatior	n: PL=Pc	ore Lining, M=Matrix.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)			Indi	cators for Problemati	c Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LF	RR C)			
Histic Ep	oipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (L	.RR B)			
🔲 🛛 Black Hi	stic (A3)					Loamy Mucky Mineral (F1)			Reduced Vertic (F1	8)			
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Materia	l (TF2)			
Stratified	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Re	emarks)			
🔲 1 cm Mu	ıck (A9) (LRR [))				Redox Dark Surface (F6)								
Depleted	d Below Dark S	urface ((A11)			Depleted Dark Surface (F	7)							
Thick Da	ark Surface (A1	2)				Redox Depressions (F8)				³ Indiactors of hydro	butio vog	station	and	
Sandy M	lucky Mineral (S1)				Vernal Pools (F9)				wetland hydrolog	v must be	present	anu t.	
Sandy G	Bleyed Matrix (S	64)								unless disturbe	d or proble	matic.	-,	
Restrictive La	ayer (if present	t):												
Туре:														
Depth (Inches)):						Hydric	Soils Pres	sent?	Yes	\boxtimes	No]
Remarks:														
	Y													
Wetland Hydr	ology Indicato	ors:												
Primary Indica	tors (minimum	of one r	equired	; check	all that	t apply)			Secor	idary Indicators (2 or m	nore requir	ed)		
 □ Surface	Water (A1)			,	Π	Salt Crust (B11)				Water Marks (B1) (Riv	erine)	,		
 □ High Wa	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2	2) (Riverin	e)		
□ Saturati	on (A3)					Aquatic Invertebrates (B1)	3)			Drift Deposits (B3) (Riv	verine)	-,		
□ Water M	/arks (B1) (No r	nriverin	e)			Hydrogen Sulfide Odor (C	1)			Drainage Patterns (B1)	0)			
	nt Deposits (B2) (Nonr	riverine)	`		Oxidized Rhizospheres al	ona Livina Roc	ots (C3)		Drv-Season Water Tab	-, ole (C2)			
	nosits (B3) (No	nriveri	ne)	,		Presence of Reduced Iron	(C4)			Cravfish Burrows (C8)	(02)			
	Soil Cracks (B	6)				Recent Iron Reduction in	r (01) Tilled Soils (Cf	3)		Saturation Visible on A	erial Imag	erv (C9	0	
	ion Visible on A	o) Aerial Im	agery (F	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)	ionai imag		,	
Water-S	Stained Leaves	(RQ)	lagery (L	51)		Other (Explain in Remarks	2)			EAC-Neutral Test (D5)				
Field Observa	ations	(20)					-1							
Surface Water	Present?	Yes		No		Depth (inches)								
Water Table D	recent?	Voc		No	⊠ M	Depth (inches):								
Saturation Pro	sent?	100		NU		Deptit (IIIGIICS).						_		_
(includes capil	lary fringe)	Yes		No		Depth (inches):	ationa) if a!!	Wetla	nd Hydr	ology Present?	Yes	\boxtimes	No	
	nueu Data (stre	eann gal	ige, moi	moring	well, a	ienai priotos, previous inspe	cuoris), ir avali	able.						

Project Site:	East-West Cor	<u>ridor</u>			С	ity/County:	Yakima	a/Yakim	<u>1a</u>		Samplin	ig Date:	<u>10/8/</u>	<u>15</u>	
Applicant/Owner:	Yakima County	<u>/</u>						5	State:	WA	Samplin	g Point:	<u>TP-1</u>	4, UP	' 1
Investigator(s):	<u>Jason Cade, W</u>	/idener and Asso	ciates		S	ection, Town	ship, R	ange:	<u>18, 13</u>	N, 19E					
Landform (hillslope,	terrace, etc.):	terrace			Local r	elief (concav	/e, con\	/ex, no	ne): <u>co</u>	oncave		Slo	pe (%)	<u>2</u>	
Subregion (LRR)	: <u>B</u>		Lat:	46.618626			Long:	-120.4	95271		Da	atum: <u>N</u>	<u>√AD83</u>		
Soil Map Unit Name	: <u>Weirman fine</u>	sandy loam, wet								NWI clas	sification: <u>r</u>	none			
Are climatic / hyd	drologic conditio	ns on the site typi	cal for t	this time of year	?	Yes 🛛	No		(If no, e	xplain in R	emarks.)				
Are Vegetation D,	Soil □,	or Hydrology	🗆 s	significantly distu	urbed?	Are "Nor	mal Cir	cumsta	inces" p	present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil □,	or Hydrology	🗆 n	naturally problem	natic?	(If neede	d, expl	ain any	answe	rs in Rema	arks.)				
		ah aita man al			- lin # 1			- I							

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soil Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖂
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <u>none</u> 2.				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
3				Total Number of Dominant Species Across All Strata: <u>1</u>	(B)
50% =, 20% = Sapling/Shrub Stratum (Plot size: 15')	<u>0</u>	= Total Cove		Percent of Dominant Species <u>0</u> That Are OBL, FACW, or FAC: <u>0</u>	(A/B)
1 none				Prevalence Index worksheet:	
2.				Total % Cover of : Multiply by:	
3.				OBL species x1 =	
4.				FACW species x2 =	_
5				FAC species x3 =	_
50% =, 20% =	<u>0</u>	= Total Cove		FACU species <u>70</u> x4 = <u>280</u>	
Herb Stratum (Plot size: <u>5'</u>)				UPL species x5 =	_
1. <u>Cirsium arvense</u>	<u>70</u>	yes	FACU	Column Totals: (A)	(B)
2				Prevalence Index = $B/A = 4$	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>35</u> , 20% = <u>14</u>	<u>70</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:15')				be present, unless disturbed or problematic.	
1				· · · · ·	
2				Hydrophytic	
50% =, 20% =	<u>0</u>	= Total Cove		Vegetation Yes No	
% Bare Ground in Herb Stratum <u>30</u>	% Cover	of Biotic Crust			
Remarks:					

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SOIL	SOIL Sampling Point: TP-14, UP I												
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
De	epth Ma	atrix				Redox Features							
<u>(inc</u>	hes) Color (mo	ist)	<u>%</u>	Colo	or (Moi	<u>st) % Type¹</u>	Loc ²	1	Textu	re <u>Remarks</u>			
<u>0-</u>	-20 7.5YR 3/	3		-				_	<u>si lo</u>				
		_		-									
		_		-									
		_		-									
		_		-									
				-				_					
¹ Type	: C= Concentration, D	=Depletio	n, RM=	Reduce	d Matr	ix, CS=Covered or Coated Sand	Grains. ²	Location: F	PL=P	ore Lining, M=Matrix.			
Hydri	c Soil Indicators: (A	pplicable	to all L	RRs, ur	nless o	otherwise noted.)			Indi	cators for Problematic Hydric So	ils³:		
	Histosol (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)			
	Histic Epipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)			
	Black Histic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)			
	Hydrogen Sulfide (A4	L)				Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)			
	Stratified Layers (A5)	(LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)			
	1 cm Muck (A9) (LRF	RD)				Redox Dark Surface (F6)							
	Depleted Below Dark	Surface ((A11)			Depleted Dark Surface (F7)							
	Thick Dark Surface (/	A12)				Redox Depressions (F8)				³ Indicators of hydrophytic vegeta	ition a	nd	
	Sandy Mucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology must be pr	esent,	ind ind		
	Sandy Gleyed Matrix	(S4)								unless disturbed or problem	atic.		
Restr	ictive Layer (if prese	ent):											
Type:													
Depth	(Inches):						Hydric So	oils Preser	nt?	Yes 🗌	No	\boxtimes	
Rema	ırks:												
HYD	ROLOGY												
Wetla	nd Hydrology Indica	ators:											
Prima	ry Indicators (minimu	m of one r	equired	; check	all that	apply)		:	Seco	ndary Indicators (2 or more required)		
	Surface Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)			
	High Water Table (A	2)				Biotic Crust (B12)		1		Sediment Deposits (B2) (Riverine)			
	Saturation (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)			
	Water Marks (B1) (N	onriverin	e)			Hydrogen Sulfide Odor (C1)		1		Drainage Patterns (B10)			
	Sediment Deposits (B2) (Non r	viverine)		Oxidized Rhizospheres along I	_iving Root	s (C3)		Dry-Season Water Table (C2)			
	Drift Deposits (B3) (Nonriveri	ne)			Presence of Reduced Iron (C4)			Crayfish Burrows (C8)			
	Surface Soil Cracks	(B6)				Recent Iron Reduction in Tilled	Soils (C6)	1		Saturation Visible on Aerial Imager	y (C9)		
	Inundation Visible or	Aerial Im	agery (F	37)		Thin Muck Surface (C7)		1		Shallow Aquitard (D3)			
	Water-Stained Leave	es (B9)				Other (Explain in Remarks)		1		FAC-Neutral Test (D5)			
Field	Observations:					· · · · · · · · · · · · · · · · · · ·							
Surfac	ce Water Present?	Yes		No	\boxtimes	Depth (inches):							
Water	Table Present?	Yes		No	\boxtimes	Depth (inches):							
Satura (inclue	ation Present? des capillary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetland	Hydi	rology Present? Yes		No	
Descr	ibe Recorded Data (s	tream gau	ige, moi	nitoring	well, a	erial photos, previous inspection	s), if availa	ble:					

Project Site: East-West Corridor		City/County: Yakima/Yakima	Sampling Date: <u>10/8/15</u>								
Applicant/Owner: Yakima County	State: WA Sampling Point: TP-18, WET J										
Investigator(s): Jason Cade, Widener and Assoc	ziates	Section, Township, Range: <u>18, 13N, 19E</u>									
Landform (hillslope, terrace, etc.): terrace	Loc	al relief (concave, convex, none): <u>concave</u>	Slope (%): <u>1</u>								
Subregion (LRR): <u>B</u>	Lat: <u>46.610737</u>	Long: <u>-120.490307</u>	Datum: <u>NAD83</u>								
Soil Map Unit Name: Weirman sandy loam, channele	<u>ed</u>	NWI classifi	ication: <u>none</u>								
Are climatic / hydrologic conditions on the site typic	cal for this time of year?	Yes 🛛 No 🔲 (If no, explain in Ren	narks.)								
Are Vegetation \Box , Soil \Box , or Hydrology	significantly disturbed	? Are "Normal Circumstances" present?	Yes 🛛 No 🗖								
Are Vegetation \square . Soil \square . or Hydrology	□ naturally problematic?	(If needed, explain any answers in Remark	.s.)								
<u> </u>	_ ,,		,								
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	locations, transects, important features,	etc.								
Hydrophytic Vegetation Present?	Yes 🛛 No 🗌										
Hydric Soil Present?	Yes 🛛 No 🗖	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌								
Wetland Hydrology Present?	Yes 🛛 No 🗌										
Remarks:											
VEGETATION – Use scientific names of plants	3.										
Tree Stratum (Plot size: <u>30')</u>	Absolute Dominant % Cover Species?	Indicator Status Dominance Test Worksheet:									
1. <u>Salix fragilis</u>	<u>50 yes</u>	FAC Number of Dominant Species									
2. <u>Robinia pseudoacacia</u>	<u>15 yes</u>	FACU That Are OBL, FACW, or FAC:	<u>2</u> (A)								
3		Total Number of Dominant									
4		Species Across All Strata:	<u>3</u> (B)								
50% = <u>32.5</u> , 20% = <u>13</u>	65 = Total Cover	Percent of Dominant Species	20 T (1/D)								
Sapling/Shrub Stratum (Plot size:15')		That Are OBL, FACW, or FAC:	<u>66.7</u> (A/B)								
1. <u>none</u>		Prevalence Index worksheet:									
2		<u>Total % Cover of :</u>	Multiply by:								
3		OBL species	x1 =								
4		FACW species	x2 =								
5		FAC species	x3 =								
50% =	0 = Total Cover	FACU species	x4 =								
Herb Stratum (Plot size:5')	-	UPL species	x5 =								
1 Phalaris arundinacea	80 ves	FACW Column Tatalay (A)	(B)								
2	<u>ycs</u>	Drevelence Index	(B)								
2.											
3		Hydrophytic Vegetation Indicators	s: /								
4			0								
5	<u> </u>	Prevalence Index is <3.0) ¹								
6	<u> </u>	Morphological Adaptation	ns ¹ (Provide supporting								
7	<u> </u>		separate sheet)								
8		Problematic Hydrophytic	Vegetation ¹ (Explain)								
50% = <u>40</u> , 20% = <u>16</u>	80 = Total Cover	Indicators of hydric soil and watland	d bydrology must								
Woody Vine Stratum (Plot size: <u>15'</u>)		be present, unless disturbed or prob	lematic.								
1											
2		Hydrophytic	_								
50% =, 20% =	<u>0</u> = Total Cover	Vegetation	Yes 🛛 No 🗌								
% Bare Ground in Herb Stratum 20	% Cover of Biotic Crust	Present /									
Remarks:											

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SOII

SOIL											Sampling	Point:	<u>TP-18</u>	3, WE ⁻	<u>T J</u>
Profile Descr	iption: (Descri	ibe to th	ne depth	n neede	ed to d	ocument the indicato	r or conf	irm the abs	sence of	indicate	ors.)				
Depth	Mat	rix				Redox Featu	res								
(inches)	Color (moist	t <u>)</u>	%	Co	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²	2	Texture	e <u>Remarks</u>				
<u>0-6</u>	<u>10YR 3/1</u>		<u>100</u>						_	muck					
<u>6+</u>		_							_	cobble	<u> </u>				
		_							_						
		_							_		<u> </u>				
		_							_		. <u> </u>				
		_													
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Mati	ix, CS=Covered or Coa	ated Sand	d Grains. ²	Locatior	: PL=Po	re Lining, M=Matrix.				
Hydric Soil In	dicators: (Ap	plicable	to all L	.RRs, u	inless	otherwise noted.)				Indic	cators for Problematic H	ydric S	oils ³ :		
Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LRR	(B)			
Black H	istic (A3)					Loamy Mucky Minera	l (F1)				Reduced Vertic (F18)	,			
□ Hvdroge	en Sulfide (A4)					Loamy Gleved Matrix	(F2)				Red Parent Material (T	F2)			
	d Lavers (A5) (LRR C)				Depleted Matrix (E3)	()				Other (Explain in Rema	arks)			
	uck (A9) (I RR	ם) ח				Redox Dark Surface	(F6)								
	d Below Dark S	-) Surface ((Δ11)			Depleted Dark Surfac	(F7)								
	ark Surface (A	12)	(////)			Beday Depressions (F8)								
	Aucky Minoral ((\$1)				Vernal Pools (E0)	10)				³ Indicators of hydrophy	tic vege	tation	and	
	Nucky Milleral ((01) 64)									wetland hydrology m	ust be p	oresent	l,	
		34) ••••										proble	mauc.		
Turner	ayer (il presen	ıt).													
Type:	\							Livelai e Ce	ile Dree	a m40	Vaa		Na	_	1
Deptn (Inches):							Hydric So	olis Pres	sent ?	tes	×	NO		1
Remarks:	Cobble layer el	ncounte	red at 6	inch de	eptn. U	nable to sample deeper									
HYDROLOG	SY														
Wetland Hydr	rology Indicate	ors:													
Primary Indica	ators (minimum	of one r	required	; check	all tha	t apply)				Secon	dary Indicators (2 or more	e require	ed)		
Surface	Water (A1)					Salt Crust (B11)					Water Marks (B1) (Riverii	ne)			
🖾 🛛 High W	ater Table (A2))				Biotic Crust (B12)					Sediment Deposits (B2) (F	Riverin	e)		
Saturat	ion (A3)					Aquatic Invertebrates	(B13)				Drift Deposits (B3) (Riveri	ine)	-,		
Water M	Marks (B1) (No	nriverin	ie)			Hydrogen Sulfide Od	(_ (C1)				Drainage Patterns (B10)	,			
	ent Deposits (B	2) (Noni	riverine')		Oxidized Rhizospher	es along	l iving Roots	s (C3)		Dry-Season Water Table	(C2)			
	enosits (B3) (N	nriveri	ne)	,		Presence of Reducer	l Iron (C4		00)		Cravfish Burrows (C8)	(02)			
	Soil Cracks (F	36)	iic)			Recent Iron Reductio	n in Tille	r) 1 Soils (CB)			Saturation Visible on Aeria	al Imag	arv (C.0	0	
		Aorial Im	aagony (I	B7)		Thin Muck Surface (יסוורו ווופי דיסו	u colis (co)			Shallow Aquitard (D3)	arimay	sry (03	')	
	Stained Leaves		iagei y (i	57)		Othor (Explain in Por	norke)				EAC Neutral Test (D5)				
		(D9)					naiks)				AC-Neutral Test (D3)				
		V	_	N1-	24	Denth (in the)									
Surrace water	resent?	res		INO		Deptn (Inches):									
Water Table P	resent?	Yes	\bowtie	No		Depth (inches):	<u>2</u>								
Saturation Pre (includes capi	esent? llary fringe)	Yes		No		Depth (inches):	<u>0</u>		Wetlar	nd Hydro	ology Present?	Yes	\boxtimes	No	
Describe Reco	orded Data (str	eam gau	uge, mor	nitoring	well, a	erial photos, previous i	nspectior	ns), if availal	ble:						
Pomarke :															

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Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/8/15</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-19, U</u>	ΡJ
Investigator(s): Jason Cade, Widener and Assoc	<u>iates</u>		Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Lo	cal relief (cor	ncave, convex, none): <u>none</u>	Slop	e (%):	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	10694		Long: <u>-120.490329</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classif	ication: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation 🛛, Soil 🖾, or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	□ No	
Are Vegetation □, Soil □, or Hydrology	natural	ly problematic	? (If ne	eded, explain any answers in Remark	(s.)		
	_						
SUMMARY OF FINDINGS – Attach site map sh	Nowing san	npling point	locations,	transects, important features,	etc.		
Hydric Soil Prosont?			ls the Sam	unlod Aroa within a Wotland?	Vac		
Metland Ludrology Present?	Vec D		is the Sali	ipied Area within a wetland?	Tes		
Remarke: TP 10 within limits of fill and within regul							
	iarry maintai						
VEGETATION – Use scientific names of plants	S. Absolute	Dominant	Indicator				
<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test Worksheet:			
1. <u>Salix fragilis</u>	<u>40</u>	<u>ves</u>	FAC	Number of Dominant Species	1		(Δ)
2. <u>Robinia pseudoacacia</u>	<u>10</u>	<u>yes</u>	FACU	That Are OBL, FACW, or FAC:	<u> </u>		(/ ()
3				Total Number of Dominant	3		(B)
4				Species Across All Strata:	<u>u</u>		(0)
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cover		Percent of Dominant Species	33		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:			()
1. <u>none</u>				Prevalence Index worksheet:			
2				<u>Total % Cover of :</u>	Multiply	by:	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species <u>43</u>	x3 =	<u>129</u>	
50% =, 20% =	<u>0</u>	= Total Cove		FACU species <u>10</u>	x4 =	<u>40</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species <u>20</u>	x5 =	<u>100</u>	
1. <u>Ericameria nauseosa</u>	<u>20</u>	yes	UPL	Column Totals: <u>73</u> (A)		<u>269</u> (B)	
2. Lepidium latifolium	2	no	FAC	Prevalence Inde	ex = B/A = 3.68		
3. Asclepias speciosa	1	no	FAC	Hydrophytic Vegetation Indicator	s:		
4.	-	_		Dominance Test is >509	6		
5.				Prevalence Index is <3 (11		
6.				Morphological Adaptatio	, ons ¹ (Provide suppr	orting	
7.				data in Remarks or on a	separate sheet)	Jung	
8				Problematic Hydrophytic	: Vegetation ¹ (Expl	ain)	
50% = 11.5. 20% = 4.6	23	= Total Cove			(_,,p)	u)	
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetlan	d hydrology must		
1.				de present, uniess disturbed or prot	nematic.		
2.							
50% =	0	= Total Cove		Hydrophytic Vegetation	Yes 🗌	No	\boxtimes
% Bare Ground in Herb Stratum 77	- % Cover	of Biotic Crust		Present?			
Remarks:				L			

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SOIL										San	pling Poir	nt: <u>TP</u>	-19, U	РJ
Profile Descr	ription: (Descri	be to th	he depti	n need	ed to d	locument the indicator or	confirm the	absence	of indica	tors.)				
Depth	Matr	ix				Redox Features								
(inches)	Color (moist)	%	Co	olor (Mo	<u>ist) % Typ</u>	be ¹ L	Loc ²	Textu	re <u>Remarks</u>				
<u>0+</u>		_							grave	fill				
		_												
		-												
		_												
		_												
		_												
¹ Type: C= Co	ncentration, D=l	Depletic	on, RM=	Reduc	ed Mati	rix, CS=Covered or Coated	Sand Grains	. ² Locat	tion: PL=P	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	licable	to all L	RRs, ι	unless	otherwise noted.)			Ind	icators for Problemati	c Hydric \$	Soils ³ :		
Histoso	I (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LF	₹R C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (L	.RR B)			
Black H	listic (A3)					Loamy Mucky Mineral (F	1)			Reduced Vertic (F1	8)			
Hydrog	en Sulfide (A4)					Loamy Gleved Matrix (F2	()			Red Parent Materia	/ I (TF2)			
☐ Stratifie	d Lavers (A5) (I	LRR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain in Re	emarks)			
	uck (A9) (LRR [)				Redox Dark Surface (F6)					,			
Deplete	d Below Dark S	urface	(A11)			Depleted Dark Surface (F	7)							
Thick D	ark Surface (A1	2)	()			Redox Depressions (F8)	,			2				
 □ Sandv I	Mucky Mineral (, S1)			Π	Vernal Pools (F9)				³ Indicators of hydrop	ohytic vege	etation	and +	
□ Sandy (Gleved Matrix (S	, 34)			_					unless disturbe	d or proble	ematic.	ι,	
Restrictive L	aver (if present	t):									<u> </u>			
Type:		,												
Depth (Inches	s):						Hydri	c Soils P	resent?	Yes		No		3
Remarks:	Unable to same	ole. Gra	vel fill er	ncounte	ered at	surface.								-
	-													
HYDROLOG	GY													
Wetland Hyd	rology Indicato	ors:												
Primary Indica	ators (minimum	of one I	required	; check	c all tha	t apply)			Seco	ndary Indicators (2 or m	ore requir	red)		
Surface	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riv	erine)			
🔲 High W	/ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2	?) (Riverin	e)		
Saturat	tion (A3)					Aquatic Invertebrates (B1	3)			Drift Deposits (B3) (Riv	verine)			
U Water I	Marks (B1) (No r	nriverin	ne)			Hydrogen Sulfide Odor (C	21)			Drainage Patterns (B1	0)			
Sedime	ent Deposits (B2	2) (Non i	riverine)		Oxidized Rhizospheres a	long Living R	Roots (C3)		Dry-Season Water Tat	ole (C2)			
Drift De	eposits (B3) (No	nriveri	ne)			Presence of Reduced Iron	n (C4)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reduction in	Tilled Soils (C6)		Saturation Visible on A	erial Imag	ery (CS	9)	
🗌 Inunda	tion Visible on A	verial Im	nagery (l	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves	(B9)				Other (Explain in Remark	s)			FAC-Neutral Test (D5)				
Field Observ	ations:													
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pre	esent?	Ves		No		Denth (inches):		Wet	tland Hvd	rology Present?	Yee		No	
(includes capi	illary fringe)	100												
Describe Rec	orded Data (stre	am gau	uge, mo	nitoring	j well, a	aeriai priotos, previous inspe	eccions), it av	allable:						

Project Site:	East-West Corric	<u>lor</u>		City/County:	Yakima/Ya	Sampling	Date:	<u>1-18-</u>	<u>19</u>		
Applicant/Owner:	Yakima County				Sampling F	Point:	<u>TP-20</u> wet)	04 <u>(</u> K	<u>-</u>		
Investigator(s):	<u>Teddi McFall, Wi</u>	idener & Associates		Section, Tow							
Landform (hillslope,	terrace, etc.): Flo	<u>oodplain</u>	Loca	I relief (conca	ave, convex,	none): <u>concave</u>		Slop	oe (%):	<u>1</u>	
Subregion (LRR)	: <u>B</u>	Lat	<u>46.6064335</u>		Long: <u>-12</u>	0.4842959	Datu	m: <u>N</u>	IAD83		
Soil Map Unit Name	: <u>Water</u>					NWI c	lassification: <u>PS</u>	<u>S1A</u>			
Are climatic / hyd	drologic conditions	s on the site typical for	this time of year?	Yes 🛛	No 🗌	(If no, explain ir	n Remarks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly disturbed?	Are "No	ormal Circum	stances" present?	•	Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	naturally problematic?	(If need	led, explain a	any answers in Re	emarks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No					
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No	D
Wetland Hydrology Present?	Yes	\boxtimes	No					
Remarks: Soils are entisols and naturally problematic								

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <u>Robinia pseudoacacia</u>	<u>90</u>	yes	FACU	Number of Dominant Species	•
2. <u>Acer saccharinum</u>	<u>10</u>	<u>no</u>	FAC	That Are OBL, FACW, or FAC: 3 (A	\)
3				Total Number of Dominant	- 1
4				Species Across All Strata: 2 (B	3)
50% = <u>50,</u> 20% = <u>20</u>	<u>100</u>	= Total Cove	er	Percent of Dominant Species	∧/₽)
Sapling/Shrub Stratum (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:	vв)
1. <u>Salix exigua</u>	<u>10</u>	<u>yes</u>	FACW	Prevalence Index worksheet:	
2. <u>Rosa woodsii</u>	<u>20</u>	yes	FACU	Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species x2 =	
5	·			FAC species x3 =	
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cove	er	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Conium maculatum</u>	<u>20</u>	<u>ves</u>	FACW	Column Totals: (A) (B)	
2. <u>Rumex crispus</u>	<u>20</u>	yes	FAC	Prevalence Index = B/A =	
3. <u>Tanacetum vulgare</u>	<u>5</u>	<u>no</u>	FACU	Hydrophytic Vegetation Indicators:	
4				☑ Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>22.5</u> , 20% = <u>9</u>	<u>45</u>	= Total Cove	er		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	er	Vegetation Yes 🛛 No	ב
% Bare Ground in Herb Stratum <u>10</u>	% Cover	of Biotic Crust		Present?	
Remarks:				•	
1					

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SOIL											Sampling	Point:	<u>TP-204</u>	4 (K- w	<u>et)</u>	
Profile Desc	ription: (Describe	e to the	depth	neede	ed to d	ocument the indic	ator or confi	m the abs	ence of	indica	tors.)					
Depth	Matrix					Redox F	eatures									
(inches)	Color (moist)		%	Co	lor <u>(</u> Mo	<u>ist) %</u>	Type ¹	Loc ²		Textu	<u>ire</u> <u>Rema</u>	arks				
<u>0-20</u>	<u>10 YR 3/2</u>	1	00						_	<u>si sa lo</u>	<u></u>					
									_							
									_							
									_							
									_							
									_		<u> </u>					
¹ Type: C= Co	oncentration, D=De	epletion	i, RM=I	Reduce	ed Matr	ix, CS=Covered or	Coated Sand	Grains. 2	Locatior	n: PL=P	ore Lining, M=Matr	rix.				
Hydric Soil I	ndicators: (Appli	cable t	o all Li	RRs, u	nless	otherwise noted.)				Ind	icators for Proble	matic H	lydric S	ioils ³ :		
Histoso	ol (A1)					Sandy Redox (S5	5)				1 cm Muck (A9) (LRR	C)			
Histic E	Epipedon (A2)					Stripped Matrix (S	S6)				2 cm Muck (A1	0) (LRF	R B)			
Black H	Histic (A3)					Loamy Mucky Mi	neral (F1)				Reduced Vertic	c (F18)				
☐ Hydrog	en Sulfide (A4)					Loamy Gleyed M	atrix (F2)				Red Parent Ma	aterial (1	F2)			
Stratifie	ed Layers (A5) (LF	R C)				Depleted Matrix (F3)			\boxtimes	Other (Explain	in Rem	arks)			
1 cm M	luck (A9) (LRR D)					Redox Dark Surfa	ace (F6)									
Deplete	ed Below Dark Sur	face (A	(11)			Depleted Dark Su	urface (F7)									
Thick D	Dark Surface (A12))				Redox Depressio	ons (F8)				³ Indicators of h	ydrophy	/tic vege	tation	and	
Sandy	Mucky Mineral (S1	1)				Vernal Pools (F9))				wetland hydr	ology n	nust be p	oresen	t,	
Sandy	Gleyed Matrix (S4)									unless dist	urbed o	r proble	matic.		
Restrictive L	ayer (if present):															
Туре:																
Depth (Inches	s):							Hydric So	oils Pres	sent?	•	Yes		No	\boxtimes]
Remarks:	Lies in floodplain,	therefo	ore as a	an enti	sol has	recent deposits an	d little time to	develop								
HYDROLOG	Y															
Wetland Hyd	Irology Indicators	5:														
Primary Indic	ators (minimum of	one re	quired;	check	all that	t apply)				Seco	ondary Indicators (2	or mor	e require	ed)		
Surfac	e Water (A1)					Salt Crust (B11)					Water Marks (B1)	(Riveri	ne)			
🔲 🛛 High W	Vater Table (A2)					Biotic Crust (B12)			\boxtimes	Sediment Deposit	s (B2) (Riverin	e)		
Satura	tion (A3)					Aquatic Invertebr	ates (B13)			\boxtimes	Drift Deposits (B3)) (River	ine)			
□ Water	Marks (B1) (Nonr	iverine)			Hydrogen Sulfide	Odor (C1)			\boxtimes	Drainage Patterns	s (B10)				
Sedimo	ent Deposits (B2)	(Nonriv	verine)			Oxidized Rhizosp	heres along L	iving Roots	s (C3)		Dry-Season Wate	r Table	(C2)			
Drift D	eposits (B3) (Non i	riverine	e)			Presence of Red	uced Iron (C4)				Crayfish Burrows	(C8)				
Surfac	e Soil Cracks (B6)					Recent Iron Redu	uction in Tilled	Soils (C6)			Saturation Visible	on Aeri	al Image	ery (CS)	
🗌 Inunda	ation Visible on Ae	rial Ima	gery (E	37)		Thin Muck Surfac	ce (C7)				Shallow Aquitard ((D3)				
☑ Water-	-Stained Leaves (E	39)				Other (Explain in	Remarks)				FAC-Neutral Test	(D5)				
Field Observ	vations:															
Surface Wate	er Present?	Yes		No		Depth (inche	s):									
Water Table	Present?	Yes		No		Depth (inche	s):									
Saturation Pr	esent?	Yes		No		Depth (inche	s):		Wetla	nd Hyd	rology Present?		Yes	\boxtimes	No	
Describe Rec	corded Data (strea	m qauq	ie. mor	nitorina	well, a	erial photos, previo	ous inspections	s), if availal	ble:							

Project Site: East-West Corridor		City/County: <u>Yakima/Yakima</u>	Sampling Date: <u>1-21-19</u>
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: TP-207, WET L
Investigator(s): <u>Teddi McFall, Widener and Asso</u>	ciates	Section, Township, Range: <u>18, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): floodplain	Loc	al relief (concave, convex, none): <u>concave</u>	Slope (%): <u>1</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.614808</u>	Long: <u>-120.488953</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: Water		NWI classif	ication: <u>PFO1A</u>
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes 🛛 No 🔲 (If no, explain in Rer	narks.)
Are Vegetation □. Soil □. or Hvdrology	☐ significantly disturbed	? Are "Normal Circumstances" present?	´ Yes ⊠ No □
Are Vegetation Soil Soil Are Vegetation	□ naturally problematic?	(If needed, explain any answers in Remark	(s.)
			0.)
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling point	locations, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes 🛛 No 🗌		
Hydric Soil Present?	Yes 🗌 No 🖾	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌
Wetland Hydrology Present?	Yes 🛛 No 🗌		
Remarks: Soils lie in floodplain along bank of Yaki	ma River. Entisols like the	se are naturally problematic.	
VEGETATION – Use scientific names of plants	3.		
Tree Stratum (Plot size:30')	Absolute Dominant % Cover Species?	Indicator Status Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	<u>70 yes</u>	FAC Number of Dominant Species	-
2. <u>Ailanthus altissima</u>	<u>10 no</u>	FACU That Are OBL, FACW, or FAC:	<u>5</u> (A)
3.		Total Number of Dominant	
4.		Species Across All Strata:	<u>5</u> (B)
50% = <u>40</u> , 20% = <u>16</u>	80 = Total Cover	Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: <u>15')</u>		That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
1. <u>Salix exigua</u>	<u>15 yes</u>	FACW Prevalence Index worksheet:	
2. <u>Cornus sericea</u>	<u>10 yes</u>	FACW Total % Cover of :	Multiply by:
3. Rosa woodsii	5 no	FACU OBL species	x1 =
4. Populus balsamifera	3 no	FAC FACW species	x2 =
5.	- –	FAC species	x3 =
50% = 16.5, 20% = 6.6	33 = Total Cover	EACLI species	x4 =
Herb Stratum (Plot size:5')			×5 =
<u>Hendolian</u> (Hot size. <u>.</u>)	E vee		xo (B)
1. <u>Lepidium laurolium</u>	<u>o yes</u>	Column Totals: (A)	(B)
2. <u>Bassia scoparia</u>	<u>5 yes</u>	FAC Prevalence Index	< = B/A =
3		Hydrophytic Vegetation Indicators	5:
4		Dominance Test is >50%	6
5		Prevalence Index is <3.0)1
6	<u> </u>	Morphological Adaptatio	ns ¹ (Provide supporting
7	<u> </u>		separate sneet)
8		Problematic Hydrophytic	Vegetation ¹ (Explain)
50% = <u>5</u> , 20% = <u>2</u>	10 = Total Cover	Indicators of hydric soil and wotland	d bydrology must
Woody Vine Stratum (Plot size: <u>15'</u>)		be present, unless disturbed or prob	ematic.
1. <u>None</u>			
2		Hydrophytic	_
50% =, 20% =	0 = Total Cover	Vegetation	Yes 🛛 No 🗌
% Bare Ground in Herb Stratum <u>98</u>	% Cover of Biotic Crust	Present?	
Remarks:			

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Sampling Po	int [.] TP-20	7 WFTI

SOIL											Samp	ling Point:	<u>TP-207</u>	, WE	ΓL
Profile Descr	ription: (Descri	be to th	e depth	n neede	ed to d	ocument the indica	tor or conf	irm the abs	sence of	indicat	ors.)				
Depth	Matr	ix				Redox Fe	atures								
(inches)	Color (moist	<u>)</u>	%	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc	2	Textur	re <u>Remarks</u>				
<u>0-19</u>	<u>10YR 4/3</u>	-	100						_	<u>sa silt lo</u>	am				
<u>19-20</u>	<u>10 YR 4/3</u>		<u>90</u>	5	YR 4/	<u>6 10</u>	<u>C</u>	<u>M</u>	5	silty sa lo	<u></u>				
		_													
		_							_						
		_													
		_													
¹ Type: C= Co	ncentration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or 0	Coated Sand	d Grains. ²	² Locatior	n: PL=Po	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indi	cators for Problemat	tic Hydric S	Soils ³ :		
Histoso	l (A1)					Sandy Redox (S5)	1				1 cm Muck (A9) (L	RR C)			
Histic E	pipedon (A2)					Stripped Matrix (S	6)				2 cm Muck (A10) (LRR B)			
Black H	listic (A3)					Loamy Mucky Min	eral (F1)				Reduced Vertic (F	18)			
Hydroge	en Sulfide (A4)					Loamy Gleyed Ma	trix (F2)				Red Parent Materi	al (TF2)			
□ Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F	3)			\boxtimes	Other (Explain in F	Remarks)			
□ 1 cm M	uck (A9) (LRR I))				Redox Dark Surfa	ce (F6)								
Deplete	d Below Dark S	Surface (/	A11)			Depleted Dark Su	face (F7)								
Thick D	ark Surface (A1	2)				Redox Depression	ıs (F8)				³ Indicators of hydro	phytic yog	otation	and	
□ Sandy M	Mucky Mineral (S1)				Vernal Pools (F9)					wetland hydrolog	gy must be	presen	anu t,	
□ Sandy 0	Gleyed Matrix (S	S4)									unless disturbe	ed or proble	matic.	,	
Restrictive L	ayer (if presen	t):													
Туре:															
Depth (Inches	s):							Hydric S	oils Pres	sent?	Yes		No	\boxtimes	1
Remarks:	Wetland lies on	bank of	Yakim	a river,	subjec	ted to flooding. Entis	ols are natu	rally proble	matic he	re.					
	37														
Wetland Hyd	rology Indicate	ors:													
Primary Indica	ators (minimum	of one re	equired	; check	all tha	t apply)				Secor	ndary Indicators (2 or	more requir	ed)		
Surface	e Water (A1)		· · ·			Salt Crust (B11)					Water Marks (B1) (Ri	verine)	,		
 □ Hiah W	(A2)					Biotic Crust (B12)					Sediment Deposits (B	2) (Riverin	e)		
□ Saturat	tion (A3)					Aquatic Invertebra	tes (B13)			Π	Drift Deposits (B3) (R	iverine)	- /		
□ Water I	Marks (B1) (No i	nriverine	e)		П	Hvdrogen Sulfide	Odor (C1)			П	Drainage Patterns (B	10)			
☐ Sedime	ent Deposits (B2	2) (Nonr i	·, iverine')		Oxidized Rhizosph	ieres along	Livina Root	s (C3)	П	Drv-Season Water Ta	ble (C2)			
	eposits (B3) (No	nriverin	ie)		П	Presence of Redu	ced Iron (C4	g 1)	- ()	Π	Cravfish Burrows (C8)			
	e Soil Cracks (B	6)	,			Recent Iron Reduc	tion in Tille	., d Soils (C6)			Saturation Visible on	, Aerial Imag	erv (CS	0	
	tion Visible on A	erial Im	agery (l	37)		Thin Muck Surface	a (C7)	u como (coo)			Shallow Aquitard (D3))	., (,	
Water-	Stained Leaves	(B9)	ugory (i	.,		Other (Explain in F	Remarks)			П	FAC-Neutral Test (D5)	, ;)			
Field Observ	ations:	()			-					-		/			
Surface Wate	r Present?	Yes	П	No		Depth (inches	.):								
Water Table F	Present?	Yes		No		Depth (inches)·								
Saturation Pre	esent?										D	N.	57		_
(includes capi	illary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetla	nd Hydr	ology Present?	Yes	\bowtie	NO	
Describe Rec	orded Data (stre	eam gau	ge, moi	nitoring	well, a	erial photos, previou	is inspectior	ns), if availa	ble:						
Pomarka:															

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Project Site: <u>East-West Corridor</u>			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date: <u>11/23/</u>	<u>15</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point: <u>TP-23,</u>	UP L
Investigator(s): Jason Cade, Widener and Asso	ociates		Section, T	ownship, Range: <u>18, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): floodplain		Lo	cal relief (co	ncave, convex, none): <u>convex</u>	Slope (%):	<u>4</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.0</u>	<u>614726</u>		Long: <u>-120.488968</u>	Datum: <u>NAD83</u>	
Soil Map Unit Name: Weirman sandy loam, channe	led			NWI clas	sification: <u>none</u>	
Are climatic / hydrologic conditions on the site typ	oical for this ti	me of year?	Yes 🛛	No 🔲 (If no, explain in R	temarks.)	
Are Vegetation \Box , Soil \Box , or Hydrology	Signific	cantly disturbed	l? Are "	Normal Circumstances" present?	Yes 🛛 🛔	No 🗆
Are Vegetation \Box , Soil \Box , or Hydrology	natura	ally problematic	? (lf ne	eded, explain any answers in Rema	arks.)	
SUMMARY OF FINDINGS – Attach site map s	howing sa	mpling point	locations	transects, important features	s, etc.	
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛				
Hydric Soil Present?	Yes 🗌	No 🛛	Is the San	pled Area within a Wetland?	Yes 🗌 🛛	No 🛛
Wetland Hydrology Present?	Yes 🗌	No 🛛				
Remarks:						
VEGETATION – Use scientific names of plan	ts.					
Tree Stratum (Plot size: <u>30')</u>	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:		
1. <u>Ailanthus altissima</u>	<u>1</u>	no	FACU	Number of Dominant Species	4	(•)
2. <u>Populus balsamifera</u>	<u>30</u>	yes	FAC	That Are OBL, FACW, or FAC:	<u>_</u>	(A)
3				Total Number of Dominant	4	(B)
4				Species Across All Strata:	<u>+</u>	(D)
50% = <u>15.5</u> , 20% = <u>6.2</u>	<u>31</u>	= Total Cove	r	Percent of Dominant Species	25	(A/R)
Sapling/Shrub Stratum (Plot size:15')				That Are OBL, FACW, or FAC:	25	(АВ)
1. <u>Ailanthus altissima</u>	<u>25</u>	yes	FACU	Prevalence Index worksheet:		
2. <u>Populus balsamifera</u>	<u>5</u>	<u>no</u>	FAC	Total % Cover of :	Multiply by:	
3.				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species <u>35</u>	x3 = <u>105</u>	
50% = <u>15</u> , 20% = <u>6</u>	30	= Total Cove	r	FACILI species 28	x4 = 112	
	<u>50</u>					

1.	Hypericum perforatum	<u>1</u>	<u>yes</u>	FACU	Column T	otals: <u>63</u> (A)			<u>217</u> (B)	
2.	Sisymbrium altissimum	<u>1</u>	yes	FACU		Prevalence Inde	ex = B/A =	= <u>3.44</u>		
3.	Unidentified grass	<u>2</u>	yes	<u>NI</u>	Hydrophy	tic Vegetation Indicator	s:			
4.						Dominance Test is >50%	6			
5.						Prevalence Index is <u><</u> 3.0	D1			
6. 7.			_			Morphological Adaptatio data in Remarks or on a	ns¹ (Prov separate	ride suppo sheet)	orting	
8.						Problematic Hydrophytic	: Vegetati	on ¹ (Expl	ain)	
50% <u>Woo</u> 1.	= <u>2</u> , 20% = <u>0.8</u> <u>dy Vine Stratum</u> (Plot size: <u>15'</u>)	<u>4</u>	= Total Cove		¹ Indicators be presen	s of hydric soil and wetland t, unless disturbed or prob	d hydrolog olematic.	gy must		
2.					Hydrophy	dic				
50%	=, 20% =	<u>0</u>	= Total Cove		Vegetatio	n	Yes		No	\boxtimes
% Ba	are Ground in Herb Stratum <u>96</u>	% Cover	of Biotic Crust		Present?					
Rei	narks:									

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SOIL														Sa	mpling	Poin	it: <u>TP</u>	-23 UF	<u>P L</u>
Profile Descr	iption: (Descril	be to th	ne depth	n need	ed to d	ocument the i	ndicato	r or conf	firm the a	bsence	e of indic	ators.)							
Depth	Matri	ix				Redo	ox Featu	ires											
(inches)	Color (moist))	%	Co	lor (Mo	<u>ist) %</u>		Type ¹	Lc	DC ²	Text	ure	R	emarks					
0-2	7.5YR 2.5/3		<u>100</u>				_				si	<u>o</u>							
<u>2-20</u>		_					_				<u>cob</u>	ble							
		_					_												
							_					_							
							_					_							
		_					_												
¹ Type: C= Cor	ncentration, D=[Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covere	d or Coa	ated San	d Grains.	² Loca	ation: PL=	Pore Lini	ing, M=	Matrix.					
Hydric Soil In	dicators: (App	licable	to all L	.RRs, u	Inless	otherwise note	ed.)				In	dicators	for Pro	oblemat	ic Hydı	ric S	oils ³ :		
Histosol	(A1)					Sandy Redox	(S5)					1 ci	m Muck	: (A9) (L l	RR C)				
Histic E	pipedon (A2)					Stripped Mati	rix (S6)					2 ci	m Muck	(A10) (I	LRR B)				
Black H	istic (A3)					Loamy Muck	y Minera	al (F1)				Red	duced \	/ertic (F1	18)				
Hydroge	en Sulfide (A4)					Loamy Gleye	d Matrix	k (F2)				Red	d Paren	t Materia	al (TF2))			
☐ Stratifie	d Layers (A5) (L	RR C)				Depleted Mat	rix (F3)				\boxtimes	Oth	er (Exp	lain in R	emarks	5)			
□ 1 cm Mu	uck (A9) (LRR D)				Redox Dark S	Surface	(F6)											
Deplete	d Below Dark S	urface ((A11)			Depleted Dar	k Surfa	ce (F7)											
Thick D	ark Surface (A1	2)				Redox Depre	ssions ((F8)				31							
□ Sandy N	، Aucky Mineral (۱	51)				Vernal Pools	(F9)	. ,				°ind M	licators	of nyaro hydrolog	pnytic \ w.must	/ege he r	tation	and H	
Sandy Gleyed Matrix (S4) unless disturbed or problem													matic.	.,					
Restrictive La	Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Image: Content of the second s																		
Type:	Restrictive Layer (if present): Type:																		
Depth (Inches	Type:																		
Remarks:	cobble layer end	counter	ed, soil i	is entis	ol with	out sufficient tin	ne to for	m redoxi	morphic fe	eatures	;								
									•										
HYDROLOG	SY																		
Wetland Hydi	rology Indicato	ors:																	
Primary Indica	ators (minimum	of one r	equired	; check	all that	t apply)					Sec	ondary l	ndicato	rs (2 or r	nore re	quire	ed)		
Surface	e Water (A1)					Salt Crust (B	11)					Water	Marks	(B1) (Ri v	/erine)				
High W	ater Table (A2)					Biotic Crust (312)					Sedim	ent Dep	oosits (B	2) (Riv	erine	e)		
Saturat	ion (A3)					Aquatic Inver	tebrates	s (B13)				Drift D	eposits	(B3) (R i	verine))			
Water M	Marks (B1) (Nor	nriverin	e)			Hydrogen Su	lfide Od	lor (C1)				Draina	ige Patt	erns (B1	0)				
Sedime	ent Deposits (B2) (Nonr	viverine))		Oxidized Rhiz	zospher	es along	Living Ro	oots (C3	3)	Dry-Se	eason V	Vater Ta	ble (C2)			
Drift De	eposits (B3) (No	nriverir	ne)			Presence of I	Reducer	d Iron (C4	4)			Crayfis	sh Burro	ows (C8))				
Surface	e Soil Cracks (B	6)				Recent Iron F	Reductio	on in Tille	d Soils (C	6)		Satura	tion Vis	ible on A	Aerial Ir	nage	ery (CS)	
Inundat	ion Visible on A	erial Im	agery (E	B7)		Thin Muck Su	urface ((C7)				Shallo	w Aquit	ard (D3)					
□ Water-S	Stained Leaves	(B9)				Other (Explai	n in Rer	marks)				FAC-N	leutral ⁻	Test (D5)				
Field Observa	ations:																		
Surface Water	r Present?	Yes		No	\boxtimes	Depth (ir	iches):												
Water Table F	Present?	Yes		No	\boxtimes	Depth (ir	iches):												
Saturation Pre (includes capi	esent? llary fringe)	Yes		No	\boxtimes	Depth (ir	iches):			We	etland Hy	drology	Preser	nt?	Y	es		No	\boxtimes
Describe Reco	orded Data (stre	am gau	ige, moi	nitoring	well, a	erial photos, pr	evious i	inspectio	ns), if avai	ilable:									

Project Site: East-West Corridor				City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	12/8/1	<u>5</u>
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	TP-24,	WET M
Investigator(s): Jason Cade, Widener and Assoc	ciates			Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace			Loc	al relief (cor	ncave, convex, none): <u>concave</u>	Slop	be (%):	<u>2</u>
Subregion (LRR): <u>B</u>	Lat: 46.6	611397			Long: <u>-120.489737</u>	Datum: <u>N</u>	IAD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed				NWI classif	ication: None		
Are climatic / hydrologic conditions on the site typic	cal for this ti	ne of ve	ar?	Yes 🛛	No 🔲 (If no, explain in Ren	narks.)		
Are Vegetation , Soil , or Hydrology	signific	cantly di	sturbed	? Are "	Normal Circumstances" present?	Yes		No 🗆
Are Vegetation . Soil . or Hydrology	 □ natura	llv probl	ematic?	(If ne	eded. explain any answers in Remark	s.)	_	_
······································				(
SUMMARY OF FINDINGS – Attach site map sh	nowing sa	mpling	point	locations.	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No			<u> </u>			
Hydric Soil Present?	Yes 🗵	No		Is the Sam	pled Area within a Wetland?	Yes		No 🗆
Wetland Hydrology Present?	Yes 🛛	No						
Remarks:								
VEGETATION – Use scientific names of plants								
Tree Stratum (Plot size:30')	Absolute	Domir	nant	Indicator	Dominance Test Worksheet			
	<u>% Cover</u>	Specie	es?	Status				
1. <u>Populus baisaninera</u>	10	<u>yes</u>			Number of Dominant Species	<u>5</u>		(A)
2. <u>Robinia pseudoacacia</u>	10	<u>yes</u>		FACU				
3					Total Number of Dominant Species Across All Strata:	<u>6</u>		(B)
4	20							
50% = 10, 20% = 4	20	- 1018			Percent of Dominant Species	<u>83</u>		(A/B)
Sapling/Shrub Stratum (Plot size: 15)								
1. <u>Ribes aureum</u>	<u>30</u>	<u>yes</u>		FAC	Prevalence Index worksheet:			
2. <u>Populus balsamitera</u>	<u>20</u>	yes		FAC	Total % Cover of :	Multiply	<u>/ by:</u>	
3					OBL species	x1 =		
4					FACW species	x2 =		
5					FAC species	x3 =		
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Tota	al Cover		FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5'</u>)					UPL species	x5 =		
1. <u>Carex obnupta</u>	<u>30</u>	<u>yes</u>		OBL	Column Totals: (A)			(B)
2. <u>Typha latifolia</u>	<u>10</u>	<u>yes</u>		OBL	Prevalence Index	c = B/A =		
3					Hydrophytic Vegetation Indicators	5:		
4					Dominance Test is >50%	ò		
5					Prevalence Index is <3.0)1		
6.					Morphological Adaptatio	ns ¹ (Provide supp	ortina	
7.					data in Remarks or on a	separate sheet)	orung	
8						Vagatation ¹ (Eva	lain)	
50% = 20, 20% = 8	40	= Tota	al Cover				iairi)	
Woody Vine Stratum (Plot size: 15')	<u>+0</u>	- 1010			¹ Indicators of hydric soil and wetland	ł hydrology must		
1 None					be present, unless disturbed or prob	lematic.		
2								
<u>2.</u> 50% - 20% -	0	- Tota			Hydrophytic Vegetation	Yes 🖂	No	
9070, 2070	<u>v</u> % Cover	of Dioti-			Present?	⊔		<u> </u>
	70 Cover		Grust					
Remarks:								

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	Sampling I	Point:	TP-24.	WET M
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SOIL											Samp	ling Point:	<u>TP-24</u>	, WET	M
Profile Descr	iption: (Descril	be to th	e depth	n need	ed to d	ocument the indi	icator or confir	m the abs	ence of	indicate	ors.)				
Depth	Matr	ix				Redox I	Features								
(inches)	Color (moist)	<u>%</u>	Co	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²		Textur	e <u>Remarks</u>				
<u>0-6</u>	<u>10YR 2/1</u>		100						_	sandy l	<u>o</u>				
<u>6-14</u>	<u>10Y 2.5/1</u>		<u>50</u>	7.	.5YR 3/	<u>'3 50</u>	<u>C</u>	M		sand					
<u>14+</u>		_							_	cobble	<u> </u>				
		_							_		. <u> </u>				
		-							-		. <u> </u>				
		-							-		·				
¹ Type: C= Cor	ncentration, D=[Depletio	on, RM=	Reduce	ed Mati	ix, CS=Covered o	r Coated Sand	Grains. ²	Location	n: PL=Po	re Lining, M=Matrix.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	Inless	otherwise noted.)			Indic	ators for Problemat	tic Hydric S	Soils ³ :		
Histosol	(A1)				\boxtimes	Sandy Redox (S	\$5)				1 cm Muck (A9) (L	RR C)			
Histic Ep	pipedon (A2)					Stripped Matrix	(S6)				2 cm Muck (A10) (LRR B)			
Black Hi	istic (A3)					Loamy Mucky N	lineral (F1)				Reduced Vertic (F	18)			
Hydroge	en Sulfide (A4)					Loamy Gleyed N	Matrix (F2)				Red Parent Materi	al (TF2)			
Stratified	d Layers (A5) (L	RR C)				Depleted Matrix	(F3)				Other (Explain in F	Remarks)			
1 cm Mu	uck (A9) (LRR E))				Redox Dark Sur	face (F6)								
Deplete	d Below Dark S	urface (A11)			Depleted Dark S	Surface (F7)								
Thick Da	ark Surface (A1	2)				Redox Depressi	ions (F8)				³ Indicators of hydro	ophytic vege	etation	and	
Sandy N	Aucky Mineral (S1)				Vernal Pools (F9	9)				wetland hydrolog	gy must be	presen	t,	
Sandy G	Gleyed Matrix (S	64)									unless disturbe	ed or proble	ematic.		
Restrictive La	Restrictive Layer (if present):														
Туре:	Type:														
Depth (Inches):							Hydric So	ils Pres	sent?	Yes		No]
Remarks:	Cobble encount	tered at	14 inch	es dep	th. Una	ble to dig deeper.									
HYDROLOG	SY														
Wetland Hydi	rology Indicato	ors:													
Primary Indica	ators (minimum	of one r	equired	; check	all tha	t apply)				Secon	dary Indicators (2 or	more requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)					Water Marks (B1) (Ri	verine)			
High W	ater Table (A2)					Biotic Crust (B1	2)				Sediment Deposits (E	2) (Riverin	e)		
Saturati	ion (A3)					Aquatic Inverteb	orates (B13)				Drift Deposits (B3) (R	iverine)			
Water N	Marks (B1) (Nor	nriverin	e)			Hydrogen Sulfid	e Odor (C1)				Drainage Patterns (B	10)			
Sedime	ent Deposits (B2) (Nonr	verine))		Oxidized Rhizos	pheres along L	iving Roots	s (C3)		Dry-Season Water Ta	able (C2)			
Drift De	posits (B3) (No	nriverir	ne)			Presence of Red	duced Iron (C4)				Crayfish Burrows (C8)			
Surface	e Soil Cracks (B	6)				Recent Iron Rec	duction in Tilled	Soils (C6)			Saturation Visible on	Aerial Imag	ery (CS	9)	
Inundat	ion Visible on A	erial Im	agery (E	37)		Thin Muck Surfa	ace (C7)				Shallow Aquitard (D3)			
⊠ Water-S	Stained Leaves	(B9)				Other (Explain i	n Remarks)				AC-Neutral Test (D5	5)			
Field Observa	ations:														
Surface Water	r Present?	Yes		No	\boxtimes	Depth (inch	es):								
Water Table P	Present?	Yes		No	\boxtimes	Depth (inch	es):								
Saturation Pre	esent?	Yee		No		Depth (inch	es).		Wetlar	nd Hydro	oloav Present?	Yes		No	
(includes capil	llary fringe)	000 000		aitorina) if availab					لاع		
	Sided Data (Stre	ani yau	ige, moi	moning	, wen, a		ious inspections	<i>,</i> ii avaliat	л с .						

Project Site: East-West Corridor				City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	12/8/1	<u>5</u>
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	<u>TP-25</u>	<u>, UP M</u>
Investigator(s): Jason Cade, Widener and Assoc	iates			Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace			Loc	al relief (cor	ncave, convex, none): <u>convex</u>	Slo	pe (%):	<u>4</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	<u>611378</u>			Long: <u>-120.48978</u>	Datum: <u>I</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed				NWI classif	ication: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this ti	me of year	r?	Yes 🛛	No 🔲 (If no, explain in Ren	narks.)		
Are Vegetation \Box , Soil \Box , or Hydrology	signific	cantly dist	urbed	? Are "	Normal Circumstances" present?	Yes	\boxtimes	No 🗌
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 natura	lly probler	natic?	(If ne	eded, explain any answers in Remark	.s.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing sa	mpling p	oint	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No						
Hydric Soil Present?	Yes 🗌	No	\boxtimes	Is the Sam	pled Area within a Wetland?	Yes		No 🖂
Wetland Hydrology Present?	Yes 🗌	No	\boxtimes					
Remarks:								
VEGETATION - Use scientific names of plants								
Tree Stratum (Plot size:30')	Absolute	Domina	nt	Indicator	Dominance Test Worksheet			
	<u>% Cover</u>	<u>Species</u>	<u>;?</u>	Status	Dominance rest worksheet.			
1. <u>Robinia pseudoacacia</u>	<u>10</u>	<u>yes</u>		FACU	Number of Dominant Species	<u>3</u>		(A)
2. <u>Populus balsamitera</u>	<u>10</u>	yes		FAC	That Are OBL, I AGW, OF I AC.			
3					Total Number of Dominant	<u>5</u>		(B)
4			_		Species Across Air Strata.			
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u>	= Total (Cover		Percent of Dominant Species	<u>60</u>		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>					That Are OBL, FACW, or FAC:			. ,
1. <u>Ribes aureum</u>	<u>10</u>	yes		FAC	Prevalence Index worksheet:			
2. <u>Populus balsamifera</u>	<u>30</u>	yes		FAC	<u>Total % Cover of :</u>	Multiply	y by:	
3		·			OBL species	x1 =		
4		·			FACW species	x2 =		
5		<u> </u>			FAC species	x3 =		
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total (Cover		FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5'</u>)					UPL species	x5 =		
1. <u>Bromus tectorum</u>	<u>40</u>	yes		UPL	Column Totals: (A)			(B)
2. Lepidium latifolium	<u>3</u>	no		FAC	Prevalence Index	k = B/A =		
3. Verbascum thapsus	2	no		FACU	Hydrophytic Vegetation Indicators	5:		
4					Dominance Test is >50%	6		
5.)1		
						1 (D)		
7					data in Remarks or on a	separate sheet)	orting	
9 9						· · · · · · · · · · · · · · · · · · ·		
0 0. = 0.00% = 0.00%	45		^		Problematic Hydrophytic	vegetation' (Exp	olain)	
50% = 22.5, 20% = 9	<u>45</u>		Cover		¹ Indicators of hydric soil and wetland	d hydrology must		
Woody Vine Stratum (Piot size: <u>15</u>)					be present, unless disturbed or prob	lematic.		
1								
2			~	—	Hydrophytic		No	
50% =, 20% =	<u>U</u>	= Total (Cover		Vegetation Present?		NO	
% Bare Ground in Herb Stratum 55	% Cover	of Biotic C	Crust					
Remarks:								

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SOIL										Sampli	ng Poin	t: <u>TP-</u>	25 UP	<u>M</u>
Profile Descri	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth	Mat	rix				Redox Features								
(inches)	Color (moist	t <u>)</u>	%	Co	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	2	Texture	<u>Remarks</u>				
<u>0-2</u>	<u>10YR 2/1</u>		100					_	<u>sa lo</u>					
<u>2+</u>		_						_	<u>cobble</u>					
		_						_						
		_						_						
		_						_						
		_						_						
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Mati	ix, CS=Covered or Coated San	d Grains.	² Locatior	: PL=Por	re Lining, M=Matrix.				
Hydric Soil In	dicators: (Ap	olicable	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Problematic H	lydric S	ioils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic Ep	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR	₹B)			
Black Hi	istic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (T	F2)			
Stratified	d Layers (A5) (LRR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain in Rema	arks)			
🔲 1 cm Mu	uck (A9) (LRR	D)				Redox Dark Surface (F6)								
Depleted	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)								
Thick Da	ark Surface (A1	12)				Redox Depressions (F8)				31 11 1 61 1 1				
□ Sandy M	/ucky Mineral (S1)				Vernal Pools (F9)				vetland hydrology m	tic vege just he r	resen	and F	
□ Sandy G	Gleyed Matrix (S4)								unless disturbed of	r proble [,]	matic.	.,	
Restrictive La	ayer (if presen	t):									<u> </u>			
Type:	Restrictive Layer (if present): Type:													
Depth (Inches	Type: Depth (Inches): Hydric Soils Present? Yes													
Remarks:	, Cobble encour	itered at	2 inch c	depth. l	Jnable	to dig sample pit further.	-							
				· ·		<u> </u>								
HYDROLOG	<u> </u>													
	rology indicate	ors:							0			N		
Primary Indica		or one r	equirea	; спеск	ali tha				Second	dary indicators (2 or more	equire	ea)		
	Water (A1)					Salt Crust (B11)				Vater Marks (B1) (Riveri	ne)			
	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (I	Riverine	e)		
	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)			
U Water N	//arks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
Sedime	nt Deposits (B	2) (Non i	riverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift De	posits (B3) (No	onriveri	ne)			Presence of Reduced Iron (C4	l)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (E	86)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeria	al Image	ery (CS)	
Inundat	ion Visible on A	Aerial Im	nagery (E	37)		Thin Muck Surface (C7)			🗆 s	Shallow Aquitard (D3)				
□ Water-S	Stained Leaves	(B9)				Other (Explain in Remarks)		r	🗆 F	AC-Neutral Test (D5)				
Field Observa	ations:													
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pre (includes capil	esent? llary fringe)	Yes		No		Depth (inches):		Wetla	nd Hydro	blogy Present?	Yes		No	
Describe Reco	orded Data (str	eam gau	uge, mor	nitoring	well, a	erial photos, previous inspection	ns), if availa	ble:						
Remarks ·														

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Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date: <u>1</u>	2/8/15
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point: <u>T</u>	P-26, WET N
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>		Section, T	ownship, Range: <u>18, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): floodplain		Lo	cal relief (cor	ncave, convex, none): <u>concave</u>	Slope	(%): <u>1</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	17237		Long: <u>-120.491647</u>	Datum: <u>NA</u> I	D83
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classif	ication: <u>None</u>	
Are climatic / hydrologic conditions on the site typic	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)	
Are Vegetation □, Soil □, or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes 🗵	🛛 No 🗆
Are Vegetation 🔲, Soil 🖾, or Hydrology	natural	ly problematic?	? (If ne	eded, explain any answers in Remark	(s.)	
SUMMARY OF FINDINGS – Attach site map sr Hydrophytic Vegetation Present?	Yes 🛛		locations,	transects, important features,	etc.	
Hydric Soil Present?	Yes 🗆	No 🖾	Is the Sam	ppled Area within a Wetland?	Yes 🕅	α No Π
Wetland Hydrology Present?	Yes 🖂	No П				
Remarks: Problematic Hydric Soils. cobble-domina	ted entisols	within river f	loodplain			
VEGETATION – Use scientific names of plants	6.					
Tree Stratum (Plot size: <u>30'</u>)	Absolute	Dominant	Indicator	Dominance Test Worksheet:		
1. Populus balsamifera	40	ves	FAC	Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	<u>3</u>	(A)
3				Total Number of Dominant		(=)
4				Species Across All Strata:	<u>3</u>	(B)
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cover		Percent of Dominant Species	100	
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:	<u>100</u>	(A/B
1. <u>Cornus sericea</u>	<u>20</u>	yes	FACW	Prevalence Index worksheet:		
2. <u>Populus balsamifera</u>	<u>10</u>	<u>yes</u>	FAC	<u>Total % Cover of :</u>	Multiply b	<u>y:</u>
3. <u>Rosa woodsii</u>	<u>2</u>	no	FACU	OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% = <u>16</u> , 20% = <u>6.4</u>	<u>32</u>	= Total Cover		FACU species	x4 =	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	
1. <u>None</u>				Column Totals: (A)	_	(B)
2.				Prevalence Inde	x = B/A =	
3.				Hydrophytic Vegetation Indicator	 s:	
4.				Dominance Test is >509	6	
5				Prevalence Index is <3.0)1	
6				Morphological Adaptatio	ns ¹ (Provide suppor	tina
7.			_	data in Remarks or on a	separate sheet)	ing
8				Problematic Hydrophytic	vegetation ¹ (Explai	n)
50% =, 20% =	<u>0</u>	= Total Cover			5 (1	,
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetland	d hydrology must	
1. <u>None</u>				be present, unless disturbed of proc		
2				Hydrophytic		
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation	Yes 🛛	No 🗌
% Bare Ground in Herb Stratum <u>100</u>	% Cover	of Biotic Crust		Present?		
Remarks:						

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SOIL												Sampl	ing Point:	<u>TP-2</u>	6, WE1	<u>T N</u>
Profile Descr	Open Matrix Redox Features															
Depth	Matr	ix				Redox Featu	ures									
(inches)	Color (moist)	%	Co	olor (Mo	<u>ist) %</u>	Type ¹	Loc	2	Textur	e	Remarks				
<u>0-4</u>	<u>10YR 3/2</u>		<u>100</u>						_	<u>si lo</u>						
<u>4+</u>		_							_	cobble	<u> </u>	_				
		_							_							
		_							_							
		_							_							
		_							_			_				
¹ Type: C= Co	ncentration, D=I	Depletic	on, RM=	Reduc	ed Matr	ix, CS=Covered or Co	ated San	d Grains.	² Locatio	n: PL=Pc	ore Lining, N	/I=Matrix.				
Hydric Soil I	ndicators: (App	licable	to all L	RRs, ι	unless	otherwise noted.)				Indi	cators for F	Problemati	c Hydric	Soils ³ :		
Histoso	l (A1)					Sandy Redox (S5)					1 cm Mu	ck (A9) (LF	RR C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Mu	ick (A10) (L	RR B)			
Black H	listic (A3)					Loamy Mucky Minera	al (F1)				Reduced	d Vertic (F1	8)			
Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix	x (F2)				Red Par	ent Materia	l (TF2)			
Stratifie	d Layers (A5) (I	RR C)				Depleted Matrix (F3)				\boxtimes	Other (E	xplain in Re	emarks)			
🔲 1 cm M	uck (A9) (LRR D))				Redox Dark Surface	(F6)									
Deplete	ed Below Dark S	urface ((A11)			Depleted Dark Surfa	ce (F7)									
Thick D	ark Surface (A1	2)				Redox Depressions	(F8)				³ Indicato	re of hydror	hytic yea	otation	and	
Sandy I	Mucky Mineral (S1)				Vernal Pools (F9)					wetlan	id hydrolog	/ must be	presen	it,	
□ Sandy (Gleyed Matrix (S	64)									unle	ss disturbe	, d or proble	ematic.		
Restrictive L	ayer (if present	t):														
Туре:	ype:															
Depth (Inches	ypc.															
Remarks:	naturally proble	matic s	oil - veg	etated	cobble-	dominated area within	floodplai	n of Yakima	River. 0	Cobble la	yer encoun	tered at 4 ir	nch depth			
HYDROLOG	GY															
wetiand Hyd	rology indicato	ors:								0		h (0,				
Primary Indica	ators (minimum	of one r	equired	; cnecł						Secor	dary Indica	tors (2 or m	iore requi	red)		
	e Water (A1)					Salt Crust (B11)					Water Mark	s (B1) (Riv	erine)			
∐ High W	/ater Table (A2)					Biotic Crust (B12)					Sediment D	eposits (B2	?) (Riverir	ie)		
Saturat	tion (A3)					Aquatic Invertebrates	s (B13)				Drift Depos	its (B3) (Ri v	/erine)			
∐ Water	Marks (B1) (No r	nriverin	e)			Hydrogen Sulfide Oc	lor (C1)				Drainage P	atterns (B1))			
Sedime	ent Deposits (B2	2) (Nonr	iverine)		Oxidized Rhizospher	es along	Living Root	s (C3)		Dry-Seasor	n Water Tab	ole (C2)			
Drift De	eposits (B3) (No	nriverii	ne)			Presence of Reduce	d Iron (C4	4)			Crayfish Bu	rrows (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reduction	on in Tille	d Soils (C6))		Saturation \	/isible on A	erial Imag	gery (C	9)	
□ Inunda	tion Visible on A	erial Im	agery (l	B7)		Thin Muck Surface (C7)				Shallow Aq	uitard (D3)				
Water-	Stained Leaves	(B9)				Other (Explain in Re	marks)		1		FAC-Neutra	al Test (D5)				
Field Observ	ations:		_													
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):										
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):										
Saturation Pre	esent?	Yes		No	\boxtimes	Depth (inches):			Wetla	nd Hydr	ology Pres	ent?	Yes	\boxtimes	No	
Describe Rec	orded Data (stre	eam gau	ige, mo	nitorino	g well, a	erial photos, previous	inspectio	ns), if availa	ble:							
Remarker	, , , , , , , , , , , , , , , , , , ,	J														
	ps of Engineers											Ar	id West –	Versio	n 2.0	

Project Site: <u>East-West Corridor</u>			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date: <u>12/8/15</u>	
Applicant/Owner: Yakima County				State: WA	Sampling Point: <u>TP-27, UF</u>	P N/O
Investigator(s): Jason Cade, Widener and Assoc	ciates		Section, To	ownship, Range: <u>18, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): floodplain		Loc	al relief (con	cave, convex, none): <u>convex</u>	Slope (%): 4	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	17091		Long: <u>-120.491566</u>	Datum: <u>NAD83</u>	
Soil Map Unit Name: Weirman sandy loam, channel	ed			NWI classi	iication: <u>none</u>	
Are climatic / hydrologic conditions on the site typi	cal for this tim	ne of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)	
Are Vegetation \Box , Soil \Box , or Hydrology	signification	antly disturbed?	? Are "I	Normal Circumstances" present?	Yes 🛛 No	
Are Vegetation \Box , Soil \boxtimes , or Hydrology	naturall	y problematic?	(If nee	eded, explain any answers in Remark	<s.)< td=""><td></td></s.)<>	
SUMMARY OF FINDINGS – Attach site map sl	howing san	npling point	locations,	transects, important features,	etc.	
Hydrophytic Vegetation Present?	Yes 🗌	No 🖾				
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	pled Area within a Wetland?	Yes 🗌 No	\boxtimes
Wetland Hydrology Present?	Yes 🗌	No 🛛				
Remarks:						
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:		
1. <u>Populus balsamifera</u>	<u>10</u>	<u>ves</u>	FAC	Number of Dominant Species	2	(Δ)
2				That Are OBL, FACW, or FAC:	<u>-</u>	(,,)
3				Total Number of Dominant	4	(B)
4	<u> </u>			Species Across All Strata:	<u>-</u>	(=)
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cover		Percent of Dominant Species	50	(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:	<u></u>	(,,,,,)
1. <u>Ribes aureum</u>	<u>5</u>	<u>yes</u>	FAC	Prevalence Index worksheet:		
2. <u>Rosa woodsii</u>	<u>5</u>	yes	FACU	<u>Total % Cover of :</u>	Multiply by:	
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species <u>15</u>	x3 = <u>45</u>	
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cover		FACU species 25	x4 = <u>100</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	

Herb Stratum (Plot size: <u>5'</u>)				UPL spec	ies			x5 =		
1. <u>Hypericum perforatum</u>	<u>20</u>	<u>yes</u>	FACU	Column T	otals:	<u>40</u> (A)			<u>145</u> (B)	
2					Prev	alence Index	: = B/A =	3.625		
3				Hydrophy	ytic Vegetatio	on Indicators	:			
4					Dominance	Test is >50%				
5					Prevalence	Index is <u><</u> 3.0	1			
6					Morphologi	cal Adaptatior	ıs¹ (Prov	vide supp	orting	
7					data in Rem	arks or on a	separate	e sheet)		
8					Problematio	Hydrophytic	Vegetati	ion ¹ (Exp	lain)	
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u>	= Total Cove	r							
Woody Vine Stratum (Plot size: 15')				¹ Indicators	s of hydric soi it_unless disti	l and wetland urbed or probl	hydrolog ematic	gy must		
1				Se presen	i, anooo alot	ineed of press	omator			
2				Hydrophy	vtic					
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetatio	on		Yes		No	\boxtimes
% Bare Ground in Herb Stratum 80		Present?								
Remarks:										

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SOIL										Sampling	J Point:	<u>TP-27</u>	UP N	/0
Profile Descr	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features													
Depth	Mati	rix				Redox Features								
(inches)	Color (moist	t)	%	Co	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	-	Textur	e <u>Remarks</u>				
<u>0+</u>		-						_	cobble	<u> </u>				
		_						_						
		_						_						
		_						_						
		_						_						
		-						_						
¹ Type: C= Co	ncentration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains.	² Locatior	: PL=Pc	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	olicable	to all L	.RRs, u	nless	otherwise noted.)			Indi	cators for Problematic H	lydric S	oils ³ :		
Histoso	l (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRF	₹В)			
Black H	istic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (1	F2)			
□ Stratifie	d Layers (A5) (LRR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain in Rem	arks)			
□ 1 cm M	uck (A9) (LRR I	D)				Redox Dark Surface (F6)								
Deplete	d Below Dark S	Surface	(A11)			Depleted Dark Surface (F7)								
Thick D	ark Surface (A1	12)				Redox Depressions (F8)				3Indiantara of hydronhy	tioner	tation a	un d	
□ Sandy I	Mucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology m	ust be r	present	and	
Sandy Gleyed Matrix (S4) unless disturbed or problematic.														
Restrictive Layer (if present):														
Restrictive Layer (if present): Type:														
Depth (Inches	Type: Depth (Inches): Hydric Soils Present? Yes													
Remarks:	Naturally proble	ematic s	soil - cob	ble to s	surface	. No indicators of hydrology.								
HYDROLOG	¥ ز المعالمة المعامة													
	rology malcate	ors:			- 11 41	k anala)			0		!	1)		
		or one i	required	, check					Secon		e require	ea)		
	e vvater (A1)					Salt Crust (B11)				Water Marks (B1) (Riveri	ne)			
	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (Riverine	€)		
	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)			
	Marks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)		(Drainage Patterns (B10)				
	ent Deposits (B2	2) (Non i	riverine))		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
	eposits (B3) (Nc	onriveri	ne)			Presence of Reduced Iron (C4	1)			Crayfish Burrows (C8)				
	e Soil Cracks (E	86)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeri	al Image	ery (C9)	
Inunda	tion Visible on A	Aerial Im	nagery (E	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves	(B9)				Other (Explain in Remarks)		1		FAC-Neutral Test (D5)				
Field Observ	ations:													
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pre (includes capi	esent? llary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetla	nd Hydr	ology Present?	Yes		No	\boxtimes
Describe Rec	orded Data (str	eam gau	uge, mor	nitoring	well, a	erial photos, previous inspection	ns), if availa	ble:						

Project Site: East-West Corridor					City/Coun	y: <u>Yakima/Yakima</u> Sampling Date: <u>12/8/15</u>	
Applicant/Owner: Yakima County						State: WA Sampling Point: TP-28, WE	<u>T O</u>
Investigator(s): Jason Cade, Widener and Asso	ciates				Section, T	wnship, Range: <u>18, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): <u>floodplain</u>				Loc	cal relief (coi	cave, convex, none): <u>concave</u> Slope (%): <u>1</u>	
Subregion (LRR): <u>B</u>	Lat:	46.616	<u> 6992</u>			Long: <u>-120.491428</u> Datum: <u>NAD83</u>	
Soil Map Unit Name: Weirman sandy loam, channel	ed					NWI classification: PSS1A	
Are climatic / hydrologic conditions on the site typ	ical for thi	is time	e of ye	ar?	Yes 🛛	No 🔲 (If no, explain in Remarks.)	
Are Vegetation \Box , Soil \Box , or Hydrology	□ sig	nifica	ntly dis	sturbed	? Are "	Normal Circumstances" present? Yes 🛛 No	
Are Vegetation \Box , Soil \Box , or Hydrology	□ nat	turally	proble	ematic?) (If ne	eded, explain any answers in Remarks.)	
	_	,			,		
SUMMARY OF FINDINGS – Attach site map s	howing	sam	pling	point	locations,	transects, important features, etc.	
Hydrophytic Vegetation Present?	Yes		No				
Hydric Soil Present?	Yes	\boxtimes	No		Is the San	pled Area within a Wetland? Yes 🛛 No	
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks:							
VEGETATION - Use scientific names of plant	e						
Troo Stratum (Plot size:30')	Absolut	e	Domin	ant	Indicator	Dominanco Tost Workshoot	
	<u>% Cove</u>	<u>er</u>	Specie	es?	<u>Status</u>	Dominance rest worksheet.	
1. <u>Populus balsamitera</u>	<u>3</u>	-	<u>yes</u>		FAC	Number of Dominant Species	A)
2		-				mat Ale OBL, FACW, of FAC.	
3		-				Total Number of Dominant	B)
4		-				Species Across All Strata.	
50% = 1.5, 20% = 0.6	<u>3</u>	:	= Tota	I Cover		Percent of Dominant Species 50	A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)						That Are OBL, FACW, or FAC:	,
1. <u>Cornus sericea</u>	<u>3</u>	<u>!</u>	no		FACW	Prevalence Index worksheet:	
2. <u>Populus balsamifera</u>	<u>10</u>	!	no		FAC	Total % Cover of : Multiply by:	
3. <u>Rosa woodsii</u>	<u>30</u>	2	<u>ves</u>		FACU	OBL species x1 =	
4. <u>Salix exigua</u>	<u>10</u>	<u>!</u>	no		FACW	FACW species <u>43</u> x2 = <u>86</u>	
5		-				FAC species <u>13</u> x3 = <u>39</u>	
50% = <u>26.5,</u> 20% = <u>10.6</u>	<u>53</u>	:	= Tota	l Cover		FACU species <u>40</u> x4 = <u>160</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)						UPL species x5 =	
1. Phalaris arundinacea	30	,	ves		FACW	Column Totals: 96 (A) 285 (B)	
2 Hypericum perforatum	10	,	ves		FACU	$\frac{1}{2} (7)$ Prevalence Index = B/A = 2.97	
3	10	-	100			Hydronhytic Vegetation Indicators:	
<u>. </u>		-					
		-					
5. <u> </u>		-				Prevalence Index is <3.0 ¹	
6		-				Morphological Adaptations ¹ (Provide supporting	
<i>1.</i>		-					
8		-				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = 20, 20% = 8 40 = Total Cover					¹ Indicators of hydric soil and wetland hydrology must		
Woody Vine Stratum (Plot size: <u>15'</u>)						be present, unless disturbed or problematic.	
1. <u>None</u>		-					
2		-			·	Hydrophytic	_
50% =, 20% =	<u>0</u>	:	= Tota	l Cover		Vegetation Yes 🛛 No	
% Bare Ground in Herb Stratum 60						Urocont'/	
	% Co	ver of	Biotic	Crust		Present?	

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SOIL												5	Sampling	Point:	<u>TP-28</u>	, WET	0
Profile Descri	ption: (Descril	be to th	e depth	n need	ed to d	ocument t	he indicate	or or conf	irm the ab	sence o	f indica	tors.)					
Depth	Matri	ix				F	Redox Feat	ures									
(inches)	Color (moist))	<u>%</u>	Co	lor (Moi	st)	%	Type ¹	Loc	2	Textu	re <u>Rem</u>	arks				
<u>0-8</u>	<u>2.5Y 3/2</u>		<u>100</u>			-					silty sa l	oam					
<u>8-20</u>	<u>2.5Y 4/2</u>		<u>80</u>	7	.5YR 3/	<u>3</u>	<u>20</u>	<u>C</u>	<u>PL</u>		<u>silty sa l</u>	oam					
		_				-											
		_				_											
		_				-											
		_				_				_							
¹ Type: C= Con	centration, D=	Depletio	n, RM=	Reduc	ed Matr	x, CS=Cov	vered or Co	pated San	d Grains.	² Locatio	n: PL=P	ore Lining, M=Ma	trix.				
Hydric Soil Ind	dicators: (App	licable	to all L	RRs, ι	inless o	otherwise	noted.)				Ind	icators for Proble	ematic H	ydric S	oils ³ :		
Histosol	(A1)					Sandy Re	edox (S5)					1 cm Muck (A	9) (LRR (C)			
Histic Ep	oipedon (A2)					Stripped	Matrix (S6)					2 cm Muck (A	10) (LRR	B)			
Black His	stic (A3)					Loamy M	lucky Miner	ral (F1)				Reduced Vert	ic (F18)				
Hydroge	n Sulfide (A4)					Loamy G	leyed Matri	ix (F2)				Red Parent M	aterial (T	F2)			
Stratified	Layers (A5) (L	RR C)			\boxtimes	Depleted	Matrix (F3)				Other (Explain	n in Rema	arks)			
🔲 1 cm Mu	ick (A9) (LRR D))				Redox Da	ark Surface	e (F6)									
Depleted	Below Dark S	urface (A11)			Depleted	Dark Surfa	ace (F7)									
Thick Da	ark Surface (A1	2)				Redox De	epressions	(F8)				³ Indicators of h	nydrophyt	tic vege	tation	and	
Sandy M	lucky Mineral (S	S1)				Vernal Po	ools (F9)					wetland hyd	Irology m	ust be p	present	t,	
Sandy G	leyed Matrix (S	54)										unless dis	turbed or	proble	matic.		
Restrictive La	yer (if present	:):															
Туре:																	
Depth (Inches)	:								Hydric S	oils Pre	sent?		Yes	\boxtimes	No		
Remarks:																	
HYDROLOG	iΥ																
Wetland Hydr	ology Indicato	rs:															
Primary Indicat	tors (minimum	of one r	equired	; check	all that	apply)					Seco	ndary Indicators (2 or more	e require	ed)		
Surface	Water (A1)					Salt Crus	st (B11)					Water Marks (B1) (Riverir	ıe)			
🔲 🛛 High Wa	ater Table (A2)					Biotic Cru	ust (B12)				\boxtimes	Sediment Deposi	its (B2) (F	Riverin	e)		
Saturatio	on (A3)					Aquatic I	nvertebrate	es (B13)			\boxtimes	Drift Deposits (B3	3) (Riveri	ne)			
Water N	larks (B1) (Nor	nriverin	e)			Hydroger	n Sulfide O	dor (C1)				Drainage Pattern	s (B10)				
Sedimer	nt Deposits (B2) (Nonr	iverine)		Oxidized	Rhizosphe	res along	Living Root	ts (C3)		Dry-Season Wate	er Table (C2)			
Drift Dep	posits (B3) (No	nriverir	ne)			Presence	e of Reduce	ed Iron (C4	4)			Crayfish Burrows	(C8)				
Surface	Soil Cracks (B	6)				Recent Ir	on Reducti	on in Tille	d Soils (C6))		Saturation Visible	e on Aeria	al Image	ery (C9)	
Inundati	on Visible on A	erial Im	agery (I	B7)		Thin Muc	k Surface ((C7)				Shallow Aquitard	(D3)				
⊠ Water-S	stained Leaves	(B9)				Other (E)	xplain in Re	emarks)				FAC-Neutral Tes	t (D5)				
Field Observa	tions:																
Surface Water	Present?	Yes		No	\boxtimes	Dept	th (inches):										
Water Table P	resent?	Yes		No	\boxtimes	Dept	th (inches):										
Saturation Pres	sent? larv fringe)	Yes		No	\boxtimes	Dept	th (inches):			Wetla	and Hyd	rology Present?		Yes	\boxtimes	No	
Describe Reco	orded Data (stre	am gau	ige, moi	nitoring	y well, a	erial photo	s, previous	inspection	ns), if availa	able:							

Project Site:	East-West Corri	<u>dor</u>			City/County: Yakima/Yakima					ing Date:	<u>1-21-</u>	-19	
Applicant/Owner:	Yakima County							State: <u>WA</u>	Sampli	ng Point:	<u>TP-2</u> wet)	<u>08 (</u> F	<u>-</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener and Assoc	iates		Section, T	ownship, R	ange	<u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain		Loc	cal relief (co	ncave, conv	/ex, n	one): <u>concave</u>		Slo	pe (%)	: <u>1</u>	
Subregion (LRR)	: <u>B</u>		Lat:	<u>46.618931</u>		Long:	<u>-120.</u>	<u>492096</u>	C	Datum: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channele	d					NWI classif	ication:	PSS1Cx			
Are climatic / hyd	drologic condition	s on the site typic	al for	this time of year?	Yes 🗵	No		(If no, explain in Rer	narks.)				
Are Vegetation D,	Soil □,	or Hydrology	_ s	significantly disturbed	? Are	"Normal Cir	cums	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil □,	or Hydrology [] r	naturally problematic?	? (lf n	eeded, expl	ain ar	y answers in Remark	s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No			
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u> 2	<u>20</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant Species 4 That Are OBL, FACW, or FAC: 4	(A)
3				Total Number of Dominant Species Across All Strata: <u>4</u>	(B)
4 $50\% = \underline{10}, 20\% = \underline{4}$	<u>20</u>	= Total Cove	 r	Percent of Dominant Species That Are OBL_FACW_or FAC: <u>100</u>	(A/B)
Sapling/Shrub Stratum (Plot size: 15)	_				
1. <u>Salix exigua</u>	<u>5</u>	<u>ves</u>	FACW	Prevalence Index worksheet:	
2. <u>Populus balsamitera</u>	<u>5</u>	yes	FAC	Total % Cover of : <u>Multiply by:</u>	
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cove	r	FACU species x4 =	
Herb Stratum (Plot size:5')				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>yes</u>	FACW	Column Totals: (A) (B))
2. <u>Hypericum perforatum</u>	<u>1</u>	<u>no</u>	FACU	Prevalence Index = B/A =	
3. <u>Capsella bursa-patoris</u>	<u>1</u>	no	FACU	Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>46</u> , 20% = <u>18.4</u>	<u>92</u>	= Total Cove	r		
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>None</u>					
2				Hydrophytic	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes No	
% Bare Ground in Herb Stratum <u>8</u>	% Cover	of Biotic Crust		Present?	
Remarks:					

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S	n	11	

SOIL											Sampling	g Point:	TP-208	(P- w	/et)
Profile Descr	iption: (Descri	be to th	e depth	need ا	ed to d	ocument the indicato	r or con	firm the abs	sence of	indicato	ors.)				
Depth	Matr	ix				Redox Featu	ires								
(inches)	Color (moist)	%	Co	lor (Mo	<u>ist) %</u>	Type ¹	Loc	2	Texture	<u>Remarks</u>				
<u>0-2</u>	<u>10YR 3/2</u>		100						_	<u>silty sa</u>	<u> </u>				
<u>2-9</u>	<u>10YR 3/2</u>		<u>70</u>	<u>5</u>	5 YR 4/	<u>6 30</u>	<u>C</u>	<u>PL/</u>	M	<u>silty sa</u>	<u> </u>				
		_							_						
		_							_						
		_							_						
		_							_						
¹ Type: C= Cor	ncentration, D=I	Depletio	n, RM=í	Reduce	ed Matr	ix, CS=Covered or Coa	ated San	d Grains.	² Location	n: PL=Poi	re Lining, M=Matrix.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indic	ators for Problematic	Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (LRI	र C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LF	RR B)			
Black H	istic (A3)					Loamy Mucky Minera	al (F1)				Reduced Vertic (F18)			
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix	(F2)				Red Parent Material	(TF2)			
□ Stratifie	d Layers (A5) (I	LRR C)			\boxtimes	Depleted Matrix (F3)					Other (Explain in Rer	marks)			
🔲 1 cm Mu	uck (A9) (LRR [))				Redox Dark Surface	(F6)								
Deplete	d Below Dark S	urface (A11)			Depleted Dark Surfa	ce (F7)								
Thick Da	ark Surface (A1	2)				Redox Depressions ((F8)				³ Indiactors of hydroph		tation	and	
Sandy N	/lucky Mineral (S1)				Vernal Pools (F9)					wetland hydrology	must be	oresent	anu t.	
Sandy C	Gleyed Matrix (S	64)									unless disturbed	or proble	matic.	,	
Restrictive La	ayer (if presen	t):													
Туре:															
Depth (Inches):							Hydric Se	oils Pres	sent?	Yes	\boxtimes	No]
Remarks:															
L															
HYDROLOG	SY														
Wetland Hydi	rology indicato	ors:								0			N		
Primary Indica		of one r	equirea;	; cneck						Secon	dary indicators (2 or mo	ore requir	ea)		
	Water (A1)					Salt Crust (B11)					Vater Marks (B1) (Rive	rine)			
	ater Table (A2)					Biotic Crust (B12)	(5.4.0)				Sediment Deposits (B2)	(Riverin	e)		
Saturat	ion (A3)					Aquatic Invertebrates	s (B13)				Drift Deposits (B3) (Rive	erine)			
	Marks (B1) (Nor	nriverin	e)			Hydrogen Sulfide Od	or (C1)		(Drainage Patterns (B10)			
	ent Deposits (B2	2) (Nonr	iverine))		Oxidized Rhizospher	es along	Living Root	s (C3)		Dry-Season Water Tabl	e (C2)			
	eposits (B3) (No	nriverir	ıe)			Presence of Reduce	d Iron (C	4)			Crayfish Burrows (C8)				
	e Soil Cracks (B	6)				Recent Iron Reduction	on in Tille	ed Soils (C6)		s	Saturation Visible on Ae	rial Imag	ery (C9))	
Inundat	ion Visible on A	erial Im	agery (E	37)		Thin Muck Surface (0	C7)				Shallow Aquitard (D3)				
☑ Water-S	Stained Leaves	(B9)				Other (Explain in Rei	marks)		1	L F	AC-Neutral Test (D5)				
Field Observa	ations:		_		_										
Surface Water	r Present?	Yes		No		Depth (inches):		-							
Water Table F	Present?	Yes		No		Depth (inches):	<u>0</u>								
Saturation Pre (includes capil	esent? llary fringe)	Yes		No		Depth (inches):	<u>0</u>		Wetlar	nd Hydro	ology Present?	Yes	\boxtimes	No	
Describe Reco	orded Data (stre	eam gau	ige, mor	nitoring	well, a	erial photos, previous i	nspectio	ns), if availa	ble:						
Remarks '															

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						City/Count	ty: <u>Yakima</u>	/Yakima	<u>l</u>	Sampi	ing Date:	$\frac{12}{1}$	1/15	
ima County								St	ate: <u>WA</u>	Sampli	ng Point:	TP-4	2, UF	<u>P P</u>
on Cade, Wig	dener and Asso	ciates				Section, T	ownship, Ra	ange: <u>1</u>	8, 13N, 19E					
ce, etc.): <u>flc</u>	odplain				Lo	cal relief (cor	ncave, conv	vex, none	e): <u>convex</u>		Slo	pe (%)	: <u>3</u>	
		Lat: <u>4</u>	6.61	<u>8986</u>			Long:	-120.492	2053	0	Datum: <u>N</u>	AD83		
eirman sandy	/ loam, channele	ed							NWI cla	assification:	none			
gic conditions	s on the site typi	cal for this	s time	e of ye	ear?	Yes 🛛	No	□ (If	no, explain in	Remarks.)				
Soil 🔲,	or Hydrology	□ sigr	nifica	ntly di	isturbed	? Are "	Normal Circ	cumstan	ces" present?		Yes		No	\boxtimes
Soil 🔲,	or Hydrology	🔲 nati	urally	, probl	lematic?	? (If ne	eded, expla	ain any a	answers in Ren	marks.)				
GS – Attac	h site map sl	nowing	sam	pling	j point	locations,	transects	s, impo	ortant feature	es, etc.				
sent?		Yes	\boxtimes	No										
		Yes		No	\boxtimes	Is the Sam	pled Area	within a	Wetland?		Yes		No	\boxtimes
?		Yes		No	\boxtimes									
					I									
		-												
ientific na	mes of plant	S.	<u>,</u>	Domir	vant	Indicator								
cientific na	mes of plant	S. Absolute <u>% Cover</u>	e 	Domir Speci	nant <u>es?</u>	Indicator <u>Status</u>	Dominan	ice Test	Worksheet:					
cientific na	mes of plant	S. Absolute <u>% Cover</u> <u>10</u>) [Domir <u>Speci</u>	nant <u>es?</u>	Indicator <u>Status</u> FAC	Dominan Number c	ice Test of Domin	Worksheet: ant Species		5			(A)
cientific na ')	mes of plant	S. Absolute <u>% Cover</u> <u>10</u>	e 	Domir <u>Speci</u> <u>yes</u>	nant <u>es?</u>	Indicator <u>Status</u> FAC	Dominan Number o That Are	ice Test of Domin OBL, FA	Worksheet: ant Species CW, or FAC:		<u>5</u>			(A)
cientific na	mes of plant	s. Absolute <u>% Cover</u> <u>10</u>	9	Domir <u>Speci</u> <u>yes</u>	nant <u>es?</u>	Indicator <u>Status</u> FAC	Dominan Number o That Are	of Domin OBL, FA nber of [Worksheet: ant Species CW, or FAC: Dominant		<u>5</u>			(A)
cientific na	mes of plant	S. Absolute <u>% Cover</u> <u>10</u> 		Domir Specio <u>yes</u>	nant <u>es?</u>	Indicator <u>Status</u> FAC	Dominan Number o That Are Total Nun Species A	of Domin OBL, FA Nber of [Across A	Worksheet: ant Species CW, or FAC: Dominant Il Strata:		<u>5</u> 5			(A) (B)
<u>cientific na</u>	mes of plant	s. Absolute <u>% Cover</u> <u>10</u> <u>10</u>	-	Domir <u>Specie</u> yes = Tota	nant es? al Cover	Indicator Status FAC	Dominan Number of That Are Total Nun Species A Percent of	of Domin OBL, FA nber of [Across A	Worksheet: ant Species CW, or FAC: Dominant Il Strata: ant Species		<u>5</u> <u>5</u>			(A) (B)
c ientific na ') ot size: <u>15'</u>)	mes of plant	s. Absolute <u>% Cover</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u>	2	Domir <u>Specir</u> <u>yes</u> = Tota	nant es? ત્રી Cover	Indicator Status FAC 	Dominan Number of That Are Total Nun Species A Percent of That Are	of Domin OBL, FA nber of I Across A of Domin. OBL, FA	Worksheet: ant Species CW, or FAC: Dominant Il Strata: ant Species CW, or FAC:		<u>5</u> <u>5</u> <u>100</u>			(A) (B) (A/B)
z ientific na :) pt size: <u>15'</u>)	mes of plant	s. Absolute <u>% Cover</u> <u>10</u> <u>10</u> <u>10</u> <u>3</u>	2	Domir <u>Speciv</u> yes = Tota	nant <u>es?</u> al Cover	Indicator <u>Status</u> <u>FAC</u> <u></u> <u>FAC</u>	Dominan Number of That Are Total Nun Species A Percent of That Are Prevalen	of Domin OBL, FA nber of I Across A of Domin OBL, FA ce Inde	Worksheet: ant Species CW, or FAC: Dominant II Strata: ant Species CW, or FAC: x worksheet:		<u>5</u> <u>5</u> <u>100</u>			(A) (B) (A/B)
	<u>ima County</u> on Cade, Wid ice, etc.): <u>fic</u> eirman sandy gic conditions Soil □, Soil □, GS – Attac esent?	tima County on Cade, Widener and Assoc ace, etc.): floodplain eirman sandy loam, channels gic conditions on the site typi Soil [], or Hydrology Soil [], or Hydrology GS – Attach site map sl esent?	ima County on Cade, Widener and Associates ice, etc.): floodplain Lat: 4 eirman sandy loam, channeled gic conditions on the site typical for this Soil , or Hydrology sign Soil , or Hydrology attach site map showing sent? Yes t? Yes	ima County on Cade, Widener and Associates ice, etc.): floodplain Lat: 46.61. eirman sandy loam, channeled gic conditions on the site typical for this time Soil , or Hydrology soil , or Hydrology assent? Yes Yes 1 t? Yes	<u>ima County</u> <u>on Cade, Widener and Associates</u> ice, etc.): <u>floodplain</u> Lat: <u>46.618986</u> <u>eirman sandy loam, channeled</u> gic conditions on the site typical for this time of ye Soil □, or Hydrology □ significantly di Soil □, or Hydrology □ naturally probl GS – Attach site map showing sampling esent? Yes □ No Yes □ No t? Yes □ No	tima County on Cade, Widener and Associates tace, etc.): floodplain Lat: 46.618986 eirman sandy loam, channeled gic conditions on the site typical for this time of year? Soil , , or Hydrology Soil , , or Hydrology assent? Yes Yes No Yes No Yes No	tima County on Cade, Widener and Associates Section, T tace, etc.): floodplain Local relief (con Lat: 46.618986 eirman sandy loam, channeled gic conditions on the site typical for this time of year? Yes ⊠ Soil _ or Hydrology significantly disturbed? Are " Soil _ or Hydrology naturally problematic? (If networks) GS - Attach site map showing sampling point locations, esent? Yes No Is the Same transit? Yes _ No _ Is the Same transit? Yes No _	tima County on Cade, Widener and Associates Section, Township, R. tace, etc.): floodplain Local relief (concave, conv. Lat: 46.618986 Long: eirman sandy loam, channeled gic conditions on the site typical for this time of year? Yes No Soil	tima County St on Cade, Widener and Associates Section, Township, Range: 1 ice, etc.): floodplain Local relief (concave, convex, none Lat: 46.618986 Long: -120.493 eirman sandy loam, channeled gic conditions on the site typical for this time of year? Yes No (If Soil	tima County State: WA on Cade, Widener and Associates Section, Township, Range: 18, 13N, 19E ice, etc.): floodplain Local relief (concave, convex, none): convex Lat: 46.618986 Long: -120.492053 eirman sandy loam, channeled NWI cla gic conditions on the site typical for this time of year? Yes No (If no, explain in Soil	tima County State: WA Sampli on Cade, Widener and Associates Section, Township, Range: 18, 13N, 19E Image: 18, 13N, 19E ice, etc.): floodplain Local relief (concave, convex, none): convex Lat: 46.618986 Long: -120.492053 Image: 18, 13N, 19E eirman sandy loam, channeled NWI classification: NWI classification: Image: 120.492053 Image: 12	tima County State: WA Sampling Point: on Cade, Widener and Associates Section, Township, Range: <u>18, 13N, 19E</u> Ison Cade, Widener and Associates Section, Township, Range: <u>18, 13N, 19E</u> icce, etc.): floodplain Local relief (concave, convex, none): <u>convex</u> Slo Lat: <u>46.618986</u> Long: <u>-120.492053</u> Datum: <u>M</u> eirman sandy loam, channeled NWI classification: <u>none</u> gic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Soil [, or Hydrology] significantly disturbed? Are "Normal Circumstances" present? Yes Soil [, or Hydrology] naturally problematic? (If needed, explain any answers in Remarks.) Section? GS - Attach site map showing sampling point locations, transects, important features, etc. Section? Yes No (If no, Wetland?) Yes is the Sampled Area within a Wetland? Yes No (Xes) Yes Yes Yes	tima County State: WA Sampling Point: TP-4 on Cade, Widener and Associates Section, Township, Range: 18, 13N, 19E icce, etc.): floodplain Local relief (concave, convex, none): convex Slope (%) Lat: 46.618986 Long: -120.492053 Datum: NAD83 eirman sandy loam, channeled NWI classification: none gic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Soil	tima County State: WA Sampling Point: TP-42, UF on Cade, Widener and Associates Section, Township, Range: 18, 13N, 19E icc, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): 3 Lat: 46.618986 Long: -120.492053 Datum: NAD83 eirman sandy loam, channeled NWI classification: none gic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Soil

FACW

FACW

5

13

5

5

0

<u>95</u>

<u>yes</u>

yes

% Cover of Biotic Crust

= Total Cover

= Total Cover

= Total Cover

OBL species

FACW species

FAC species

FACU species

UPL species

 \boxtimes

Hydrophytic

Vegetation Present?

Column Totals:

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is <3.01

¹Indicators of hydric soil and wetland hydrology must

be present, unless disturbed or problematic.

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% Bare Ground in Herb Stratum

3.

4.

5.

1.

2.

3.

4.

5.

6.

7.

8.

1. 2. Salix exigua

50% = <u>6.5,</u> 20% = <u>2.6</u>

50% = <u>2.5</u>, 20% = <u>1</u>

50% = ____, 20% = ____

Remarks:

Woody Vine Stratum (Plot size: 15')

Herb Stratum (Plot size:5')

Phalaris arundinacea

Arid West – Version 2.0

 \boxtimes

x1 =

x2 =

x3 =

x4 =

x5 =

(A)

Prevalence Index = B/A =

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

Yes

_ (B)

No

Sampling Point	TP-4211P P

SOIL										Sampling Point: <u>TP-42 UP P</u>
Profile Desc	ription: (Descr	ibe to th	ie depth	n neede	ed to d	ocument the indicator or conf	irm the abs	ence of	indica	itors.)
Depth	Mat	rix				Redox Features				
(inches)	Color (mois	<u>t)</u>	<u>%</u>	Col	or (Moi	ist) <u>%</u> <u>Type¹</u>	<u>Loc</u> ²		Textu	ure <u>Remarks</u>
<u>0-20</u>	<u>10YR 3/2</u>	_						-	san	<u>d</u>
		-						-		
		-						-		
		-						-		
		-						-		
¹ Type: C= Co	oncentration. D=	- Depletic		Reduce	ed Matr	ix. CS=Covered or Coated San	d Grains.	Locatior	: PL=P	Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Ap	plicable	to all L	RRs, u	nless d	otherwise noted.)	-		Ind	licators for Problematic Hydric Soils ³ :
Histoso	ol (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)
Histic E	Epipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)
Black H	Histic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)
☐ Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)
Stratifie	ed Layers (A5) (LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)
□ 1 cm M	luck (A9) (LRR	D)				Redox Dark Surface (F6)				
Deplete	ed Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)				
Thick D	Dark Surface (A	12)				Redox Depressions (F8)				³ Indicators of hydrophytic vogotation and
☐ Sandy	Mucky Mineral ((S1)				Vernal Pools (F9)				wetland hydrology must be present,
□ Sandy	Gleyed Matrix (S4)								unless disturbed or problematic.
Restrictive L	ayer (if presen	ıt):								
Туре:										
Depth (Inches	s):						Hydric S	oils Pres	ent?	Yes 🗌 No 🛛
Remarks:										
HYDROLO	GY									
Wetland Hyd	drology Indicat	ors:								
Primary Indic	ators (minimum	of one r	equired	; check	all that	t apply)			Seco	ondary Indicators (2 or more required)
Surfac	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)
🔲 High W	Vater Table (A2))				Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)
Satura Satura	ition (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)
Water	Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)
Sedim	ent Deposits (B	2) (Nonr	iverine))		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table (C2)
Drift D	eposits (B3) (N o	onriveriı	ne)			Presence of Reduced Iron (C4	4)			Crayfish Burrows (C8)
Surfac	e Soil Cracks (E	36)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)
Inunda	ation Visible on <i>I</i>	Aerial Im	agery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)
□ Water-	-Stained Leaves	s (B9)				Other (Explain in Remarks)		-		FAC-Neutral Test (D5)
Field Observ	vations:									
Surface Wate	er Present?	Yes		No	\boxtimes	Depth (inches):				
Water Table	Present?	Yes		No	\boxtimes	Depth (inches):				
Saturation Pr (includes cap	esent? villary fringe)	Yes		No		Depth (inches):	a) if!!	Wetla	nd Hyd	Irology Present? Yes 🗌 No 🛛
Describe Rec	corded Data (str	eam gau	ige, mor	ntoring	well, a	enai priotos, previous inspectioi	is), iī availa	bie:		

Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>1-18-19</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	TP-209 ((fomerly 43))	<u>(Q -wet</u> TP-
Investigator(s): Teddi McFall, Widener & Associa	ites		Section, To	ownship, Range: <u>S18, T13N, R19E</u>			
Landform (hillslope, terrace, etc.): <u>floodplain</u>		Loc	al relief (con	icave, convex, none): <u>concave</u>	Slo	pe (%): <u>2</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u> 2	21268		Long: <u>-120.492494</u>	Datum: <u>N</u>	NAD83	
Soil Map Unit Name: Weirman sandy loam, channele	<u>d</u>			NWI classif	fication: <u>PFO1C</u>		
Are climatic / hydrologic conditions on the site typic	al for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Rei	marks.)		
Are Vegetation D, Soil D, or Hydrology	significa	antly disturbed?	Are "I	Normal Circumstances" present?	Yes	🛛 No	
Are Vegetation D, Soil D, or Hydrology	naturall	y problematic?	(If ne	eded, explain any answers in Remark	(s.)		
SUMMARY OF FINDINGS – Attach site map sh	owing san	pling point l	ocations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆					
Hydric Soil Present?	Yes 🛛	No 🗌	Is the Sam	pled Area within a Wetland?	Yes	🛛 No	D
Wetland Hydrology Present?	Yes 🛛	No 🗆					
Remarks:							
VEGETATION – Use scientific names of plants.							
Tree Stratum (Plot size: <u>30 ' r)</u>	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1. Populus balsamifera	<u>% Cover</u> 50	ves	FAC	Number of Dominant Species			
2	<u></u>	100		That Are OBL, FACW, or FAC:	<u>4</u>		(A)
3				Total Number of Deminerat			
4				Species Across All Strata:	<u>4</u>		(B)
50% = 40,20% = 10	50	= Total Cover		Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:15 ' r)	<u></u>			That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1 Salix exigua	80	ves	FACW	Prevalence Index worksheet:			
2 Populus balsamifera	10	no	FAC	Total % Cover of :	Multin	lv bv	
3	<u></u>			OBL species	x1 =	<u>., ., .</u>	
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = 45,20% = 18	90	= Total Cover			x4 =		
Herb Stratum (Diataiza:5 ' r)	<u></u>				×= =		
	10				×3 =		(D)
1. <u>Phalaris arundinacea</u>	<u>10</u>	<u>yes</u>	FACW	Column Totals: (A)	5/4		(В)
2. <u>Carex obnupta</u>	<u>30</u>	<u>yes</u>	OBL	Prevalence Inde	ex = B/A =		
3				Hydrophytic Vegetation Indicato	rs:		
4				Dominance Test is >50	%		
5				Prevalence Index is <3	.0 ¹		
6				Morphological Adaptati	ons ¹ (Provide sup	porting	
7				data in Remarks or on a	a separate sneet)		
8				Problematic Hydrophyti	ic Vegetation ¹ (Ex	plain)	
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cover					
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				be present, unless disturbed or pro	blematic.		
1							
2				Hydrophytic			_
50% =, 20% =		= Total Cover		Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 50	% Cover	of Biotic Crust		Present?			
Remarks:							

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SOIL											Samplin	g Point	: <u>TP-2</u>	<u>09 (Q -we</u>	<u>et (fomer</u>	<u>ly TP-4</u>	<u>3))</u>	
Profile De	escription: (Descri	be to th	e depth	neede	d to d	ocument	the indic	ator or confi	rm the abs	sence c	of indicate	ors.)						
Depth	Matr	ix					Redox Fe	eatures										
<u>(inches</u>) <u>Color (moist</u>)	%	Col	or (Mo	i <u>st)</u>	<u>%</u>	Type ¹	Loc ²	2	Textur	e	Re	emarks				
<u>0-1</u>	<u>2.5Y 3/2</u>		<u>100</u>							_	<u>sa si loa</u>	<u>am</u>						
<u>1-4</u>	<u>2.5Y 3/2</u>		<u>60</u>	5	YR 4/6	<u>i</u>	<u>40</u>	<u>C</u>	PL/M	<u>1</u>	<u>sa si loa</u>	am_						
<u>4-10</u>	<u>10 YR 3/2</u>		<u>70</u>	<u>5</u>	YR 4/6	<u>6</u>	<u>30</u>	<u>C</u>	<u>M</u>		<u>sandy</u>	<u>/</u>						
		_		-						_		_						
		-								_		-						
		_		-						_		_						
¹ Type: C=	Concentration, D=I	Depletio	on, RM=I	Reduce	ed Matr	ix, CS=Co	overed or	Coated Sand	Grains. ²	² Locatio	on: PL=Pc	ore Linir	ng, M=N	latrix.				
Hydric So	oil Indicators: (App	licable	to all L	RRs, u	nless	otherwise	e noted.)				Indi	cators	for Prol	blematic	Hydric \$	Soils ³ :		
Hist	tosol (A1)				\boxtimes	Sandy F	Redox (S5	5)				1 cm	n Muck ((A9) (LRF	R C)			
Hist	tic Epipedon (A2)					Stripped	d Matrix (S	6)				2 cm	n Muck ((A10) (LF	RR B)			
D Bla	ck Histic (A3)					Loamy	Mucky Mir	neral (F1)				Red	uced Ve	ertic (F18)			
🗌 Нус	Irogen Sulfide (A4)					Loamy	Gleyed Ma	atrix (F2)				Red	Parent	Material	(TF2)			
Stra	atified Layers (A5) (I	RR C)				Deplete	d Matrix (F3)				Othe	er (Expla	ain in Rer	marks)			
□ 1 cr	m Muck (A9) (LRR I))				Redox [Dark Surfa	ace (F6)										
🗌 Dep	oleted Below Dark S	urface (A11)			Deplete	d Dark Su	urface (F7)										
🔲 Thio	ck Dark Surface (A1	2)				Redox [Depressio	ns (F8)				³ Indi	cators o	of hydroph	nytic veg	etation	and	
🗌 Sar	ndy Mucky Mineral (S1)				Vernal F	Pools (F9)					we	etland h	ydrology	must be	presen	ıt,	
🔲 Sar	ndy Gleyed Matrix (S	64)										I	unless c	disturbed	or proble	ematic.		
Restrictiv	ve Layer (if present	t):																
Туре:																		
Depth (Inc	ches):								Hydric So	oils Pre	esent?			Yes	\boxtimes	No]
Remarks:																		
HYDROLO	OGY																	
Wetland	Hydrology Indicato	ors:																
Primary Ir	ndicators (minimum	of one r	equired	; check	all that	t apply)					Secon	idary In	dicators	s (2 or mo	ore requir	ed)		
Su	face Water (A1)			·		Salt Cru	ıst (B11)					Vater N	/arks (E	31) (Rive	rine)			
🗆 Hig	h Water Table (A2)					Biotic C	rust (B12))				Sedime	nt Depo	osits (B2)	(Riverin	e)		
□ Sat	turation (A3)					Aquatic	Invertebra	ates (B13)			\boxtimes	Drift De	posits (B3) (Rive	erine)			
🗆 Wa	ater Marks (B1) (Nor	nriverin	e)			Hydroge	en Sulfide	Odor (C1)			\boxtimes	Drainac	e Patte	rns (B10))			
🗆 Se	diment Deposits (B2	2) (Nonr	viverine))		Oxidize	d Rhizosp	heres along l	_iving Roots	s (C3)		Dry-Sea	ason Wa	ater Table	e (C2)			
Dri	ft Deposits (B3) (No	nriverir	ne)			Presend	ce of Redu	uced Iron (C4)			Crayfisl	n Burrov	ws (C8)				
🗆 Su	rface Soil Cracks (B	6)				Recent	Iron Redu	ction in Tilleo	/ I Soils (C6)			Saturati	ion Visit	ble on Ae	rial Imag	ery (C	9)	
🗆 Inu	ndation Visible on A	verial Im	agery (E	37)		Thin Mu	ick Surfac	e (C7)	. ,			Shallow	/ Aquita	rd (D3)			,	
🗌 Wa	ter-Stained Leaves	(B9)		,		Other (E	Explain in	Remarks)				FAC-Ne	eutral Te	est (D5)				
Field Obs	servations:	. ,				· ·	-							. /				
Surface V	/ater Present?	Yes		No		Der	oth (inche	s):										
Water Tal	ole Present?	Yes		No		Dei	oth (inche	s):										
Saturation	Present?	Vee	-	No	_	D~-	oth (inch-	s):		Wate	and Hude		Procont	2	Vac		No	
(includes	capillary fringe)	res								blo:	anu nyur	ology i	resent		162		NU	
Describe	Recorded Data (Stre	am gau	iye, mor	ntoring	well, a	enai priot	us, previo	us inspection	s), ii availal	ule.								

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>12/11/15</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-44, Up Q</u>
Investigator(s): Jason Cade, Widener and Asso	ciates		Section, T	ownship, Range: <u>18, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): floodplain		Loc	cal relief (co	ncave, convex, none): <u>convex</u>	Slope	ə (%): <u>3</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	21136		Long: <u>-120.492562</u>	Datum: <u>NA</u>	<u>1D83</u>
Soil Map Unit Name: Weirman sandy loam, channel	ed			NWI class	ification: <u>PFO1C</u>	
Are climatic / hydrologic conditions on the site type	ical for this tir	ne of year?	Yes 🛛	No 🔲 (If no, explain in Re	emarks.)	
Are Vegetation \Box , Soil \Box , or Hydrology	signific	antly disturbed	? Are '	Normal Circumstances" present?	Yes	🛛 No 🗆
Are Vegetation \Box , Soil \Box , or Hydrology	natura	lly problematic?	? (If ne	eeded, explain any answers in Rema	rks.)	
SUMMARY OF FINDINGS – Attach site map s	howing sar	npling point	locations	, transects, important features	, etc.	
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌				
Hydric Soil Present?	Yes 🗌	No 🖾	Is the San	npled Area within a Wetland?	Yes [_ No ⊠
Wetland Hydrology Present?	Yes 🗌	No 🛛				
Remarks:						
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: 30')	Absolute	Dominant	Indicator	Dominance Test Worksheet:		
1 Populus balsamifera	<u>% Cover</u> 50	Species?	<u>Status</u> FAC	Number of Deminent Creation		
2.	<u></u>	100	1710	That Are OBL, FACW, or FAC:	<u>3</u>	(A)
3.				Total Number of Dominant		
4.				Species Across All Strata:	<u>4</u>	(B)
50% = 25, 20% = 10	50	= Total Cover		Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW, or FAC:	<u>75</u>	(A/B)
1. <u>Populus balsamifera</u>	<u>1</u>	<u>yes</u>	FAC	Prevalence Index worksheet:		
2. <u>Ribes aureum</u>	<u>2</u>	<u>yes</u>	FAC	Total % Cover of :	Multiply I	by:
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% = <u>1.5,</u> 20% = <u>0.6</u>	<u>3</u>	= Total Cover		FACU species	x4 =	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	
1. <u>Bromus tectorum</u>	<u>60</u>	yes	UPL	Column Totals: (A)		(B)
2				Prevalence Ind	ex = B/A =	
3				Hydrophytic Vegetation Indicato	ors:	
4				Dominance Test is >50)%	

Hydrophytic

Vegetation Present?

Prevalence Index is <3.01

¹Indicators of hydric soil and wetland hydrology must

be present, unless disturbed or problematic.

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

Yes

50% = ____, 20% = ____ % Bare Ground in Herb Stratum <u>40</u> Remarks:

Woody Vine Stratum (Plot size: 15')

60

0

= Total Cover

= Total Cover

% Cover of Biotic Crust

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50% = <u>30</u>, 20% = <u>12</u>

1. <u>None</u> 2.

5.

6.

7. 8.

Arid West - Version 2.0

No

 \boxtimes

SOIL											Samp	ling Point	: <u>TP-4</u>	I4, Up	Q
Profile Descr	rofile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)														
Depth	Matr	rix				Redox Features									
(inches)	Color (moist	<u>i)</u>	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²		Texture	<u>e R</u> e	emarks				
<u>0-6</u>	<u>10YR 2/1</u>		<u>100</u>					_	<u>duff</u>						
<u>6-20</u>	<u>2.5Y 4/3</u>		<u>100</u>					_	<u>fine san</u>	<u></u>					
		_						_		. <u> </u>					
		_						_							
		-						_		· · · · · · · · · · · · · · · · · · ·					
								_							
¹ Type: C= Co	ncentration, D=	Depletio	n, RM=l	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. ²	Location	n: PL=Po	re Lining, M=N	Matrix.				
Hydric Soil Ir	ndicators: (App	plicable	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Pro	blematic	Hydric S	oils³:		
Histoso	l (A1)					Sandy Redox (S5)				1 cm Muck	(A9) (LRF	RC)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck	(A10) (LR	RB)			
Black H	listic (A3)					Loamy Mucky Mineral (F1)				Reduced V	ertic (F18))			
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent	Material ((TF2)			
Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Expl	ain in Rer	narks)			
□ 1 cm M	uck (A9) (LRR I	D)				Redox Dark Surface (F6)									
Deplete	ed Below Dark S	Surface (A11)			Depleted Dark Surface (F7)									
Thick D	ark Surface (A1	2)				Redox Depressions (F8)				³ Indicators of	of hydroph	nytic vege	tation a	and	
Sandy N	Mucky Mineral (S1)				Vernal Pools (F9)				wetland h	nydrology	must be p	present	,	
Sandy C	Gleyed Matrix (8	34)					1			unless	disturbed	or proble	matic.		
Restrictive L	ayer (if presen	t):													
Туре:															
Depth (Inches	s):						Hydric So	oils Pres	sent?		Yes		No	\boxtimes	
Remarks:															
HYDROLOG	GY														
Wetland Hyd	rology Indicate	ors:													
Primary Indica	ators (minimum	of one r	equired	; check	all that	t apply)			Secon	dary Indicator	s (2 or mo	re require	ed)		
Surface	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (Rive	rine)			
🔲 High W	/ater Table (A2))				Biotic Crust (B12)				Sediment Dep	osits (B2)	(Riverine	e)		
□ Saturat	tion (A3)					Aquatic Invertebrates (B13)				Drift Deposits	(B3) (Rive	erine)			
Water I	Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patte	erns (B10)				
Sedime	ent Deposits (B2	2) (Nonr	iverine))		Oxidized Rhizospheres along	Living Roots	s (C3)		Dry-Season W	ater Table	e (C2)			
Drift De	eposits (B3) (Nc	onriverir	ne)			Presence of Reduced Iron (C4	4)			Crayfish Burro	ws (C8)				
Surface	e Soil Cracks (B	36)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visi	ible on Ae	rial Image	ery (C9)	
Inundat	tion Visible on A	Aerial Im	agery (E	37)		Thin Muck Surface (C7)				Shallow Aquita	ard (D3)				
□ Water-	Stained Leaves	(B9)				Other (Explain in Remarks)			D F	AC-Neutral T	est (D5)				
Field Observ	ations:														
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):									
Saturation Pre	esent?	Yes		No		Depth (inches):		Wetlar	nd Hydro	ology Presen	t?	Yes		No	
(includes capi	illary fringe)	100									-		-		<u>ت</u>
Describe Pee	orded Data (ctr	20m 001		hitoring	WOII O	erial photos, previous inepection	ne) if availa	hle:							

Project Site: East-West Corridor				City/Count	ty: <u>Yakima/Ya</u> l	<u>kima</u>	Sampling Da	ate: <u>12/1</u>	0/15	
Applicant/Owner: Yakima County					State: <u>WA</u> Sampling Point: <u>TP-3</u>					
Investigator(s): Jason Cade, Widener and Assoc	ciates			Section, To	ownship, Range	e: <u>18, 13N, 19E</u>				
Landform (hillslope, terrace, etc.): floodplain			Loc	cal relief (cor	ncave, convex,	none): <u>concave</u>		Slope (%): <u>2</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	520693			Long: <u>-120</u>	0.494067	Datum	NAD8	<u>3</u>	
Soil Map Unit Name: Weirman sandy loam, channele	ed					NWI classif	fication: None			
Are climatic / hydrologic conditions on the site type	cal for this ti	me of yea	ar?	Yes 🛛	No 🗆	(If no, explain in Rer	marks.)			
Are Vegetation \Box , Soil \Box , or Hydrology	signific	cantly dis	turbed	? Are "	Normal Circum	stances" present?	Ý	es 🖂	No	
Are Vegetation . Soil . or Hydrology	 □ natura	llv proble	ematic?	(If ne	eded, explain a	nv answers in Remark	(s.)			
				(,	,			
SUMMARY OF FINDINGS – Attach site map sh	nowing sa	mpling	point	locations,	transects, ir	nportant features,	etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No								
Hydric Soil Present?	Yes 🗵	No		Is the Sam	pled Area with	hin a Wetland?	Y	es 🛛	No	
Wetland Hydrology Present?	Yes 🛛	No								
Remarks: Naturally problematic soil - cobble at 4 in	1.									
VEGETATION – Use scientific names of plants	6.									
Tree Stratum (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Domina Specie	ant <u>s?</u>	Indicator <u>Status</u>	Dominance 1	Test Worksheet:				
1. <u>Populus balsamifera</u>	<u>30</u>	ves		FAC	Number of Do	ominant Species				(•)
2. <u>Robinia pseudoacacia</u>	<u>3</u>	no		FACU	That Are OBL	, FACW, or FAC:	<u>4</u>			(A)
3					Total Number	r of Dominant	_			-
4					Species Acro	ss All Strata:	<u>5</u>			(B)
50% = <u>16.5,</u> 20% = <u>6.6</u>	<u>33</u>	= Total	l Cover		Percent of Do	minant Species				
Sapling/Shrub Stratum (Plot size:15')					That Are OBL	., FACW, or FAC:	<u>80</u>			(A/B)
1. Populus balsamifera	10	yes		FAC	Prevalence I	ndex worksheet:				
2. Rosa woodsii	20	yes		FACU	т	otal % Cover of :	Mul	tiply by:		
3. Salix exiqua	1	no		FACW	OBL species		x1 :	=		
4.	_				FACW specie	es	x2 :	-		
5.					FAC species		x3 :	-		
50% = 15.5, 20% = 6.2	31	= Total	l Cover		FACU specie	s	x4 :	-		
Herb Stratum (Plot size:5')	<u></u>					· <u> </u>	x5 :			
1 Bhalaria arundinaaaa	40	1/00				(A)	70		/[2)
	40	yes		FACW	Column Total	s: (A)	D/A		()
2. <u>Lepidium latifiolium</u>	10	<u>yes</u>		FAC		Prevalence Inde	x = B/A =			
3					Hydrophytic	Vegetation Indicator	s:			
4						ominance Test is >50%	/0			
5						revalence Index is <u><</u> 3.0	D ¹			
6					<u>м</u>	lorphological Adaptatio	ons ¹ (Provide s	upporting	l	
7					da da	ata in Remarks or on a	separate shee	et)		
8					D P	roblematic Hydrophytic	vegetation ¹ (Explain)		
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total	l Cover							
Woody Vine Stratum (Plot size: 15')					¹ Indicators of be present, u	hydric soil and wetland nless disturbed or prob	d hydrology mi olematic.	ust		
1. <u>None</u>										
2					Hydrophytic					
50% =, 20% =	<u>0</u>	= Total	l Cover		Vegetation		Yes 🛛	N	0	
% Bare Ground in Herb Stratum 50	% Cover	of Biotic	Crust		Present?					
Remarks:										

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SOIL													Sampli	ng Point	<u>TP-3</u>	1, We	t Q
Profile Descr	iption: (Describ	be to th	e depth	need	ed to d	locument the	indicato	r or conf	firm the abs	sence o	f indica	tors.)					
Depth	Matriz	х				Rec	lox Featu	ires									
(inches) Color (moist) % Color (Moist) % Typ									Loc	2	Textu	ire	<u>Remarks</u>				
<u>0-4</u>	<u>10YR 2/1</u>	_								_	fibric m	nuck	_				
<u>4+</u>		_								_	<u>cobb</u>	le	_				
		_								_			_				
		_								_							
										_			_				
										_							
¹ Type: C= Co	ncentration, D=D	Pepletio	n, RM=F	Reduc	ed Mat	rix, CS=Cover	ed or Coa	ated San	d Grains.	² Locatio	n: PL=F	ore Lining, N	I=Matrix.				
Hydric Soil Ir	ndicators: (Appl	licable	to all LI	RRs, ι	unless	otherwise no	ted.)				Ind	icators for F	roblematic	Hydric \$	Soils³:		
Histoso	l (A1)					Sandy Redo	ox (S5)					1 cm Mu	ck (A9) (LRF	R C)			
Histic E	pipedon (A2)					Stripped Ma	trix (S6)				\boxtimes	2 cm Mu	ck (A10) (LR	RB)			
Black H	istic (A3)				\boxtimes	Loamy Mucl	ky Minera	al (F1)				Reduced	Vertic (F18)			
Hydroge	en Sulfide (A4)					Loamy Gley	ed Matrix	(F2)				Red Pare	ent Material	(TF2)			
□ Stratifie	d Layers (A5) (L	RR C)				Depleted Ma	atrix (F3)				\boxtimes	Other (E	xplain in Rer	narks)			
□ 1 cm M	uck (A9) (LRR D)				Redox Dark	Surface	(F6)									
Deplete	d Below Dark Su	urface (A11)			Depleted Da	ark Surfa	ce (F7)									
Thick D	ark Surface (A12	2)				Redox Depr	essions ((F8)				3 Indiantes	o of budrook	utionor	tation	and	
□ Sandy M	Mucky Mineral (S	61)				Vernal Pools	s (F9)					wetlan	s or frydropi d hvdroloav	must be	presen	anu t.	
Sandy (Gleyed Matrix (S	4)										unles	s disturbed	or proble	matic.	-,	
Restrictive L	ayer (if present)):															
Туре:																	
Depth (Inches	s):								Hydric S	oils Pre	sent?		Yes	\boxtimes	No]
Remarks:	Naturally proble	matic s	oil - cobl	ble wit	h thin n	nuck surface											
HYDROLOG	GY																
Wetland Hyd	rology Indicato	rs:															
Primary Indica	ators (minimum c	of one r	equired;	check	c all tha	t apply)					Seco	ndary Indica	tors (2 or mo	ore requir	ed)		
	e Water (A1)					Salt Crust (E	311)					Water Mark	s (B1) (Rive	rine)			
🖾 High W	ater Table (A2)					Biotic Crust	(B12)				\boxtimes	Sediment D	eposits (B2)	(Riverin	e)		
Saturat	ion (A3)					Aquatic Inve	ertebrates	s (B13)				Drift Deposi	ts (B3) (Rive	erine)			
U Water I	Marks (B1) (Non	riverin	e)			Hydrogen S	ulfide Od	or (C1)				Drainage Pa	atterns (B10))			
Sedime	ent Deposits (B2)) (Nonr	iverine)	1		Oxidized Rh	izospher	es along	Living Root	s (C3)		Dry-Season	Water Table	e (C2)			
Drift De	eposits (B3) (Nor	nriverir	ne)			Presence of	Reduce	d Iron (C4	4)	. ,		Crayfish Bu	rrows (C8)				
	e Soil Cracks (B6	5)				Recent Iron	Reductio	n in Tille	d Soils (C6))		Saturation V	/isible on Ae	rial Imag	ery (CS	9)	
	tion Visible on A	erial Im	agery (E	37)		Thin Muck S	Surface (0	C7)	. ,			Shallow Aqu	uitard (D3)				
□ Water-	Stained Leaves ((B9)	0 , (,		Other (Expla	ain in Rei	, marks)				FAC-Neutra	I Test (D5)				
Field Observ	ations:	. ,				、 I		,					、 /				
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (i	inches):										
Water Table F	Present?	Yes		No		Depth (i	inches) [.]	0.5									
Saturation Pre	esent?		1		1			<u></u>						V			_
(includes capi	llary fringe)	Yes		No		Depth (i	inches):		na) if aveils	wetla	па нуа	rology Pres	ent?	Yes	×	NO	
Describe Rec	ordeu Data (strea	am gau	iye, mon	ntoring	y well, a	aeriai priotos, p	nevious I	rispectio	ns), ii avalla	ible.							

Project Site: East-West Corridor				City/Count	ty: <u>Yakima/Yakir</u>	na	Sampling Date:	<u>12/10/18</u>	<u>5</u>
Applicant/Owner: Yakima County						State: <u>WA</u>	Sampling Point:	<u>TP-32, l</u>	Jp Q
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>			Section, To	ownship, Range:	<u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): floodplain			Lo	cal relief (cor	ncave, convex, no	one): <u>convex</u>	Slo	pe (%): <u>1</u>	<u>l</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	620664			Long: <u>-120.4</u>	93999	Datum: <u>N</u>	JAD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed					NWI classific	cation: <u>None</u>		
Are climatic / hydrologic conditions on the site typi	cal for this ti	me of ye	ear?	Yes 🛛	No 🗆	(If no, explain in Rem	arks.)		
Are Vegetation □, Soil □, or Hydrology	signific	cantly di	sturbed	? Are "	Normal Circumsta	ances" present?	Yes	N N	•
Are Vegetation 🔲, Soil 🖾, or Hydrology	natura	lly probl	ematic	? (If ne	eded, explain any	answers in Remarks	s.)		
SUMMARY OF FINDINGS – Attach site map sh	nowing sa	mpling	point	locations,	transects, imp	oortant features, e	etc.		
Hydrophytic Vegetation Present?	Yes 🗌] No	\boxtimes						
Hydric Soil Present?	Yes 🗌	No	\boxtimes	Is the Sam	npled Area within	n a Wetland?	Yes		o 🛛
Wetland Hydrology Present?	Yes 🗵	No							
Remarks: Naturally problematic soil - restrictive co	bble at 1 in								
VEGETATION – Use scientific names of plant									
Tree Stratum (Plot size: 30')	Absolute	Domir	nant	Indicator	Dominance Te	st Workshoot:			
	<u>% Cover</u>	<u>Specie</u>	es?	Status	Dominance re	st worksneet.			
1. <u>Populus balsamitera</u>	<u>20</u>	<u>yes</u>		FAC	Number of Dom	inant Species	<u>2</u>		(A)
2. <u>Robinia pseudoacacia</u>	<u>5</u>	<u>yes</u>		FACU	That Are ODE,	AGW, OFFAG.			
3					Total Number o	f Dominant	<u>4</u>		(B)
4				<u> </u>	Opecies Acioss	All Ollala.			
$50\% = \underline{12.5}, 20\% = \underline{5}$	25	= Iota	al Covei	-	Percent of Dom	inant Species	<u>50</u>		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)					That Are OBL, I	FACVI, OF FAC.			
1. <u>Populus balsamifera</u>	<u>10</u>	yes		FAC	Prevalence Inc	lex worksheet:			
2. <u>Salix exigua</u>	<u>1</u>	no		FAC	Tot	tal % Cover of :	Multiply	<u>y by:</u>	
3				<u> </u>	OBL species		x1 =		
4				<u> </u>	FACW species		x2 =		
5				<u> </u>	FAC species	<u>31</u>	x3 =	<u>93</u>	
50% = <u>5.5,</u> 20% = <u>2.2</u>	<u>11</u>	= Tota	al Cove		FACU species	<u>5</u>	x4 =	<u>20</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)					UPL species	<u>90</u>	x5 =	<u>450</u>	
1. <u>Bromus tectorum</u>	<u>90</u>	yes		UPL	Column Totals:	<u>126</u> (A)		<u>563</u> (B))
2						Prevalence Index	x = B/A = <u>4.47</u>		
3					Hydrophytic V	egetation Indicators	:		
4					Don Don	ninance Test is >50%			
5					D Prev	valence Index is <3.0	1		
6.					Mor	nhological Adaptation	e ¹ (Provide supp	orting	
7.						a in Remarks or on a s	separate sheet)	orang	
8						blomatic Hydrophytic	Vagatation ¹ (Exp	lain)	
50% = 45, 20% = 18	90	= Tota						iaiii)	
Woody Vine Stratum (Plot size: 15')	<u>30</u>	- 1012			¹ Indicators of h	dric soil and wetland	hydrology must		
1 None					be present, unle	ess disturbed or probl	ematic.		
·· ···································									
<u> </u>		- Tota			Hydrophytic		Yes 🗆	No	
50.70	<u>v</u> % 0	= 10ta			Present?				لات
⁷⁰ Dare Ground in Herb Stratum <u>10</u>	% Cover	OI BIOUC	Crust	. <u> </u>					
Remarks:									

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SOIL											Samp	ling Poin	t: <u>TP-</u>	32, Up	Q
Profile Descri	iption: (Describ	e to th	e depth	neede	d to d	ocument the indicator or conf	irm the abs	ence of ind	cator	s.)					
Depth	Matri	x				Redox Features									
(inches)	Color (moist)		%	Col	or (Moi	ist) <u>%</u> <u>Type¹</u>	Loc ²	Te	xture	Re	emarks				
<u>0-4</u>	<u>10YR 3/1</u>	_						sa	loam						
<u>4+</u>		_							bble						
		_													
		_													
		_													
¹ Type: C= Cor	ncentration, D=D)epletio	n, RM=l	Reduce	d Matr	ix, CS=Covered or Coated Sand	l Grains. 2	Location: PL	=Pore	Lining, M=N	/latrix.				
Hydric Soil In	dicators: (App	icable	to all L	RRs, u	nless (otherwise noted.)		I	ndica	tors for Pro	blematic	Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)		ĺ		1 cm Muck	(A9) (LRF	R C)			
Histic Ep	pipedon (A2)					Stripped Matrix (S6)		l		2 cm Muck	(A10) (LF	RR B)			
Black Hi	istic (A3)					Loamy Mucky Mineral (F1)		[Reduced Ve	ertic (F18)			
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)		l		Red Parent	Material	(TF2)			
Stratified	d Layers (A5) (L	RR C)				Depleted Matrix (F3)		I	${\times}$	Other (Expl	ain in Rer	narks)			
🔲 1 cm Mu	uck (A9) (LRR D)				Redox Dark Surface (F6)									
Deplete	d Below Dark Su	urface (A11)			Depleted Dark Surface (F7)									
Thick Da	ark Surface (A12	2)				Redox Depressions (F8)				³ Indicators (fbydropł	autic vog	otation	and	
Sandy N	/lucky Mineral (S	51)				Vernal Pools (F9)				wetland h	vdrology	must be	presen	anu t,	
Sandy G	Gleyed Matrix (S	4)								unless o	disturbed	or proble	matic.	,	
Restrictive La	ayer (if present)):													
Туре:															
Depth (Inches):						Hydric So	oils Present	?		Yes		No	\boxtimes]
Remarks:	Naturally proble	matic s	oil - cob	ble at 4	inch d	lepth									
HYDROLOG	SY														
Wetland Hydr	rology Indicato	rs:													
Primary Indica	ators (minimum o	of one r	equired	check	all that	t apply)		Se	conda	ary Indicators	s (2 or mo	ore requir	ed)		
Surface	Water (A1)					Salt Crust (B11)			W	ater Marks (I	31) (Rive	rine)			
High W	ater Table (A2)					Biotic Crust (B12)			Se	diment Dep	osits (B2)	(Riverin	e)		
Saturat	ion (A3)					Aquatic Invertebrates (B13)			Dr	ift Deposits (B3) (Rive	erine)			
□ Water M	Marks (B1) (Non	riverin	e)			Hydrogen Sulfide Odor (C1)			Dr	ainage Patte	rns (B10))			
Sedime	nt Deposits (B2) (Nonr	iverine))		Oxidized Rhizospheres along	Living Root	s (C3)	Dr	y-Season W	ater Table	e (C2)			
Drift De	posits (B3) (Noi	nriverin	ne)			Presence of Reduced Iron (C4)		Cr	ayfish Burro	ws (C8)				
Surface	Soil Cracks (B6	5)				Recent Iron Reduction in Tilled	d Soils (C6)		Sa	turation Visi	ble on Ae	rial Imag	ery (CS	9)	
Inundat	ion Visible on A	erial Im	agery (E	37)		Thin Muck Surface (C7)			Sh	allow Aquita	rd (D3)				
□ Water-S	Stained Leaves ((B9)		-		Other (Explain in Remarks)			FA	C-Neutral T	est (D5)				
Field Observa	ations:														
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table P	Present?	Yes		No	\boxtimes	Depth (inches):									
Saturation Pre	esent?	Yes		No	\boxtimes	Depth (inches):		Wetland H	ydrol	ogy Present	?	Yes	\boxtimes	No	
Describe Reco	orded Data (stre	am gau	ige, mor	nitoring	well, a	erial photos, previous inspection	s), if availa	ble:							

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date: <u>12/11/</u>	/15
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point: <u>TP-39</u>), Wet Q
Investigator(s): Jason Cade, Widener and Ass	ociates		Section, T	ownship, Range: <u>18, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): <u>floodplain</u>		Lo	cal relief (cor	ncave, convex, none): <u>concave</u>	Slope (%):	<u>2</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	<u> 52048</u>		Long: <u>-120.491582</u>	Datum: <u>NAD83</u>	
Soil Map Unit Name: Weirman sandy loam, channe	eled			NWI class	ification: <u>PFO1C</u>	
Are climatic / hydrologic conditions on the site ty	pical for this ti	me of year?	Yes 🛛	No 🔲 (If no, explain in Re	∍marks.)	
Are Vegetation □, Soil □, or Hydrology	signific	cantly disturbed	I? Are "	Normal Circumstances" present?	Yes 🛛	No 🗌
Are Vegetation □, Soil □, or Hydrology	natura	lly problematic	? (If ne	eeded, explain any answers in Remar	ks.)	
SUMMARY OF FINDINGS – Attach site map	showing sa	mpling point	locations.	transects, important features	, etc.	
Hydrophytic Vegetation Present?	Yes 🗵				<u>.</u>	
Hydric Soil Present?	Yes	No 🖾	Is the San	npled Area within a Wetland?	Yes 🗌	No 🗆
Wetland Hydrology Present?	Yes 🗵	No 🗆				
Remarks:						
VEGETATION – Use scientific names of plan	nts.					
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1. <u>Populus balsamifera</u>	<u>50</u>	<u>ves</u>	FAC	Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	<u>2</u>	(A)
3				Total Number of Dominant		(5)
4				Species Across All Strata:	<u>3</u>	(B)
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cover	r	Percent of Dominant Species	<u>.</u>	
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW, or FAC:	<u>66</u>	(A/B)
1. <u>Populus balsamifera</u>	<u>3</u>	no	FAC	Prevalence Index worksheet:		
2. <u>Rosa woodsii</u>	<u>30</u>	yes	FACU	Total % Cover of :	Multiply by:	
3				OBL species	x1 =	_
4				FACW species	x2 =	_
5				FAC species	x3 =	_
50% = <u>16.5</u> , 20% = <u>6.6</u>	<u>33</u>	= Total Cover	r	FACU species	x4 =	_
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =	_
1. Phalaris arundinacea	<u>20</u>	<u>yes</u>	FACW	Column Totals: (A)		(B)
2. <u>Carex sp.</u>	<u>3</u>	no	OBL	Prevalence Inde	ex = B/A =	
3				Hydrophytic Vegetation Indicato	rs:	
4				Dominance Test is >50	1%	
5				Prevalence Index is <3	.0 ¹	
6				Morphological Adaptati	ons ¹ (Provide supporting	
7.				uata in Remarks of on	a separate sneet)	

= Total Cover

= Total Cover

% Cover of Biotic Crust

23

0

77

Hydrophytic

Vegetation Present?

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% Bare Ground in Herb Stratum

50% = <u>11.5</u>, 20% = <u>4.6</u>

50% = ____, 20% = ____

1. <u>None</u> 2. _____

Remarks:

Woody Vine Stratum (Plot size: 15')

7. 8.

Arid West – Version 2.0

No

 \boxtimes

Problematic Hydrophytic Vegetation¹ (Explain)

Yes

¹Indicators of hydric soil and wetland hydrology must

be present, unless disturbed or problematic.

-															
SOIL	-											Sampli	ng Point	: <u>TP-39</u>	<u>, Wet Q</u>
Profil	le Descri	ption: (Describe to	o the dept	h needed to d	ocument t	the indica	tor or cont	firm the absence o	of indica	ators.)					
De	epth	Matrix				Redox Fe	atures								
<u>(inc</u>	ches)	Color (moist)	<u>%</u>	Color (Mo	ist)	<u>%</u>	Type ¹	Loc ²	Text	ure	<u>R</u>	emarks			
<u>0</u> -	-20	<u>10YR 3/1</u>	<u>100</u>		-				sandy	si lo	cobbly				
					-										
					-										
					-			. <u> </u>							
					-			. <u> </u>							
					-										
¹ Type	: C= Con	centration, D=Depl	etion, RM=	Reduced Matr	ix, CS=Co	vered or (Coated San	d Grains. ² Locatio	on: PL=l	Pore Lii	ning, M=	Matrix.			
Hydri	ic Soil In	dicators: (Applica	ble to all L	RRs, unless	otherwise	noted.)			In	dicator	s for Pro	oblematic	Hydric	Soils ³ :	
	Histosol	(A1)			Sandy R	edox (S5)	1			1 0	cm Muck	(A9) (LRI	R C)		
	Histic Ep	oipedon (A2)			Stripped	Matrix (S	6)			2 0	cm Muck	(A10) (LF	RR B)		
	Black Hi	stic (A3)	eral (F1)			Re	educed V	ertic (F18)						
	Hydroge	n Sulfide (A4)			Loamy G	Bleyed Ma	trix (F2)			Re	ed Paren	t Material	(TF2)		
	Stratified	l Layers (A5) (LRR	C)		Depleted	l Matrix (F	3)			Ot	her (Exp	lain in Rei	narks)		
	1 cm Mu	ick (A9) (LRR D)			Redox D	ark Surfa	ce (F6)								
	Depleted	d Below Dark Surfa	ce (A11)		Depleted	l Dark Su	face (F7)								
	Thick Da	ark Surface (A12)			Redox D	epression	is (F8)			³ In	dicators	of hydropi	nvtic vea	etation a	ind
	Sandy N	lucky Mineral (S1)			Vernal P	ools (F9)					wetland	nydrology	must be	present,	
	Sandy G	leyed Matrix (S4)									unless	disturbed	or proble	ematic.	
Restr	ictive La	yer (if present):													
Type:															
Depth	n (Inches)):						Hydric Soils Pre	esent?			Yes		No	\boxtimes
Rema	arks:														
HYD	ROLOG	iΥ													
Wetla	and Hydr	ology Indicators:													
Prima	ary Indica	tors (minimum of or	ne required	; check all tha	t apply)				Sec	ondary	Indicator	rs (2 or mo	ore requi	red)	
	Surface	Water (A1)			Salt Crus	st (B11)				Wate	r Marks (B1) (Rive	rine)		
	High Wa	ater Table (A2)			Biotic Cr	ust (B12)			\boxtimes	Sedin	nent Dep	osits (B2)	(Riverir	ne)	
\boxtimes	Saturati	on (A3)			Aquatic I	nvertebra	tes (B13)		\boxtimes	Drift [Deposits	(B3) (Rive	erine)		
	Water M	larks (B1) (Nonrive	erine)		Hydroge	n Sulfide	Odor (C1)		\boxtimes	Drain	age Patt	erns (B10)		
	Sedime	nt Deposits (B2) (N	onriverine) 🗆	Oxidized	Rhizosph	neres along	Living Roots (C3)		Dry-S	eason W	ater Tabl	e (C2)		

Wetland Hydrology Present?

Crayfish Burrows (C8)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Saturation Visible on Aerial Imagery (C9)

 \boxtimes

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No

No

No

 \boxtimes

Yes

Yes

Yes

Presence of Reduced Iron (C4)

Thin Muck Surface (C7)

Depth (inches):

Depth (inches):

Depth (inches):

Other (Explain in Remarks)

Recent Iron Reduction in Tilled Soils (C6)

0

Remarks: US Army Corps of Engineers

Field Observations: Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Drift Deposits (B3) (Nonriverine)

Inundation Visible on Aerial Imagery (B7)

Surface Soil Cracks (B6)

Water-Stained Leaves (B9)

Arid West - Version 2.0

Yes

 \boxtimes

No

Project Site: East-West Corridor				City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	: <u>12/10/</u>	/15
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point	: <u>TP-29</u>	<u>, WET R</u>
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>			Section, T	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace			Loc	cal relief (cor	ncave, convex, none): <u>concave</u>	Slo	ope (%):	<u>2</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	20846			Long: <u>-120.495487</u>	Datum:	NAD83	
Soil Map Unit Name: Weirman sandy loam, channel	ed				NWI classif	ication: PFO1C:	x	
Are climatic / hydrologic conditions on the site typi	cal for this tin	ne of ve	ear?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)	_	
Are Vegetation \Box , Soil \Box , or Hydrology	signific	antly di	sturbed	? Are "	Normal Circumstances" present?	Yes	\boxtimes	No 🗆
Are Vegetation \square . Soil \square , or Hydrology	□ natural	lv probl	ematic?	/lfne	eded, explain any answers in Remark	(s.)		
······································		.,		(
SUMMARY OF FINDINGS – Attach site map sl	nowing sar	npling	point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No						
Hydric Soil Present?	Yes 🛛	No		Is the Sam	pled Area within a Wetland?	Yes	\boxtimes	No 🗆
Wetland Hydrology Present?	Yes 🛛	No						
Remarks:								
VEGETATION – Use scientific names of plant	s.							
Tree Stratum (Plot size:30')	Absolute	Domir	nant	Indicator	Dominance Test Worksheet:			
1 Populus balsamifera	<u>% Cover</u> 60	Speci-	es?	Status FAC	Number of Deminent Origina			
2 Elaeagnus angustifolia	5	no		FAC	That Are OBL, FACW, or FAC:	<u>3</u>		(A)
3	<u>o</u>	<u>110</u>		<u>1710</u>				
3. <u> </u>					I otal Number of Dominant Species Across All Strata:	<u>3</u>		(B)
50% = 32.5, 20% = 13	65	= Tota	al Cover					
Sanling/Shruh Stratum (Plot size:15')	<u></u>	100			That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1 Rhus dabra	10	no		FACU	Prevalence Index worksheet:			
2	10	110		17100	Total % Cover of :	Multin	ly hy:	
3						<u>v1 =</u>	<u>y by.</u>	
3. <u> </u>					EACW species	×1 =		-
					FAC species	x2 =		-
5	10	- Tot				×4 =		-
$50\% = \frac{1}{2}, 20\% = \frac{1}{2}$	10	- 1018				x4 -		-
Herb Stratum (Plot size:5)						x5 =		-
1. <u>Carex obnupta</u>	<u>40</u>	yes		OBL	Column Totals: (A)			_ (B)
2. <u>Lepidium latlifolium</u>	<u>30</u>	yes		FAC	Prevalence Index	(= B/A =		
3. <u>Euthamia occidentalis</u>	<u>5</u>	no		FACW	Hydrophytic Vegetation Indicators	3:		
4					Dominance Test is >50%	, D		
5					Prevalence Index is <3.0)1		
6	<u> </u>				Morphological Adaptatio	ns ¹ (Provide sup	porting	
7					data in Remarks or on a	separate sheet)		
8					Problematic Hydrophytic	Vegetation ¹ (Ex	plain)	
50% = <u>37.5</u> , 20% = <u>15</u>	<u>75</u>	= Tota	al Cover					
Woody Vine Stratum (Plot size: 15')					¹ Indicators of hydric soil and wetland	I hydrology must		
1. <u>None</u>	. <u></u>							
2					Hydrophytic			
50% =, 20% =	<u>0</u>	= Tota	al Cover		Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 25					Duran with			
	% Cover	of Biotic	c Crust		Present			

US Army Corps of Engineers

Sompling	Doint	TD 20	
Samplind	Point:	TP-29.	VVEI

SOIL													Samplin	g Point:	<u>TP-29</u>	, WET	R
Profile Descr	iption: (Descri	be to th	e depth	n neede	ed to d	ocument the ind	licator or confi	rm the abs	sence o	f indica	tors.)						
Depth	Mati	rix				Redox	Features										
(inches)	Color (moist	<u>t)</u>	<u>%</u>	Col	or (Mo	<u>ist) %</u>	<u>Type¹</u>	Loc ²	-	Textu	re	Ren	narks				
<u>0-10</u>	<u>10YR 3/2</u>		<u>100</u>						_	sandy:	si lo						
<u>10-20</u>	<u>10YR 4/2</u>		<u>90</u>	<u>7.</u>	5YR 4/	<u>/4 10</u>	<u>C</u>	<u>PL</u>		<u>clayey</u>	<u>si lo</u>						
		-							_								
		_							_								
		-							_								
17 0 0		<u> </u>		D 1			<u> </u>	<u> </u>			<u> </u>						
'Type: C= Coi	ncentration, D=	Depletio	on, RM=	Reduce	ed Matr	ix, CS=Covered	or Coated Sand	Grains. 2	Locatio	n: PL=P	ore Lining	g, M=Ma	atrix.	Livelyin C	a ila3.		
Hyaric Soli ir	idicators: (App	Dicable	to all L	RRS, U		otherwise noted	.) DE)			ina	icators to			Hyaric S	solis":		
	rinadan (AQ)					Sandy Redox (50) (SC)										
	pipedon (AZ)					Loomy Mucky	(30) Ainoral (E1)				Z CIII Rodu		10) (LR	к в)			
	$\operatorname{Suc}(A3)$					Loamy Cloved	Motrix (E2)				Redu Rod I	Darant M	lic (FTO)	TE2)			
	$d \downarrow avors (A5) ($					Doplotod Matrix	(E3)				Othor		n in Pon	(112)			
						Redox Dark Su	rface (E6)				Other	(слріан		liaiksj			
	d Below Dark S	e) Surface (Δ11)			Depleted Dark	Surface (F7)										
	ark Surface (A1	2)	,,,,,,			Redox Depress	tions (F8)										
	Aucky Mineral (S1)				Vernal Pools (F	:9)				³ Indic	ators of	hydroph	iytic vege	etation	and	
□ Sandy (Gleved Matrix (54)				, en al 1, e e e e e e e	• /				u	nless dis	sturbed (or proble	presen matic.	,	
Restrictive La	aver (if presen	t):															
Type:																	
Depth (Inches	s):							Hydric So	oils Pre	sent?			Yes	\boxtimes	No		
Remarks:																	
	2V																
Wetland Hvd	rology Indicate	ors:															
Primary Indica	ators (minimum	of one r	eauired	: check	all that	t apply)				Seco	ndarv Ind	licators ((2 or mo	re reauir	ed)		
, □ Surface	Water (A1)			,		Salt Crust (B11)				Water M	larks (B1) (River	rine)	,		
 □ Hiah W	ater Table (A2)					Biotic Crust (B1	2)				Sedimer	nt Depos	sits (B2)	(Riverin	e)		
□ Saturat	ion (A3)					Aquatic Inverte	, brates (B13)				Drift Dep	, bosits (B	3) (Rive	rine)	- /		
□ Water N	Marks (B1) (No	nriverin	e)			Hydrogen Sulfi	de Odor (C1)				Drainage	e Patterr	ns (B10)	,			
Sedime	ent Deposits (B2	2) (Nonr	viverine))	\boxtimes	Oxidized Rhizo	spheres along I	_iving Roots	s (C3)		Dry-Sea	son Wat	ter Table	e (C2)			
Drift De	posits (B3) (No	onriverir	ne)			Presence of Re	educed Iron (C4)			Crayfish	Burrows	s (C8)				
Surface	e Soil Cracks (E	6)				Recent Iron Re	duction in Tilled	l Soils (C6)			Saturatio	on Visibl	e on Aei	rial Imag	ery (CS)	
Inundat	tion Visible on A	Aerial Im	agery (E	37)		Thin Muck Surf	ace (C7)				Shallow	Aquitaro	d (D3)				
□ Water-S	Stained Leaves	(B9)				Other (Explain	in Remarks)				FAC-Ne	utral Tes	st (D5)				
Field Observ	ations:																
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (incl	nes):										
Water Table F	Present?	Yes		No	\boxtimes	Depth (incl	nes):										
Saturation Pre	esent?	Yes		No	\boxtimes	Depth (incl	nes):		Wetla	and Hyd	rology P	resent?		Yes	\boxtimes	No	
Describe Reco	orded Data (stre	eam gau	ige, moi	nitoring	well, a	erial photos, prev	vious inspection	s), if availal	ble:								

Project Site:	East-West Corr	<u>Vest Corridor</u>				City/County:	Yakima/Yał	<u>kima</u>	Sampling	g Date:	<u>12/10</u>	/15
Applicant/Owner:	Yakima County							State: <u>WA</u>	Sampling	J Point:	<u>TP-3(</u>	<u>), UP R</u>
Investigator(s):	Jason Cade, W	idener and Associat	tes			Section, Town	nship, Range	e: <u>18, 13N, 19E</u>				
Landform (hillslope,	terrace, etc.): <u>t</u>	errace			Loca	al relief (conca	ve, convex, i	none): <u>convex</u>		Slop	be (%):	<u>2</u>
Subregion (LRR)	: <u>B</u>		Lat: <u>46</u>	6.620805			Long: <u>-120</u>	.495566	Da	tum: <u>N</u>	AD83	
Soil Map Unit Name	Soil Map Unit Name: Weirman sandy loam, channeled							NWI	classification: <u>P</u>	FO1Cx		
Are climatic / hyd	drologic conditior	ns on the site typical	for this	time of y	ear?	Yes 🛛	No 🗌	(If no, explain	in Remarks.)			
Are Vegetation D,	Soil □,	or Hydrology	signi	ificantly d	listurbed?	Are "No	rmal Circum	stances" present	?	Yes	\boxtimes	No 🗌
Are Vegetation D,	Soil □,	or Hydrology	natu	rally prob	lematic?	(If neede	ed, explain a	ny answers in R	emarks.)			
SUMMARY OF FIN	DINGS – Atta	ch site map sho	wing s	ampling	g point l	ocations, tra	ansects, in	nportant featu	ıres, etc.			
Hydrophytic Vegetatio	rophytic Vegetation Present? Y			□ No	\boxtimes							

Hydrophytic Vegetation Present?	Yes		No	\boxtimes				
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sampled Area within a Wetland?	Yes	No 🛛	
Wetland Hydrology Present?	Yes		No	\boxtimes				
Remarks:								

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	<u>30</u>	ves	FAC	Number of Dominant Species	(A)
2. <u>Elaeagnus angustifolia</u>	<u>5</u>	<u>no</u>	FAC	That Are OBL, FACW, or FAC:	(A)
3				Total Number of Dominant	(B)
4				Species Across All Strata:	(2)
50% = <u>17.5</u> , 20% = <u>7</u>	<u>35</u>	= Total Cove	r	Percent of Dominant Species 50	(A/B)
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				That Are OBL, FACW, or FAC:	(/ (/))
1. <u>Rhus glabra</u>	<u>40</u>	yes	FACU	Prevalence Index worksheet:	
2. <u>Populus balsamifera</u>	<u>10</u>	no	FAC	Total % Cover of : Multiply by:	
3. <u>Cornus sericea</u>	<u>5</u>	<u>no</u>	FACW	OBL species x1 =	
4				FACW species $\underline{5}$ x2 = $\underline{10}$	
5				FAC species 45 x3 = 135	
50% = <u>27.5</u> , 20% = <u>11</u>	<u>55</u>	= Total Cove	r	FACU species 40 x4 = 160	
Herb Stratum (Plot size:5')				UPL species x5 =	
1. <u>None</u>				Column Totals: <u>90</u> (A) <u>305</u> (B))
2				Prevalence Index = B/A = <u>3.39</u>	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% =, 20% =	<u>0</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetland hydrology must	
1. <u>None</u>					
2				Hydrophytic	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes No	\boxtimes
% Bare Ground in Herb Stratum 100	% Cover	of Biotic Crust		Present?	
Remarks:					

US Army Corps of Engineers

Samplin	na Point	TP-30	LIF

SOIL														Sam	pling Poir	nt: <u>TP-</u>	30, UI	<u>P R</u>
Profile Descr	ription: (Descri	be to th	e depth	n neede	ed to d	ocument	the indicat	or or conf	irm the ab	sence o	findica	tors.)						
Depth	Matr	rix					Redox Fea	tures										
(inches)	Color (moist	<u>t)</u>	<u>%</u>	Co	lor (Mo	ist)	<u>%</u>	Type ¹	Loc	2	Textu	re	<u>R</u>	emarks				
<u>0-14</u>	<u>10YR 3/2</u>		<u>100</u>								silty s	a						
<u>14-20</u>	<u>10YR 4/2</u>		<u>80</u>	<u>7.</u>	5YR 4	4	<u>20</u>	<u>C</u>	<u>M</u>		<u>loamy</u>	sa						
		_								_								
		-								_		- •						
		_										- •						
17 0 0									<u> </u>	2								
'Type: C= Co	ncentration, D=	Depletio	n, RM=I	Reduce	ed Matr	IX, CS=Co	overed or C	oated San	d Grains.	² Locatio	n: PL=P	ore Linir	ig, M=I	Matrix.	a Uuduia	Caila3		
		Difcable	to all L	KKS, U		Sondy	e noted.)									50IIS*:		
	ininadan (A2)					Saliuy r	Motrix (SS)	`				2 om	Muck	(A9) (LR				
	$A_{\rm Liptic}(\Delta 3)$						Mucky Mine	/ ral (E1)				Z CII		(ATO) (E	RN D)			
	on Sulfide (ΔA)					Loamy	Cleved Mat	riv (E2)				Red	Doront	t Material	U(TE2)			
	ad Lavers ($\Delta 5$) (Deplete	d Matrix (E3	1X (1 Z)				Othe	r (Evol	lain in Re	marke)			
	uck (A9) (I RR I					Redox [ark Surfac	,, ⊳ (F6)				Oure	ii (Expi		anarkaj			
	ed Below Dark S	-, Surface (A11)			Deplete	d Dark Surf	ace (F7)										
	ark Surface (A1	2)	,,,,,			Redox [(F8)										
□ Sandv I	Muckv Mineral (S1)			П	Vernal F	Pools (F9)	(1.0)				³ India	cators of	of hydrop	hytic veg	etation	and	
□ Sandy (Gleved Matrix (S	54)			_		(-)					vve l	unless	disturbed	d or proble	ematic.	it,	
Restrictive L	ayer (if presen	t):																
Туре:																		
Depth (Inches	s):								Hydric S	oils Pre	sent?			Yes	\boxtimes	No	C]
Remarks:	<u>·</u>																	
	CV.																	
Wetland Hvd	lrology Indicate	ors:																
Primary Indica	ators (minimum	of one r	eauired	: check	all that	t apply)					Seco	ndarv In	dicator	s (2 or m	ore reaui	red)		
, □ Surface	e Water (A1)			,	Π	Salt Cru	ist (B11)					Water N	/larks (B1) (Riv	erine)	,		
— □ Hiah W	/ater Table (A2)					Biotic C	rust (B12)					Sedime	nt Dep	osits (B2) (Riveriı	ne)		
□ Saturat	tion (A3)					Aquatic	Invertebrat	es (B13)				Drift De	posits	(B3) (Riv	verine)	- /		
□ Water I	Marks (B1) (No i	nriverin	e)			Hydroge	en Sulfide C	dor (C1)				Drainag	e Patte	erns (B10))			
 □ Sedime	ent Deposits (B2	2) (Nonr	, iverine))		Oxidized	d Rhizosphe	eres along	Living Root	ts (C3)		Dry-Sea	ason W	, ater Tab	, ole (C2)			
Drift De	eposits (B3) (No	onriverir	, 1e)			Presend	e of Reduc	ed Iron (C4	4)	()		Cravfish	n Burro	ws (C8)	()			
Surface	e Soil Cracks (B	86)				Recent	Iron Reduct	ion in Tille	d Soils (C6))		Saturati	on Visi	ible on A	erial Imag	gery (C	9)	
Inunda	tion Visible on A	Aerial Im	agery (E	37)		Thin Mu	ick Surface	(C7)				Shallow	Aquita	ard (D3)				
□ Water-	Stained Leaves	(B9)		,		Other (E	Explain in R	emarks)				FAC-Ne	eutral T	est (D5)				
Field Observ	ations:													. ,				
Surface Wate	er Present?	Yes		No	\boxtimes	Dep	oth (inches)	:										
Water Table F	Present?	Yes		No	\boxtimes	Dep	oth (inches)	:										
Saturation Pre	esent?	Ves		No		Der	oth (inches)	. –		Wetla	and Hvd	roloav F	Presen	t?	Yes	п	No	
(includes capi	illary fringe)			aitorin~					ac) if avails	blo:		597						لالت
		sam yau	ige, mor	nonng	wen, a		os, previous	mapecuol	is), ii avalla	UIC.								

Project Site: East-West Corridor				City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>12/10/1</u>	5
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	TP-33,	Wet S
Investigator(s): Jason Cade, Widener and Assoc	iates			Section, T	ownship, Range: <u>7, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace			Lo	cal relief (cor	ncave, convex, none): <u>concave</u>	Slop	be (%):	2
Subregion (LRR): <u>B</u>	Lat: <u>46.</u>	621834			Long: <u>-120.4976</u>	Datum: <u>N</u>	IAD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed.				NWI cla	ssification: <u>None</u>		
Are climatic / hydrologic conditions on the site typic	cal for this ti	ime of ye	ear?	Yes 🛛	No 🔲 (If no, explain in	Remarks.)		
Are Vegetation 🔲, Soil 🖾, or Hydrology	🔲 signifi	cantly d	isturbed	? Are "	Normal Circumstances" present?	Yes		lo 🛛
Are Vegetation 🔲, Soil 🖾, or Hydrology	natura	ally prob	lematic?) (If ne	eded, explain any answers in Ren	narks.)		
SUMMART OF FINDINGS – Attach site map sh	lowing sa			locations,	transects, important feature	etc.		
	res D					X		
Hydric Soil Present?	Yes D			is the San	ipled Area within a wetland?	Yes		ю Ц
Wetland Hydrology Present?	Yes 🛛	No No						
Remarks: Naturally problematic and disturbed soil	- cobble at	1 inch	depth					
VEGETATION – Use scientific names of plants	6.				1			
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Domi Speci	nant ies?	Indicator Status	Dominance Test Worksheet:			
1. <u>Elaeagnus angustifolia</u>	<u>10</u>	ves		FAC	Number of Dominant Species			
2					That Are OBL, FACW, or FAC:	<u>3</u>		(A)
3					Total Number of Dominant			
4.					Species Across All Strata:	<u>4</u>		(B)
50% = <u>5,</u> 20% = <u>2</u>	10	= Tota	al Cover		Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:15')					That Are OBL, FACW, or FAC:	<u>75</u>		(A/B)
1. Cornus sericea	5	yes		FACW	Prevalence Index worksheet:			
2. Rosa woodsii	20	yes		FACU	Total % Cover of :	Multiply	/ by:	
3.	_				OBL species	x1 =		
4.					FACW species	x2 =		
5.					FAC species	x3 =		
50% = 12.5, 20% = 5	25	= Tota	al Cover		FACU species	x4 =		
Herb Stratum (Plot size:5')					LIPL species	x5 =		
1 Euthomia accidentalia	80	VOC		EACW/		A)		(B)
	<u> </u>	<u>yes</u>		TACI		1) 		(B)
2					Prevalence I			
3					Hydrophytic vegetation indica	itors:		
4				<u> </u>	Dominance Test is >	50%		
5					Prevalence Index is	<u><</u> 3.0 ¹		
6	<u> </u>			<u> </u>	Morphological Adapt	ations ¹ (Provide supp	orting	
7	<u> </u>			<u> </u>	data in Remarks or o	in a separate sneet)		
8					Problematic Hydropi	nytic Vegetation ¹ (Exp	lain)	
50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	= Tota	al Cover		1 - dia stana at hundria and analaria	4 I		
Woody Vine Stratum (Plot size: <u>15'</u>)					be present, unless disturbed or	problematic.		
1. <u>None</u>								
2					Hydrophytic			
50% =, 20% =	<u>0</u>	= Tota	al Cover		Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 20	% Cover	r of Bioti	c Crust		Present?			
Remarks:		_	_				_	_

US Army Corps of Engineers

SOII

SOIL										Samplin	g Point:	<u>TP-3</u>	3, We	t S
Profile Descr	iption: (Descr	ibe to th	ie depth	n neede	ed to d	ocument the indicator or conf	irm the abs	sence of	indicato	ors.)				
Depth	Mat	rix				Redox Features								
(inches)	Color (mois	<u>t)</u>	<u>%</u>	Co	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	-	Texture	e <u>Remarks</u>				
<u>0-1</u>	<u>10YR 3/1</u>	_						_	muck					
<u>1+</u>		_						_	<u>cobble</u>					
		_						_						
		_						_						
		_						_						
		_						_						
¹ Type: C= Cor	ncentration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. 2	² Locatior	n: PL=Po	re Lining, M=Matrix.				
Hydric Soil In	ndicators: (Ap	plicable	to all L	RRs, u	Inless	otherwise noted.)			Indic	ators for Problematic H	lydric S	oils ³ :		
Histosol	l (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)			\boxtimes	2 cm Muck (A10) (LRF	₹B)			
Black H	istic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (T	F2)			
Stratifie	d Layers (A5) (LRR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain in Rem	arks)			
🔲 1 cm Mu	uck (A9) (LRR	D)				Redox Dark Surface (F6)								
Deplete	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)								
Thick Da	ark Surface (A	12)				Redox Depressions (F8)				³ Indicators of hydrophy	tic vore	tation	and	
□ Sandy N	Mucky Mineral ((S1)				Vernal Pools (F9)				wetland hydrology m	iust be r	present	, ,	
□ Sandy C	Gleyed Matrix (S4)								unless disturbed o	r probleı	matic.		
Restrictive La	ayer (if presen	ıt):												
Туре:														
Depth (Inches	.):						Hydric S	oils Pres	sent?	Yes	\boxtimes	No		
Remarks:	Naturally probl	ematic a	nd distu	irbed so	oil - col	ble with thin muck surface								
HYDROLOG	GY													
Wetland Hyd	rology Indicat	ors:												
Primary Indica	ators (minimum	of one r	equired	; check	all that	t apply)			Secon	dary Indicators (2 or more	e require	ed)		
Surface	e Water (A1)					Salt Crust (B11)				Vater Marks (B1) (Riveri	ne)			
🔲 High W	ater Table (A2))				Biotic Crust (B12)				Sediment Deposits (B2) (Riverine	e)		
Saturat	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)			
Water M	Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
Sedime	ent Deposits (B	2) (Nonr	iverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift De	eposits (B3) (No	onriverir	ne)			Presence of Reduced Iron (C4	4)	. ,		Crayfish Burrows (C8)	. ,			
	e Soil Cracks (E	36)	•			Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeri	al Image	ery (C9)	
Inundat	tion Visible on <i>i</i>	Aerial Im	agery (F	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)			•	
⊠ Water-S	Stained Leaves	s (B9)	•••			Other (Explain in Remarks)			D F	AC-Neutral Test (D5)				
Field Observa	ations:	. ,			_	,				. ,				
Surface Water	r Present?	Yes	\boxtimes	No		Depth (inches): 1								
Water Table P	Present?	Yes		No		Depth (inches):								
Saturation Pre	esent?		_		_ _			W-41	المحال المح		Ver		NI -	
(includes capi	llary fringe)	Yes		No	\bowtie	Depth (inches):		vvetiai	na nyara	bogy Present?	res	ß	NÖ	
Describe Reco	orded Data (str	eam gau	ige, moi	nitoring	well, a	erial photos, previous inspection	ns), if availa	ble:						
Remarks [.]														

US Army Corps of Engineers

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>12/10/15</u>	
Applicant/Owner: Yakima County				State: WA	Sampling Point:	<u>TP-34, U</u>	P S
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range: <u>7, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Lo	cal relief (coi	ncave, convex, none): <u>convex</u>	Slo	pe (%): <u>2</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	21817		Long: <u>-120.497642</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed .			NWI cla	assification: None		
Are climatic / hydrologic conditions on the site typic	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in	Remarks.)		
Are Vegetation □, Soil ⊠, or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	□ No	
Are Vegetation □, Soil ⊠, or Hydrology	natural	ly problematic	? (If ne	eded, explain any answers in Rer	narks.)		
			laastissa	4			
SUMMART OF FINDINGS – Attach site map sr			locations,	transects, important featur	es, etc.		
Hydrophylic vegetation Fresent?			la tha Cam	anlad Area within a Watland?	Vaa		
	res 🗆		is the San	ipied Area within a wetland?	Tes		
wetland Hydrology Present?	Yes 🗋	NO 🖾					
Remarks: Naturally problematic and disturbed soil	- cobble to	surface - fill s	ope for I-82				
VEGETATION – Use scientific names of plants	6. Absolute	Dominant	Indicator				
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test Worksheet:			
1. <u>Elaeagnus angustifolia</u>	<u>10</u>	<u>yes</u>	FAC	Number of Dominant Species	2		(4)
2				That Are OBL, FACW, or FAC:	<u>2</u>		(~)
3				Total Number of Dominant	٨		(B)
4				Species Across All Strata:	<u> </u>		(0)
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cove		Percent of Dominant Species	50		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:	<u></u>		(700)
1. <u>Cornus sericea</u>	<u>5</u>	<u>yes</u>	FACW	Prevalence Index worksheet:			
2. <u>Rosa woodsii</u>	<u>10</u>	<u>yes</u>	FACU	Total % Cover of :	<u>Multiply</u>	y by:	
3				OBL species	x1 =		
4				FACW species 5	x2 =	<u>10</u>	
5				FAC species <u>10</u>	x3 =	<u>30</u>	
50% = <u>7.5,</u> 20% = <u>3</u>	<u>15</u>	= Total Cover		FACU species <u>10</u>	x4 =	<u>40</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species <u>30</u>	x5 =	<u>150</u>	
1. Bromus tectorum	30	yes	UPL	Column Totals: 55 (A)		230 (B)	
2.				Prevalence	Index = B/A = 4.18	、 /	
3.				Hydrophytic Vegetation Indica	ators:		
4.				Dominance Test is >	>50%		
5.				Prevalence Index is	<3.01		
6				Marria alla sia al Adam	<u>-0.0</u>		
7.				data in Remarks or	on a separate sheet)	orung	
8					hutic Vogotation ¹ (Exr	lain)	
50% = 15, 20% = 6	30	= Total Cover				nairi)	
$\frac{10}{10}$, $\frac{10}{10}$, $\frac{10}{10}$, $\frac{10}{10}$ (Plot size: 15')	<u></u>			¹ Indicators of hydric soil and we	tland hydrology must		
1 None				be present, unless disturbed or	problematic.		
·· <u>·····</u> 2							
<u> </u>		= Total Cover		Hydrophytic Vegetation	Yes 🗌	No	
% Baro Cround in Harb Stratum 70	<u>v</u> % Cover	- Total Covel		Present?			_
	70 Cover						
rtemarks:							

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SOIL											Sampl	ing Poin	t: <u>TP-</u>	34, UF	<u> </u>
Profile Desci	ription: (Describ	e to th	e depth	n need	ed to d	ocument the indicator or con	firm the ab	sence of	indica	itors.)					
Depth	Matri	x				Redox Features									
(inches)	Color (moist)		%	Co	lor (Mo	ist) <u>%</u> <u>Type</u> ¹	Loc	2	Textu	ure <u>Rem</u>	arks				
<u>0+</u>		_						_	cobb	<u> </u>					
		_						_							
		_						_							
		_						_							
		_						_							
		_						_							
¹ Type: C= Co	oncentration, D=D	epletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Coated Sar	d Grains.	² Locatior	: PL=F	Pore Lining, M=Mat	trix.				
Hydric Soil I	ndicators: (Appl	icable	to all L	RRs, u	Inless	otherwise noted.)			Ind	licators for Proble	ematic	Hydric S	Soils ³ :		
Histoso	ol (A1)					Sandy Redox (S5)				1 cm Muck (A	9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A	10) (LR	R B)			
Black H	listic (A3)					Loamy Mucky Mineral (F1)				Reduced Verti	ic (F18)				
☐ Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent M	aterial (TF2)			
Stratifie	ed Layers (A5) (L	RR C)				Depleted Matrix (F3)			\boxtimes	Other (Explain	in Rem	narks)			
🔲 1 cm M	luck (A9) (LRR D)				Redox Dark Surface (F6)									
Deplete	ed Below Dark Su	urface (A11)			Depleted Dark Surface (F7)									
Thick D	ark Surface (A12	2)				Redox Depressions (F8)				³ Indicators of h	vdronh	vtic vere	tation	and	
Sandy I	Mucky Mineral (S	51)				Vernal Pools (F9)				wetland hyd	rology r	nust be j	presen	t,	
Sandy	Gleyed Matrix (S	4)								unless dis	turbed o	or proble	matic.		
Restrictive L	ayer (if present).):													
Туре:															
Depth (Inches	s):						Hydric S	oils Pres	ent?		Yes		No	\boxtimes]
Remarks:	Naturally problem	matic a	nd distu	irbed s	oil - cob	bble to surface - fill slope for I-8	2								
	0.1/														
HYDROLO	GY Indianta														
wetiand Hyd	irology indicato	rs:			11 41	k ()			0		0		1)		
Primary Indic	ators (minimum c	of one r	equirea	; cneck	all that				Seco	ondary Indicators (2	2 or mo	re requir	ed)		
	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (River	ine)			
	Vater Table (A2)					Biotic Crust (B12)				Sediment Deposi	ts (B2)	Riverin	e)		
	tion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3	3) (Rive	rine)			
∐ Water	Marks (B1) (Non	riverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Pattern	s (B10)	(- -)			
	ent Deposits (B2)	(Nonr	iverine))		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Wate	er Table	(C2)			
	eposits (B3) (Nor	nriverir	ıe)			Presence of Reduced Iron (C	4)			Crayfish Burrows	(C8)				
Surface	e Soil Cracks (B6	5)				Recent Iron Reduction in Tille	ed Soils (C6)			Saturation Visible	e on Aer	ial Imag	ery (CS	9)	
∐ Inunda	ition Visible on A	erial Im	agery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard	(D3)				
☐ Water-	Stained Leaves (B9)				Other (Explain in Remarks)		1		FAC-Neutral Tes	t (D5)				
Field Observ	vations:		_		_										
Surface Wate	er Present?	Yes		No	\boxtimes	Depth (inches):	-								
Water Table I	Present?	Yes		No	\boxtimes	Depth (inches):	-								
Saturation Pro	esent? illary fringe)	Yes		No	\boxtimes	Depth (inches):	-	Wetlar	nd Hyd	Irology Present?		Yes		No	\boxtimes
Describe Rec	corded Data (streated	am gau	ige, mor	nitoring	well, a	erial photos, previous inspectio	ons), if availa	ible:							
Remarks		-													
US Army Cor	ps of Engineers										Arid	West -	Versior	า 2.0	

Project Site: East-West Corridor			City/C	County: <u>Yakima/Yakima</u>	Sampling Date:	<u>12/10/15</u>	5
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-35, V</u>	Vet T
Investigator(s): Jason Cade, Widener and Assoc	iates		Sectio	n, Township, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace			Local relie	(concave, convex, none): <u>none</u>	Slop	pe (%): <u>0</u>	<u>)</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.62</u>	21114		Long: <u>-120.498155</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Zillah silt loam				NWI classit	ication: <u>PSS1A</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes	🛛 No 🗌 (If no, explain in Rei	marks.)		
Are Vegetation D, Soil D, or Hydrology	significa	antly distur	bed?	Are "Normal Circumstances" present?	Yes	🛛 No	□ □
Are Vegetation \Box , Soil \Box , or Hydrology	naturall	y problema	atic?	If needed, explain any answers in Remark	(s.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing sam	npling po	int locati	ons, transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌	ו				
Hydric Soil Present?	Yes 🛛	No 🗌] Is the	Sampled Area within a Wetland?	Yes	🛛 No	• 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗌]				
Remarks:			•				
VEGETATION – Use scientific names of plants	5.						
Tree Stratum (Plot size: 30')	Absolute	Dominant	Indicat	or Dominance Test Worksheet:			
1 Nono	<u>% Cover</u>	Species?	<u>Status</u>				
1. <u>None</u>		—		Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>		(A)
2							
3. <u> </u>				Total Number of Dominant Species Across All Strata:	<u>2</u>		(B)
4 50%20% -	0	- Total C					
Souling (Shruh Stratum (Dist size: 45!)	<u>u</u>	- 10tai Ci	Jvei	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50</u>		(A/B)
<u>Sapiing/Shrub Stratum</u> (Plot size. <u>15</u>)	20	1/00	EACU	Browelence Index workshoet			
1. <u>Rosa woodsn</u>	20	yes	FACU		Multiple	, hur	
2						<u>y Dy.</u>	
3					x1 =	100	
4				FAC appelles 5	x2 =	15	
5				FAC species <u>5</u>	x3 -	<u>15</u>	
50% = 10, 20% = 4	20		over	FACU species <u>20</u>	x4 =	<u>80</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =		
1. <u>Phalaris arundinacea</u>	<u>95</u>	<u>yes</u>	FACW	Column Totals: <u>120</u> (A)		<u>285</u> (B)	
2. <u>Cirsium arvense</u>	<u>5</u>	<u>no</u>	FAC	Prevalence Inde	x = B/A = <u>2.375</u>		
3				Hydrophytic Vegetation Indicator	s:		
4		—		Dominance Test is >50%	6		
5				Prevalence Index is <3.) ¹		
6				Morphological Adaptation	ons ¹ (Provide supp	orting	
7				data in Remarks or on a	separate sheet)		
8				Problematic Hydrophytic	vegetation ¹ (Exp	lain)	
50% = <u>50,</u> 20% = <u>20</u>	<u>100</u>	= Total Co	over				
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetland	d hydrology must		
1. <u>None</u>				be present, unless disturbed of pro-	nematic.		
2				Hydrophytic			
50% = 20% =				nyuropiiyuc		No	
, 20/0	<u>0</u>	= Total Co	over	Vegetation		110	
% Bare Ground in Herb Stratum <u>0</u>	0 % Cover o	= Total Co of Biotic Cr	over ust	Vegetation Present?		No	

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SOIL											S	ampling Poir	it: <u>TP-</u>	35, We	et T
Profile Descr	iption: (Descr	ibe to th	e depth	n neede	ed to d	ocument the indicator	or conf	irm the abs	ence of	indicate	ors.)]
Depth	Mat	rix				Redox Featur	es								
(inches)	Color (mois	<u>t)</u>	%	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc ²		Textur	e <u>Remai</u>	<u>rks</u>			
<u>0-6</u>	<u>10YR 3/1</u>		100						_	cobbly s	i lo				
<u>6-20</u>	<u>10YR 3/2</u>		<u>100</u>						_	muck	<u>cobbly</u>				
		_							_						
		_							_						
		_							_						
		_							_		. <u> </u>				
¹ Type: C= Cor	ncentration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Coat	ed Sand	d Grains. ²	Locatior	n: PL=Po	re Lining, M=Matri	х.			
Hydric Soil In	ndicators: (Ap	plicable	to all L	RRs, u	nless	otherwise noted.)				Indic	ators for Problem	natic Hydric	Soils ³ :		
Histosol	l (A1)					Sandy Redox (S5)					1 cm Muck (A9)	(LRR C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10)) (LRR B)			
Black H	istic (A3)				\boxtimes	Loamy Mucky Mineral	(F1)				Reduced Vertic	(F18)			
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix	(F2)				Red Parent Mat	erial (TF2)			
Stratifie	d Layers (A5) (LRR C)				Depleted Matrix (F3)					Other (Explain i	n Remarks)			
🔲 1 cm Mu	uck (A9) (LRR	D)				Redox Dark Surface (F6)								
Deplete	d Below Dark S	Surface (A11)			Depleted Dark Surface	e (F7)								
Thick Da	ark Surface (A	12)				Redox Depressions (F	8)				³ Indicators of by	dronhytic ver	notation	and	
Sandy N	Mucky Mineral ((S1)				Vernal Pools (F9)					wetland hydro	ology must be	preser	nt,	
□ Sandy C	Gleyed Matrix (S4)									unless distu	rbed or prob	ematic.		
Restrictive La	ayer (if presen	ıt):													
Туре:															
Depth (Inches	.):							Hydric So	oils Pres	sent?	Y	′es 🛛	No]
Remarks:															
HYDROLOG	GY														
Wetland Hyd	rology Indicat	ors:													
Primary Indica	ators (minimum	of one r	equired	; check	all tha	t apply)				Secon	dary Indicators (2	or more requ	ired)		
Surface	e Water (A1)					Salt Crust (B11)					Water Marks (B1)	(Riverine)			
🛛 High W	ater Table (A2))				Biotic Crust (B12)					Sediment Deposits	(B2) (Riveri	ne)		
Saturat	ion (A3)					Aquatic Invertebrates	(B13)				Drift Deposits (B3)	(Riverine)			
Water M	Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odd	or (C1)				Drainage Patterns	(B10)			
Sedime	ent Deposits (B	2) (Nonr	iverine)		Oxidized Rhizosphere	s along	Living Roots	s (C3)		Dry-Season Water	Table (C2)			
Drift De	eposits (B3) (No	onriverir	ne)			Presence of Reduced	Iron (C4	1)			Crayfish Burrows (C8)			
Surface	e Soil Cracks (E	36)				Recent Iron Reductior	n in Tille	d Soils (C6)			Saturation Visible of	on Aerial Ima	gery (C	9)	
Inundat	tion Visible on <i>i</i>	Aerial Im	agery (E	B7)		Thin Muck Surface (C	7)				Shallow Aquitard (I	D3)			
⊠ Water-S	Stained Leaves	s (B9)				Other (Explain in Rem	arks)				AC-Neutral Test (D5)			
Field Observa	ations:														
Surface Water	r Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table F	Present?	Yes	\boxtimes	No		Depth (inches):	8								
Saturation Pre	esent?	Yes	\boxtimes	No		Depth (inches):	6		Wetla	nd Hydro	ology Present?	Yes	\boxtimes	No	
(Includes capil	ilary tringe) orded Data (str	eam dau	Ide mor	nitorina	well a	erial photos, previous in	spection	ns) if availa	ble [.]	-					
5000110011000		guu				priotos, proviouo in		,,							

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakim</u>	a	Sampling Date:	<u>12/10/15</u>	
Applicant/Owner: Yakima County				S	State: <u>WA</u>	Sampling Point:	<u>TP-36, U</u>	рТ
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range:	<u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): terrace		Loc	cal relief (coi	ncave, convex, nor	ne): <u>convex</u>	Slo	pe (%): <u>1</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	21082		Long: <u>-120.4</u>	98252	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Zillah silt loam					NWI classifi	cation: <u>PSS1A</u>		
Are climatic / hydrologic conditions on the site typic	al for this tim	ne of year?	Yes 🛛	No 🗌 (If no, explain in Rem	narks.)		
Are Vegetation , Soil , or Hydrology	signific	antly disturbed	? Are "	Normal Circumsta	nces" present?	Yes		
Are Vegetation . Soil . or Hydrology	 □ natural	v problematic?) (If ne	eded. explain anv	answers in Remarks	s.)		
······································		,	(,,		,		
SUMMARY OF FINDINGS – Attach site map sh	owing san	pling point	locations,	, transects, imp	ortant features,	etc.		
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛		· · · · ·	-			
Hydric Soil Present?	Yes 🛛	No 🖂	Is the San	npled Area within	a Wetland?	Yes	□ No	
Wetland Hydrology Present?	Yes 🛛	No 🖂						
Remarks: naturally problematic and disturbed soil	- cobble at 2	" - appears to	have been	placed artificially	1			
VEGETATION – Use scientific names of plants	5.							
Tree Stratum (Plot size: 30')	Absolute	Dominant	Indicator	Dominance Tes	t Worksheet:			
1 Nono	<u>% Cover</u>	Species?	<u>Status</u>					
1. <u>None</u>				Number of Domi That Are OBL F	nant Species	<u>0</u>		(A)
2				mat / 10 OBE, 1				
3				Total Number of Species Across	Dominant All Strata	<u>2</u>		(B)
4								
50% =, 20% =	<u>U</u>	= Total Cover		Percent of Domi	nant Species	<u>0</u>		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>								
1. <u>Rosa woodsii</u>	<u>30</u>	yes	FACU	Prevalence Inde	ex worksheet:			
2. <u>Rhus glabra</u>	<u>1</u>	no	FACU	Tota	al % Cover of :	Multipl	<u>y by:</u>	
3. <u>Populus balsamifera</u>	<u>1</u>	no	<u>FAC</u>	OBL species		x1 =		
4				FACW species		x2 =		
5				FAC species	<u>1</u>	x3 =	<u>3</u>	
50% = <u>16</u> , 20% = <u>6.4</u>	<u>32</u>	= Total Cover		FACU species	<u>31</u>	x4 =	<u>124</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	<u>50</u>	x5 =	<u>250</u>	
1. <u>Bromus tectorum</u>	<u>50</u>	yes	UPL	Column Totals:	<u>82</u> (A)		<u>377</u> (B)	
2					Prevalence Index	c = B/A = <u>4.598</u>		
3				Hydrophytic Ve	getation Indicators	s:		
4				Dom	inance Test is >50%			
5				Prev	alence Index is <3.0	1		
6				— Morr	hological Adaptation	ns ¹ (Provide supr	ortina	
7				data	in Remarks or on a	separate sheet)	orang	
8				Prob	lematic Hydrophytic	Vegetation ¹ (Exp	lain)	
50% = <u>25,</u> 20% = <u>10</u>	<u>50</u>	= Total Cover			, , ,	0 (1	,	
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hy	dric soil and wetland	I hydrology must		
1. <u>None</u>				be present, unie	ss disturbed or prob	iemalic.		
2								
50% =, 20% =	0	= Total Cover		Vegetation		Yes 🗌	No	\boxtimes
% Bare Ground in Herb Stratum 50	– % Cover of	of Biotic Crust		Present?				
Remarks:								

US Army Corps of Engineers

SOII

SOIL										Sam	oling Poin	t: <u>TP-</u>	36, Up	<u> </u>
Profile Descri	ption: (Descr	ibe to th	he depth	n neede	ed to d	ocument the indicator or conf	firm the abs	ence of	indicato	ors.)				
Depth	Mat	rix				Redox Features								
(inches)	Color (mois	<u>t)</u>	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²		Texture	e <u>Remarks</u>				
<u>0-2</u>	<u>10YR 3/2</u>		100					_	<u>si lo</u>					
<u>2+</u>		-						_	<u>cobble</u>	<u> </u>				
		-						_						
		-						_						
		-						_						
		-						_						
¹ Type: C= Con	centration, D=	Depletio	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. ²	Location	: PL=Por	re Lining, M=Matrix.				
Hydric Soil In	dicators: (Ap	plicable	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Problematic	Hydric S	ioils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LR	RC)			
Histic Ep	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LF	RR B)			
Black His	stic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)			
Hydroge	n Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material	(TF2)			
Stratified	l Layers (A5) (LRR C)				Depleted Matrix (F3)				Other (Explain in Re	marks)			
□ 1 cm Mu	ick (A9) (LRR	D)				Redox Dark Surface (F6)								
Depleted	d Below Dark S	Surface	(A11)			Depleted Dark Surface (F7)								
Thick Da	ark Surface (A	12)				Redox Depressions (F8)				³ Indicators of hydron	hytic vege	tation	and	
Sandy M	lucky Mineral	(S1)				Vernal Pools (F9)				wetland hydrology	must be	oresent	,	
□ Sandy G	leyed Matrix (S4)								unless disturbed	or proble	matic.		
Restrictive La	iyer (if preser	nt):												
Туре:														
Depth (Inches)):						Hydric So	oils Pres	ent?	Yes		No	\boxtimes	
Remarks: r	naturally proble	ematic a	ind distu	rbed so	oil - cob	ble at 2" - appears to have beer	n placed artif	ficially						
HYDROLOG	iΥ													
Wetland Hydr	ology Indicat	ors:												
Primary Indicat	tors (minimum	of one i	required	; check	all that	t apply)			Second	dary Indicators (2 or mo	ore requir	ed)		
Surface	Water (A1)					Salt Crust (B11)				Vater Marks (B1) (Rive	rine)			
🔲 High Wa	ater Table (A2)				Biotic Crust (B12)			🗆 s	Sediment Deposits (B2)	(Riverin	e)		
Saturati	on (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riv	erine)			
U Water M	larks (B1) (No	nriverin	ne)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)			
Sedimer	nt Deposits (B	2) (Non	riverine)		Oxidized Rhizospheres along	Living Roots	s (C3)		Dry-Season Water Tabl	e (C2)			
Drift Dep	posits (B3) (N	onriveri	ne)			Presence of Reduced Iron (C4	4)			Crayfish Burrows (C8)				
Surface	Soil Cracks (E	36)				Recent Iron Reduction in Tille	d Soils (C6)		🗆 s	Saturation Visible on Ae	rial Imag	ery (C9)	
Inundati	ion Visible on A	Aerial In	nagery (I	37)		Thin Muck Surface (C7)			🗆 s	Shallow Aquitard (D3)				
□ Water-S	Stained Leaves	s (B9)				Other (Explain in Remarks)			D F	AC-Neutral Test (D5)				
Field Observa	tions:													
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pres	sent? lary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetlar	nd Hydro	ology Present?	Yes		No	\boxtimes
Describe Reco	orded Data (str	eam ga	uge, moi	nitoring	well, a	erial photos, previous inspection	ns), if availal	ole:						
		-	-	0		· · ·								

US Army Corps of Engineers

Project Site:	East-West Corri	dor			City/County:	Yakima/Yak	ima	Sampli	ng Date:	<u>1-21-</u>	19	
Applicant/Owner:	Yakima County						State: <u>WA</u>	Samplir	ng Point:	<u>TP-2</u> wet)	<u>10 (L</u>	<u> -</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener and Asso	ciates		Section, Tow	vnship, Range	: <u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, etc.): <u>fl</u>	oodplain_		Lo	cal relief (conc	ave, convex, n	ione): <u>concave</u>		Slop	be (%):	: <u>2</u>	
Subregion (LRR)	: <u>B</u>		Lat	<u>46.619868</u>		Long: <u>-120</u>	<u>.491649</u>	D	atum: <u>N</u>	IAD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channele	ed				NWI classi	fication:	PF01C			
Are climatic / hyd	drologic condition	s on the site typi	cal for	this time of year?	Yes 🛛	No 🗌	(If no, explain in Re	marks.)				
Are Vegetation D,	Soil □,	or Hydrology		significantly disturbed	I? Are "No	ormal Circums	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil □,	or Hydrology		naturally problematic?	? (If need	ded, explain ar	ny answers in Remar	ks.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No			
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u> 2	<u>100</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	A)
3.		_		Total Number of Dominant	(В)
4 50% = 50 , 20% = 20	100	= Total Cove	 r	Percent of Dominant Species	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)					
1. <u>Populus balsamifera</u>	<u>3</u>	no	<u>FAC</u>	Prevalence Index worksheet:	
2. <u>Rosa woodsii</u>	<u>10</u>	<u>yes</u>	FACU	Total % Cover of : Multiply by:	
3. <u>Cornus sericea</u>	<u>10</u>	<u>yes</u>	FACW	OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>11.5</u> , 20% = <u>4.6</u>	<u>23</u>	= Total Cove	r	FACU species x4 =	
Herb Stratum (Plot size:5')				UPL species x5 =	
1. <u>None</u>				Column Totals: (A) (B)	
2				Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% =, 20% =	<u>0</u>	= Total Cove	r		
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>None</u>					
2				Hudronbytic	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes 🛛 No	
% Bare Ground in Herb Stratum <u>100</u>	% Cover	of Biotic Crust		Present?	
Remarks:				•	

US Army Corps of Engineers

SOI	L									Sampling	Point:	TP-210 (I	U - wet)
Profi	le Descri	ption: (Describe t	o the dept	h needed to d	ocument the ir	ndicator or con	firm the absence	of indica	ators.)				
D	epth	Matrix			Redo	x Features							
<u>(in</u>	ches)	Color (moist)	<u>%</u>	Color (Moi	<u>%</u>	Type ¹	Loc ²	Text	ure F	<u>Remarks</u>			
	0-7	<u>10YR 4/2</u>	<u>100</u>					<u>sandy</u>	si lo	-			
7	<u>'-13</u>	<u>10YR 4/2</u>	<u>80</u>	<u>7.5YR 5/</u>	<u>8 20</u>	<u>C</u>	M	<u>sandy</u>	si lo	-			
										-			
										-			
_										-			
										-			
¹ Type	e: C= Con	centration, D=Dep	letion, RM=	Reduced Matri	ix, CS=Covered	d or Coated San	d Grains. ² Locati	ion: PL=F	Pore Lining, M=	Matrix.			
Hydr	ic Soil In	dicators: (Applica	ble to all L	RRs, unless o	otherwise note	ed.)		Inc	licators for Pro	oblematic	Hydric	Soils ³ :	
	Histosol	(A1)			Sandy Redox	: (S5)			1 cm Muck	(A9) (LRF	R C)		
	Histic Ep	vipedon (A2)			Stripped Matr	ix (S6)			2 cm Muck	(A10) (LF	RR B)		
	Black His	stic (A3)			Loamy Mucky	/ Mineral (F1)			Reduced \	/ertic (F18)		
	Hydroge	n Sulfide (A4)			Loamy Gleye	d Matrix (F2)			Red Paren	nt Material	(TF2)		
	Stratified	Layers (A5) (LRR	C)	\boxtimes	Depleted Mat	rix (F3)			Other (Exp	olain in Rer	marks)		
	1 cm Mu	ck (A9) (LRR D)			Redox Dark S	Surface (F6)							
	Depleted	l Below Dark Surfa	ice (A11)		Depleted Dar	k Surface (F7)							
	Thick Da	rk Surface (A12)			Redox Depres	ssions (F8)			³ Indicators	of hydroph	nytic veq	etation a	nd
	Sandy M	lucky Mineral (S1)			Vernal Pools	(F9)			wetland	hydrology	must be	present,	
	Sandy G	leyed Matrix (S4)					•		unless	disturbed	or proble	ematic.	
Rest	rictive La	yer (if present):											
Туре	:												
Dept	h (Inches)	:					Hydric Soils Pr	resent?		Yes	\boxtimes	No	
Rem	arks:												
HYD	ROLOG	Y											
Wetl	and Hydr	ology Indicators:											
Prima	ary Indicat	tors (minimum of o	ne required	l; check all that	t apply)			Seco	ondary Indicato	rs (2 or mo	ore requi	red)	
	Surface	Water (A1)			Salt Crust (B1	1)			Water Marks	(B1) (Rive	rine)		
	High Wa	ater Table (A2)			Biotic Crust (B	312)		\boxtimes	Sediment Dep	posits (B2)	(Riverin	ne)	
	Saturatio	on (A3)			Aquatic Invert	tebrates (B13)		\boxtimes	Drift Deposits	(B3) (Rive	erine)		
	Water N	larks (B1) (Nonriv e	erine)		Hydrogen Sul	lfide Odor (C1)		\boxtimes	Drainage Pat	terns (B10))		
	Sedimer	nt Deposits (B2) (N	lonriverine)	Oxidized Rhiz	cospheres along	Living Roots (C3)		Dry-Season V	Vater Table	e (C2)		

Wetland Hydrology Present?

Crayfish Burrows (C8)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Saturation Visible on Aerial Imagery (C9)

 \boxtimes

 \boxtimes

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No

No

No

Yes

Yes

Yes

Presence of Reduced Iron (C4)

Thin Muck Surface (C7)

Depth (inches):

Depth (inches):

Depth (inches):

Other (Explain in Remarks)

Recent Iron Reduction in Tilled Soils (C6)

0

Remarks: US Army Corps of Engineers

Field Observations: Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Drift Deposits (B3) (Nonriverine)

Inundation Visible on Aerial Imagery (B7)

Surface Soil Cracks (B6)

Water-Stained Leaves (B9)

Arid West - Version 2.0

Yes

 \boxtimes

No

Project Site:	East-West Corric	<u>lor</u>			City/County	: <u>Yakim</u>	a/Yak	ma	Samp	ling Date	: <u>12/11</u>	/15	
Applicant/Owner:	Yakima County							State: <u>WA</u>	Samp	ling Point	: <u>TP-3</u>	3, Up	<u>) U</u>
Investigator(s):	Jason Cade, Wie	dener and Associ	ates		Section, Tov	wnship, F	Range	<u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, etc.): <u>flc</u>	odplain		Lo	ocal relief (cond	ave, con	vex, n	one): <u>convex</u>		SI	ope (%):	<u>2</u>	
Subregion (LRR)	: <u>B</u>		Lat:	<u>46.619873</u>		Long:	<u>-120</u>	491574		Datum:	NAD83		
Soil Map Unit Name	: <u>Weirman sandy</u>	/ loam, channele	<u>1</u>					NWI class	ification:	None			
Are climatic / hyd	Irologic conditions	s on the site typic	al for	this time of year?	Yes 🛛	No		(If no, explain in Re	emarks.)				
Are Vegetation D,	Soil □,	or Hydrology [] :	significantly disturbe	d? Are "N	ormal Ci	rcums	tances" present?		Yes	\boxtimes	No	
Are Vegetation \Box ,	Soil □,	or Hydrology [] r	naturally problemation	c? (If nee	ded, exp	lain ar	y answers in Rema	rks.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soil Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🛛
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	<u>30</u>	yes	FAC	Number of Dominant Species That the OPL EACW or EAC: $\frac{2}{2}$ (A)	()
2				That Ale OBE, FACW, OF FAC.	
3				Total Number of Dominant Species Across All Strata: <u>4</u> (B)	5)
50% = 15,20% = 6	30	= Total Cove	r		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)	<u></u>			That Are OBL, FACW, or FAC: 50 (A)	/B)
1. Populus balsamifera	2	no	FAC	Prevalence Index worksheet:	
2. Rosa woodsii	10	ves	FACU	Total % Cover of : Multiply by:	
3. <u>Cornus sericea</u>	2	no	FACW	OBL species x1 =	
4. <u>Ribes aureum</u>	5	yes	FAC	FACW species 3 $x2 = 6$	
5				FAC species 37 x3 = 111	
50% = <u>9.5,</u> 20% = <u>3.8</u>	<u>19</u>	= Total Cove	r	FACU species <u>10</u> x4 = <u>40</u>	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species <u>95</u> x5 = <u>475</u>	
1. <u>Bromus tectorum</u>	<u>95</u>	yes	<u>UPL</u>	Column Totals: <u>145</u> (A) <u>632</u> (B)	
2. <u>Phalaris arundinacea</u>	<u>1</u>	no	FACW	Prevalence Index = B/A = <u>4.36</u>	
3. <u>Artemesia absinthium</u>	1	no	NI	Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is <3.0 ¹	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>48.5,</u> 20% = <u>19.4</u>	<u>97</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetland hydrology must	
1. <u>None</u>					
2				Hydrophytic	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes No	3
% Bare Ground in Herb Stratum <u>3</u>	% Cover	of Biotic Crust		Present?	
Remarks:					

US Army Corps of Engineers

Sa	mnlina	Point [.]	TP-38	1 Ir

SOIL											Sampling Poi	nt: <u>TP-</u>	38, Up	U
Profile Descri	ption: (Describe	to the dept	h neede	ed to d	ocument the indicato	r or conf	irm the abso	ence of	indicat	tors.)				
Depth	Matrix				Redox Featu	ires								
(inches)	Color (moist)	<u>%</u>	Col	or (Mo	<u>st) %</u>	Type ¹	Loc ²		Textu	re <u>Rema</u>	rks			
<u>0-20</u>	<u>10YR 3/2</u>	<u>100</u>						-	sandy s	si lo				
								_						
								-						
								_						
								_						
								-						
¹ Type: C= Cor	centration, D=De	pletion, RM=	Reduce	ed Matr	ix, CS=Covered or Coa	ated Sand	d Grains. ² l	Location	: PL=P	ore Lining, M=Matr	ix.			
Hydric Soil In	dicators: (Applic	able to all L	RRs, u	nless	otherwise noted.)				Indi	cators for Proble	matic Hydric	Soils ³ :		
Histosol	(A1)				Sandy Redox (S5)					1 cm Muck (A9) (LRR C)			
Histic Ep	pipedon (A2)				Stripped Matrix (S6)					2 cm Muck (A1	0) (LRR B)			
Black Hi	stic (A3)				Loamy Mucky Minera	al (F1)				Reduced Vertic	(F18)			
☐ Hydroge	n Sulfide (A4)				Loamy Gleyed Matrix	(F2)				Red Parent Ma	terial (TF2)			
☐ Stratified	Layers (A5) (LRI	RC)			Depleted Matrix (F3)					Other (Explain	in Remarks)			
🔲 1 cm Mu	ick (A9) (LRR D)	,			Redox Dark Surface	(F6)					,			
Depleted	d Below Dark Surf	ace (A11)			Depleted Dark Surfa	ce (F7)								
Thick Da	ark Surface (A12)	· · /			Redox Depressions ((F8)				2				
 □ Sandv M	uckv Mineral (S1))			Vernal Pools (F9)	- /				°Indicators of hy	/drophytic veg	etation	and	
□ Sandy G	leved Matrix (S4)	, ,		_						unless dist	urbed or probl	ematic.	ι,	
Restrictive La	ver (if present):													
Type:	. .													
Depth (Inches)).						Hvdric So	ils Pres	ent?	,	∕es □	No		
Remarks:									•					
. tomantoi														
HYDROLOG	iΥ													
Wetland Hydr	ology Indicators	:												
Primary Indica	tors (minimum of	one required	l; check	all that	t apply)				Seco	ndary Indicators (2	or more requ	red)		
Surface	Water (A1)				Salt Crust (B11)					Water Marks (B1)	(Riverine)			
High Wa	ater Table (A2)				Biotic Crust (B12)					Sediment Deposits	s (B2) (Riveri	ne)		
Saturati	on (A3)				Aquatic Invertebrates	s (B13)				Drift Deposits (B3)	(Riverine)			
U Water M	larks (B1) (Nonri v	verine)			Hydrogen Sulfide Od	or (C1)				Drainage Patterns	(B10)			
Sedime	nt Deposits (B2) (I	Nonriverine	e)		Oxidized Rhizospher	es along	Living Roots	(C3)		Dry-Season Water	Table (C2)			
Drift De	posits (B3) (Nonri	iverine)			Presence of Reduce	d Iron (C4	4)			Crayfish Burrows ((C8)			
Surface	Soil Cracks (B6)				Recent Iron Reduction	on in Tille	d Soils (C6)			Saturation Visible	on Aerial Ima	gery (CS)	
Inundati	ion Visible on Aeri	al Imagery (B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)			
□ Water-S	Stained Leaves (B	9)			Other (Explain in Rer	marks)				FAC-Neutral Test	(D5)			
Field Observa	ations:													
Surface Water	Present?	∕es 🛛	No	\boxtimes	Depth (inches):									
Water Table P	resent? Y	∕es 🔲	No	\boxtimes	Depth (inches):	_								
Saturation Pre	sent?		N1-		Denth (inches)			Wetler	od Ll	rology Brocont?	Vee		No	
(includes capil	lary fringe)	res 🛛	INO		Deptn (Incnes):			wenar	iu riydi	ology Fresent?	Tes		NO	
Describe Reco	orded Data (strean	n gauge, mo	onitoring	well, a	erial photos, previous i	nspectior	ns), it availab	le:						

Project Site:	East-West Corrie	<u>dor</u>			City/County: <u>Yakima/Yakima</u>					ing Date:	<u>1-21-</u>	<u>19</u>	
Applicant/Owner:	Yakima County						State:	WA	Sampli	ng Point:	<u>TP-2</u> wet)	<u>12 (</u> V	<u>/_</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associate	es		Section, Tov	vnship, Rar	nge: <u>S17</u>	<u> 13N R19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain		Loca	al relief (conc	ave, conve	x, none):	none		Slo	pe (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>		Lat: <u>46</u>	<u>6.6106038</u>		Long: <u>- '</u>	120.485392	2	[Datum: <u>I</u>	AD83		
Soil Map Unit Name	: <u>Water</u>							NWI classific	cation:	PSS1C			
Are climatic / hyd	drologic conditions	s on the site typica	I for this	time of year?	Yes 🛛	No [] (If no,	explain in Rem	arks.)				
Are Vegetation	Soil □,	or Hydrology] signi	ficantly disturbed?	Are "N	ormal Circu	umstances"	present?		Yes	\boxtimes	No	
Are Vegetation	Soil 🛛,	or Hydrology	natu	rally problematic?	(If need	ded, explaii	n any answ	ers in Remarks	s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				

Remarks: Entisols present due to location in floodplain. Cobble encountered at 6 inch depth.

				-	
VEGETATION -	Use	scientific	names	of	plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1			_	Number of Dominant Species 3 (A	
2				That Are OBL, FACW, or FAC: [™]	
3				Total Number of Dominant 5 (B	0
4				Species Across All Strata:	,
50% =, 20% =		= Total Cove	r	Percent of Dominant Species 60 (A	(B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:	,
1. <u>Salix exigua</u>	<u>60</u>	<u>yes</u>	FACW	Prevalence Index worksheet:	
2. <u>Salix fragilis</u>	<u>20</u>	<u>yes</u>	FAC	Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Rumex crispus</u>	<u>10</u>	<u>ves</u>	FAC	Column Totals: (A) (B)	
2. <u>Centaurea sp.</u>	<u>20</u>	<u>yes</u>	NL (UPL)	Prevalence Index = B/A =	
3. <u>Polygonum cuspidatum.</u>	<u>10</u>	<u>yes</u>	FACU	Hydrophytic Vegetation Indicators:	
4				☑ Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cove	r		
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				¹ Indicators of hydric soil and wetland hydrology must	
1					
2				lluden hutin	
50% =, 20% =		= Total Cove	r	Vegetation Yes 🛛 No	ב
% Bare Ground in Herb Stratum 20	% Cover	of Biotic Crust		Present?	
Remarks:				<u>.</u>	

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SOIL												Samp	ling Point	TP-212	<u>2 (V- we</u>	<u>et)</u>	
Profile Des	cription: (Describ	oe to th	ne depti	n need	ed to d	ocument	the indica	tor or conf	irm the abs	sence of	indicat	ors.)					
Depth	Matri	x					Redox Fea	atures									
<u>(inches)</u>	Color (moist))	%	Co	lor (Mo	ist)	<u>%</u>	Type ¹	Loc ²	2	Textur	re <u>Re</u>	emarks				
<u>0-6</u>	<u>10YR 3/3</u>		100				<u> </u>				Sand						
<u>6+</u>		_									Cobbl	e <u>Unable</u>	to dig dee	eper			
		-								_							
		-								_							
		_															
		-								_							
¹ Type: C= 0	Concentration, D=D	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Co	overed or C	Coated Sand	d Grains. 🧳	² Location	: PL=Po	ore Lining, M=N	/latrix.				
Hydric Soi	I Indicators: (App	licable	to all L	.RRs, u	inless	otherwise	noted.)				Indi	cators for Pro	blematic	Hydric S	ioils ³ :		
Histo	sol (A1)					Sandy R	Redox (S5)					1 cm Muck	(A9) (LRF	R C)			
Histic	Epipedon (A2)					Stripped	l Matrix (Se	3)				2 cm Muck	(A10) (LR	RB)			
Black	Histic (A3)					Loamy N	Mucky Mine	eral (F1)				Reduced Ve	ertic (F18)				
□ Hydro	ogen Sulfide (A4)					Loamy (Gleyed Mat	trix (F2)				Red Parent	Material (TF2)			
□ Strati	fied Layers (A5) (L	RR C)				Depletee	d Matrix (F	3)			\boxtimes	Other (Expl	ain in Ren	narks)			
🔲 1 cm	Muck (A9) (LRR D))				Redox D	Dark Surfac	æ (F6)									
Deple	eted Below Dark S	urface	(A11)			Deplete	d Dark Sur	face (F7)									
Thick	Dark Surface (A12	2)				Redox D	Depression	s (F8)				³ Indicators o	of hydroph	vtic veae	tation a	and	
Sand	y Mucky Mineral (S	S1)				Vernal F	Pools (F9)					wetland h	ydrology i	must be p	present	,	
Sandy Gleyed Matrix (S4)											unless o	disturbed	or proble	matic.			
Restrictive	Layer (if present):															
Туре:																	
Depth (Inch	ies):								Hydric So	oils Pres	ent?		Yes		No	\boxtimes	
Remarks:	Soil lies in flood	plain w	ith frequ	ent floo	oding/d	eposits. Tl	herefore er	ntisols may	not have ha	id time to	develo	p hydric soil ind	dicators.				
	CV.																
Wetland H	G I vdrology Indicato	rs.															
Primary Ind	icators (minimum (of one i	required	· check	all that	t apply)					Secor	dary Indicator	s (2 or mo	re require	ed)		
	ace Water (A1)		oquirou	, опоон		Salt Cru	et (B11)					Water Marks (F	31) (Pivo	rine)	ou)		
	Water Table (A2)					Biotic Cu	rust (B12)					Sediment Den	nsits (R2)	(Riverin	a)		
	ration (A3)					Aquatic	Invertebrat	es (B13)				Drift Deposite ((B3) (Dive	(itiveiiiit	0)		
	nation (A3)	rivorin))			Hydroge	n Sulfido (dor(C1)				Drainago Patto	(B10)	inie)			
	ment Deposits (B2) (Noni	rivorino	、		Ovidized	l Rhizoenh		Living Root	e (C3)		Drainage Patterns (B10)					
	Doposite (B3) (No	privori	no)	,		Drosono	o of Poduc	od Iron (CA		3 (00)		Cravifich Burro		(02)			
	Deposits (DS) (140		iie)			Pecont	le of Reduc	tion in Tillo	r) d Saila (CG)				ws (CO)	rial Imag		、 、	
	detion Visible on A	orial Im	ogony (I	D7)		Thin Mu			1 Solis (CO)			Saturation visi		nai image	ery (C9)	
			lagely (I	57)		Other (E											
		(69)				Outer (E	. дранни К	enarks)					esi (D0)				
Surface M/c	tor Procent?	Vee		No		Dem	th (inchas)										
	Dresent?	Vee		NO		Dep	th (inches))									
Soturotion	e riesent?	res		INO		Dep	an (incries))							_		_
(includes ca	apillary fringe)	Yes		No		Dep	oth (inches)):		Wetlan	ld Hydr	ology Present	t?	Yes	\boxtimes	No	

Remarks: US Army Corps of Engineers

Project Site: East-West Corridor					City/County	y: <u>Yakima/Yakim</u>	<u>a</u>	Sampling	Date:	<u>1-21-</u>	19	
Applicant/Owner: Yakima County						S	state: <u>WA</u>	Sampling F	Point:	<u>TP-2</u>	11 (V	' - up)
Investigator(s): <u>Teddi McFall, Widener & Associa</u>	tes				Section, To	wnship, Range:	<u>S17 T13N R19E</u>					
Landform (hillslope, terrace, etc.): <u>floodplain</u>				Loc	cal relief (con	cave, convex, nor	ne): <u>none</u>		Slop	be (%):	<u>0</u>	
Subregion (LRR): <u>B</u>	Lat: <u>4</u>	6.61	04748			Long: <u>-120.48</u>	352792	Datu	m: <u>N</u>	IAD83		
Soil Map Unit Name: <u>Water</u>							NWI classifi	cation: <u>R3</u>	USC			
Are climatic / hydrologic conditions on the site typic	al for this	s time	e of ye	ar?	Yes 🛛	No 🗌 (lf no, explain in Rem	narks.)				
Are Vegetation □, Soil □, or Hydrology [sigr	nifica	ntly dis	sturbed	? Are "N	Normal Circumsta	nces" present?		Yes	\boxtimes	No	
Are Vegetation □, Soil ⊠, or Hydrology [] nat	urally	proble	ematic?	lf nee	eded, explain any	answers in Remarks	s.)				
SUMMARY OF FINDINGS – Attach site map sh	owina	sam	nlina	noint	locations	transects imp	ortant features	etc				
Hydrophytic Vegetation Present?	Yes		No		iooutiono,							
Hydric Soil Present?	Yes		No		Is the Sam	nled Area within	a Wetland?		Yes		No	
Wetland Hydrology Present?	Ves		No				u monunu.					
Remarks: River cobble to surface	105		110									
VEGETATION – Use scientific names of plants												
Tree Stratum (Plot size:30 ' r)	Absolut	e	Domi	nant	Indicator	Dominance Te	st Worksheet:					
1	<u>% Cove</u>	<u>er</u>	<u>Speci</u>	les <u>?</u>	Status	Number of Dem	inant Chasica					
2						That Are OBL, F	FACW, or FAC:	-	<u>1</u>			(A)
3						Tatal Number	f Demain and					
4						Species Across	All Strata:	3	<u>3</u>			(B)
50% =			= Tota	al Cove	er	Demonst of Dom	inant Chasica					
Sapling/Shrub Stratum (Plot size:15 ' r)						That Are OBL, F	FACW, or FAC:	3	<u>33</u>			(A/B)
1. Salix exigua	15		ves		FACW	Prevalence Ind	lex worksheet:					
2.			<u> </u>			Tot	al % Cover of :	ſ	Multip	v bv:		
3.						OBL species		-	<1 =	<u> </u>		
4.						FACW species	15	>	<2 =	30		
5.						FAC species		>	(3 =	_		
50% = 7.5. 20% = 3	15		= Tota	al Cove	er	FACU species	5	>	4 =	20		
Herb Stratum (Plot size 5 ' r)							<u>=</u> 10		<5 =	50		
1 Centaurea diffusa	10		VAS				25 (A)	,		100	(B)	
2 Verhaarea unitasa	5		<u>yes</u>			Column Totals:	<u>ZJ</u> (A) Brovalance In	dox = P/A =		100	(D)	
2. <u>Verbascum mapsus</u>	<u>5</u>		<u>yes</u>		FACU	Uudranhutia V	Prevalence in		4			
<u> </u>								s :				
4							minance results >50%	/0				
5							valence Index is <u><</u> 3.0	0 ¹				
6 7.						□ Mor data	phological Adaptatic a in Remarks or on a	ons ¹ (Provide a separate s	e supp heet)	oorting		
8						Prot	olematic Hvdrophytic	c Vegetatior	1 ¹ (Exi	olain)		
50% = 7.5, 20% = 3	15		= Tota	al Cove	r			9	. (,		
Woody Vine Stratum (Plot size:)						¹ Indicators of hy	/dric soil and wetlan	d hydrology	must			
1						be present, unit	ess disturbed or prot	plematic.				
2.												
50% =, 20% =			= Tota	al Cove		Hydrophytic Vegetation		Yes		N	o	\boxtimes
% Bare Ground in Herb Stratum 80	% Co	over c	of Biotic	c Crust		Present?						
Remarks:						1						

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Profile Description: (Descripte to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (Moist) % Type! Loc2 Texture Remarks 0±	
Depth Matrix Redox Features (inches) Color (moist) % Type! Loc ² Texture Remarks 0±	
(inches) Color (moist) % Color (Moist) % Type1 Loc2 Texture Remarks 0±	
D±	
Image: Interpret to the second strain of	
''Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I or Muck (A9) (LRR C) Redox Dark Surface (F6) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation wetland hydrology must be pressurfere (F17) Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation wetland hydrology must be pressurfere (F17) Standy Gleyed Matrix (S4) Vernal Pools (F9) unless disturbed or problematic Type:	
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Mucky Mineral (S1) Vernal Pools (F9) ³ Indicators of hydrophytic vegetation wetland hydrology must be pressure of the present): Type:	
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetatic wetland hydrology must be press unless disturbed or problematic Sandy Gleyed Matrix (S4) Vernal Pools (F9) unless disturbed or problematic Type:	
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetatic wetland hydrology must be pressure of problematic (S4) Restrictive Layer (if present): Type: Unless disturbed or problematic to problematic to problematic to problematic to problematic (Inches): Type: Depret (Inches): Hydric Soile Present? Yes	
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Thick Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation wetland hydrology must be pressurf wetland hydrology must be pressure unless disturbed or problematic Sandy Gleyed Matrix (S4) Vernal Pools (F9) unless disturbed or problematic Type:	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) 3Indicators of hydrophytic vegetatic wetland hydrology must be press Sandy Gleyed Matrix (S4) Vernal Pools (F9) unless disturbed or problematic Type:	
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) wetland hydrology must be pressure surface or problematic Type:	s³:
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) Vernal Pools (F9) wetland hydrology must be pres unless disturbed or problematic Type:	
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3Indicators of hydrophytic vegetation Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be pressure disturbed or problemation Restrictive Layer (if present): Type:	
Hydrogen Sultide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (1F2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3Indicators of hydrophytic vegetation wetland hydrology must be pressions (F9) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be pressions disturbed or problemation of problematic problemation of problematic problem	
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3Indicators of hydrophytic vegetation wetland hydrology must be pressions (F9) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be pressions disturbed or problemation Restrictive Layer (if present): Type:	
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) unless disturbed or problemation Restrictive Layer (if present): Type: Denth (Inches): Hydric Soils Present?	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) vernal Pools (F9)	
Inick Dark Surface (A12) Redox Depressions (F8) Inick Dark Surface (A12) Redox Depressions (F8) Inick Dark Surface (A12) Redox Depressions (F8) Inick Dark Surface (A12) Vernal Pools (F9) Vernal Pools (F9) vertand hydrology must be pres unless disturbed or problemati Restrictive Layer (if present): Type: Depth (Inches): Vernal Pools (F9) Vernal Pools	
Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be pres Sandy Gleyed Matrix (S4) unless disturbed or problemati Restrictive Layer (if present): Type:	ion and
Restrictive Layer (if present):	sent,
Restrictive Layer (if present): Type: Depth (Inches):	tic.
Depth (Inches):	
	. M
Departer Cohle ta surface	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required)	
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)	
High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine)	
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)	
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)	
Sediment Deposits (B2) (Nonriverine)	
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)	
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery ((C9)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)	
Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)	
Field Observations:	
Surface Water Present? Yes Down Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes Set	

Project Site:	East-West Corri	<u>dor</u>			City/County:	City/County: Yakima/Yakima					<u>1-21-</u>		
Applicant/Owner:	Yakima County						State:	WA	Sampl	ng Point:	<u>TP-2</u> wet)	<u>14 (V</u>	<u>V -</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associ	ates		Section, Tow	/nship, Range	e: <u>S7, T</u> 1	3N, R19E					
Landform (hillslope,	terrace, etc.): flo	odplain_		Loca	al relief (conca	ave, convex, r	none): <u>n</u>	one		Slo	pe (%)	<u>0</u>	
Subregion (LRR)	: <u>B</u>		Lat:	<u>46.622146</u>		Long: <u>-120</u>).492036		[Datum: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channel	ed					NWI classifi	cation:	PFO1A			
Are climatic / hyd	drologic conditions	s on the site typi	cal for	this time of year?	Yes 🛛	No 🗌	(lf no, e	explain in Ren	narks.)				
Are Vegetation	Soil □,	or Hydrology		significantly disturbed?	Are "No	ormal Circums	stances"	present?		Yes	\boxtimes	No	
Are Vegetation	Soil □,	or Hydrology	🗆 r	naturally problematic?	(If need	led, explain a	ny answe	ers in Remark	s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes	\boxtimes	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks:							

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1. <u>Populus balsamifera</u>	80	yes	FAC	Number of Dominant Species		(A)
2				That Are OBL, FACW, or FAC: [▲]		(/ ()
3				Total Number of Dominant		(B)
4				Species Across All Strata:		(D)
50% =, 20% =	<u>80</u>	= Total Cove	er	Percent of Dominant Species	0	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:	<u> </u>	(/////)
1. <u>Salix exigua</u>	<u>20</u>	<u>yes</u>	FACW	Prevalence Index worksheet:		
2. <u>Rosa woodsii</u>	<u>70</u>	<u>yes</u>	FACU	Total % Cover of : M	lultiply by:	
3				OBL species x1	1 =	
4				FACW species x2	2 =	
5				FAC species x3	3 =	
50% = <u>45</u> , 20% = <u>18</u>	<u>90</u>	= Total Cove	er	FACU species x4	4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5	5 =	
1. <u>Phalaris arundinacea</u>	<u>5</u>	<u>yes</u>	FACW	Column Totals: (A)	(P	3)
2. <u>Euthamia occidentalis</u>	<u>5</u>	<u>yes</u>	FACW	Prevalence Index = B/A =		
3				Hydrophytic Vegetation Indicators:		
4				Dominance Test is >50%		
5				Prevalence Index is <3.0 ¹		
6				Morphological Adaptations ¹ (Provide	supporting	
7				data in Remarks or on a separate she	ieet)	
8				Problematic Hydrophytic Vegetation ¹	¹ (Explain)	
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cove	er	4		
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				Indicators of hydric soil and wetland hydrology n be present, unless disturbed or problematic.	must	
1						
2				Hydrophytic		
50% =, 20% =		= Total Cove	er	Vegetation Yes	🛛 No	
% Bare Ground in Herb Stratum 50	% Cover	of Biotic Crust		Present?		
Remarks:						

US Army Corps of Engineers
SOIL	OIL Sampling Point: TP-214 (W - wet)																
Profil	e Descri	ption: (Descri	ibe to th	e depth	need	ed to d	ocumer	t the indicat	or or conf	irm the abs	sence of	indicat	tors.)				
De	epth	Matr	rix					Redox Fea	tures								
<u>(inc</u>	hes)	<u>Color (moist</u>	<u>t)</u>	%	Co	lor (Mo	<u>st)</u>	<u>%</u>	<u>Type¹</u>	Loc	2	Textu	<u>re R</u>	emarks			
<u>0</u>	-9	<u>10 YR 4/2</u>		<u>98</u>	<u> </u>	5YR 3/6	<u>i</u>	<u>2</u>	<u>C</u>	M		<u>si sar</u>	<u>nd</u>				
<u>9</u> -	·16	<u>10 YR 4/2</u>		<u>99</u>	4	5YR 5/8	<u>.</u>	<u>1</u>	<u>C</u>	PL		<u>si sar</u>	<u></u>				
			-								_						
			-								_						
			-								_						
			-								_						
¹ Type	: C= Con	centration, D=	Depletio	n, RM=l	Reduc	ed Matr	ix, CS=0	Covered or Co	pated Sand	d Grains.	² Locatior	: PL=P	ore Lining, M=	Matrix.			
Hydri	c Soil In	dicators: (App	olicable	to all L	RRs, ι	unless o	otherwis	se noted.)				Indi	icators for Pro	oblematic	Hydric	Soils ³ :	
	Histosol	(A1)					Sandy	Redox (S5)					1 cm Muck	(A9) (LRF	R C)		
	Histic Ep	oipedon (A2)					Strippe	ed Matrix (S6)				2 cm Muck	(A10) (LR	RR B)		
	Black Hi	stic (A3)					Loamy	/ Mucky Mine	ral (F1)				Reduced V	ertic (F18)		
Hydrogen Sulfide (A4) Loamy Gleyed Matri													Red Paren	t Material	(TF2)		
	Stratified	l Layers (A5) (l	LRR C)			\boxtimes	Deplet	ed Matrix (F3	5)				Other (Exp	lain in Rer	narks)		
	1 cm Mu	ick (A9) (LRR I	D)				Redox	Dark Surface	e (F6)								
	Depleted	d Below Dark S	Surface (A11)			Deplet	ed Dark Surf	ace (F7)								
	Thick Da	ark Surface (A1	12)				Redox	Depressions	; (F8)				³ Indicators	of hydroph	nvtic vea	etation a	nd
	Sandy M	lucky Mineral ((S1)				Vernal	Pools (F9)					wetland I	hydrology	must be	present,	
	Sandy G	leyed Matrix (S4)										unless	disturbed	or proble	ematic.	
Restr	ictive La	yer (if presen	t):														
Type:																	
Depth	(Inches)):								Hydric S	oils Pres	ent?		Yes	\boxtimes	No	
Rema	rks:																
HYDR																	
wetta	na nyar		ors:	i								0					
Prima	ry indica		or one r	equirea	; cneck		appiy)	(544)				Seco	ndary indicator		ore requi	rea)	
	Surface	water (A1)					Salt C						water Marks ((B1) (RIVE	rine)		
	High Wa	ater Table (A2)					BIOTIC	Crust (B12)					Sediment Dep	osits (B2)	(Riverin	ie)	
	Saturati	on (A3)					Aquati	c Invertebrate	es (B13)				Drift Deposits	(B3) (Rive	erine)		
U Water Marks (B1) (Nonriverine) U Hydrogen Sulfide Odor (C								dor (C1)		()		Drainage Patt	erns (B10))			
Sediment Deposits (B2) (Nonriverine) UXIdized Rhizospheres and Rhizospher								eres along	Living Root	s (C3)		Dry-Season W	ater Table	e (C2)			
	Drift De	posits (B3) (No	onriverir	ıe)			Preser	nce of Reduc	ed Iron (C4	-)			Crayfish Burro	ows (C8)			
	Surface	Soil Cracks (B	36)				Recen	t Iron Reduct	ion in Tille	d Soils (C6)			Saturation Vis	ible on Ae	rial Imag	ery (C9)	
	Inundati	on Visible on A	Aerial Im	agery (E	37)		Thin M	luck Surface	(C7)				Shallow Aquita	ard (D3)			
	Water-S	stained Leaves	(B9)				Other	(Explain in Re	emarks)		1		FAC-Neutral 1	est (D5)			
Field	Tield Observations:																
Surfac	ce Water	Present?	Yes		No		De	epth (inches):	: <u> </u>								
Water	Surface water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):																

Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Depth (inches):

No

Yes

Remarks: US Army Corps of Engineers

Arid West - Version 2.0

Yes

 \boxtimes

No

Wetland Hydrology Present?

	roject Site:	East-	West	Corric
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Project Site:	East-West Corri	<u>dor</u>			City/County:	<u>Yakima/Ya</u>	<u>kima</u>	Sam	pling Date:	<u>1-21-</u>	19	
Applicant/Owner:	Yakima County						State: <u>W</u>	<u>/A</u> Samp	ling Point:	<u>TP-2</u> up)	<u>13 (V</u>	<u>V -</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associ	ates		Section, Tow	/nship, Rang	e: <u>S7, T13</u>	<u>N, R19E</u>				
Landform (hillslope,	terrace, etc.): flo	odplain_		Lo	cal relief (conca	ave, convex,	none): <u>nor</u>	ne	Slo	pe (%):	: <u>0</u>	
Subregion (LRR)	: <u>B</u>		Lat:	<u>46.6220126</u>		Long: <u>-12</u>	0.4920930		Datum: <u>I</u>	NAD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channel	ed					NWI classification:	PF01A			
Are climatic / hyd	drologic conditions	s on the site typi	cal for t	his time of year?	Yes 🛛	No 🗌	(If no, ex	plain in Remarks.)				
Are Vegetation	Soil □,	or Hydrology	🗆 s	ignificantly disturbed	d? Are "No	ormal Circum	stances" pr	esent?	Yes	\boxtimes	No	
Are Vegetation	Soil □,	or Hydrology	🗆 n	aturally problematic	? (If need	ded, explain a	any answers	s in Remarks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Wetland Hydrology Present?	Yes		No	\boxtimes			
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖾
Hydrophytic Vegetation Present?	Yes	\boxtimes	No				

Remarks:

Tree Stratum (Plot size:30 ' r)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
<u>nee otratum</u> (not size. <u>so n</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance rest worksheet.			
Populus balsamifera	<u>30</u>	<u>yes</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3				Total Number of Dominant	<u>4</u>		(B)
4				opecies Across Air Strata.			
50% =, 20% =	<u>30</u>	= Total Cov	er	Percent of Dominant Species	<u>50</u>		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				mat Are OBL, I AGW, OF I AC.			
1. <u>Rosa woodsii</u>	<u>100</u>	<u>ves</u>	FACU	Prevalence Index worksheet:			
2				<u>Total % Cover of :</u>	Multiply	by:	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% =, 20% =	<u>100</u>	= Total Cov	er	FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species	x5 =		
1. <u>Conium maculatum</u>	<u>80</u>	<u>yes</u>	FACW	Column Totals: (A)			(B)
2. <u>Phalaris arundinacea</u>	<u>2</u>	<u>no</u>	FACW	Prevalence Index = B	/A =		
3. <u>Bromus tectorum</u>	<u>15</u>	<u>yes</u>	NL (UPL)	Hydrophytic Vegetation Indicators:			
4				Dominance Test is >50%			
5				Prevalence Index is $\leq 3.0^1$			
6				Morphological Adaptations ¹ (I	Provide suppo arate sheet)	orting	
8				Problematic Hydrophytic Veg	etation ¹ (Expl	ain)	
50% = <u>48.5,</u> 20% = <u>19.4</u>	<u>97</u>	= Total Cov	er				
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				¹ Indicators of hydric soil and wetland hyd be present, unless disturbed or problema	rology must itic.		
1							
2				Hydrophytic			
50% =, 20% =		= Total Cov	er	Vegetation Yes	s 🛛	No	
% Para Cround in Harb Stratum 10	% Cover	of Biotic Crus	+	Present?			

US Army Corps of Engineers

SOIL											s	Sampling	Point:	<u>TP-21</u>	<u>3 (W - i</u>	<u>(qr</u>	
Profile Desc	ription: (Descril	be to th	ne depth	n neede	ed to d	ocument the indica	tor or confi	rm the abs	ence of	indicat	ors.)						
Depth	Matri	ix				Redox Fea	atures										
(inches)	Color (moist)	<u>)</u>	<u>%</u>	Co	or (Mo	<u>ist) %</u>	Type ¹	Loc ²		Textu	e	Rem	<u>arks</u>				
<u>0-20</u>	<u>10YR 3/3</u>		<u>100</u>						_	<u>sa si lo</u>	<u>am</u>						
		_							_								
		-							_								
		-							_								
		_							_								
		_							_								
¹ Type: C= Co	oncentration, D=[Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or C	oated Sand	Grains. 2	Locatior	n: PL=Po	ore Lining,	M=Mat	rix.				
Hydric Soil	Indicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indi	cators for	r Proble	matic	Hydric S	Soils ³ :		
Histos	ol (A1)					Sandy Redox (S5)					1 cm N	luck (A	9) (LRR	(C)			
Histic I	Epipedon (A2)					Stripped Matrix (S6	i)				2 cm N	/luck (A	10) (LR	R B)			
Black I	Histic (A3)					Loamy Mucky Mine	eral (F1)				Reduce	ed Verti	c (F18)				
Hydrog	gen Sulfide (A4)					Loamy Gleyed Mat	rix (F2)				Red Pa	arent Ma	aterial (TF2)			
Stratifi	ed Layers (A5) (L	RR C)				Depleted Matrix (F	3)				Other ((Explain	in Ren	narks)			
□ 1 cm N	/luck (A9) (LRR D	D)				Redox Dark Surfac	e (F6)										
Deplet	ed Below Dark S	urface ((A11)			Depleted Dark Sur	ace (F7)										
Thick [Dark Surface (A1	2)				Redox Depression	s (F8)				³ Indicat	tors of h	ydroph	ytic vege	etation	and	
Sandy	Mucky Mineral (S	S1)				Vernal Pools (F9)					wetla	and hyd	rology i	nust be	presen	t,	
Sandy	Gleyed Matrix (S	54)					r				unl	less dis	urbed of	or proble	matic.		
Restrictive I	Layer (if present	:):															
Туре:														_		_	_
Depth (Inche	es):							Hydric So	oils Pres	sent?			Yes		No	\ge	3
Remarks:																	
HYDROLOG	iΥ																
Wetland Hy	drology Indicato	ors:															
Primary Indic	cators (minimum	of one r	equired	; check	all tha	t apply)				Secor	ndary Indio	cators (2	2 or mo	re requir	ed)		
Surfac	e Water (A1)					Salt Crust (B11)					Water Ma	rks (B1)	(River	ine)			
🔲 High V	Vater Table (A2)					Biotic Crust (B12)					Sediment	Deposi	is (B2)	(Riverin	e)		
Satura	ation (A3)					Aquatic Invertebrat	es (B13)				Drift Depo	osits (B3) (Rive	rine)			
Water	Marks (B1) (Nor	nriverin	ie)			Hydrogen Sulfide (Odor (C1)				Drainage	Pattern	s (B10)				
Sedim	ent Deposits (B2) (Noni	riverine)		Oxidized Rhizosph	eres along l	_iving Roots	s (C3)		Dry-Seaso	on Wate	r Table	e (C2)			
Drift D	eposits (B3) (No	nriveri	ne)			Presence of Reduc	ed Iron (C4)			Crayfish E	Burrows	(C8)				
Surfac	ce Soil Cracks (B	6)				Recent Iron Reduc	tion in Tilled	l Soils (C6)			Saturatior	n Visible	on Aer	ial Imag	ery (CS))	
🔲 Inunda	ation Visible on A	erial Im	nagery (E	37)		Thin Muck Surface	(C7)				Shallow A	quitard	(D3)				
□ Water	-Stained Leaves	(B9)				Other (Explain in R	emarks)				FAC-Neut	tral Test	(D5)				
Field Obser	vations:																
Surface Wate	er Present?	Yes		No		Depth (inches)):										
Water Table	Present?	Yes		No		Depth (inches)):										
Saturation Pr (includes cap	resent? billary fringe)	Yes		No		Depth (inches)			Wetla	nd Hydr	ology Pre	esent?		Yes		No	
Describe Re	corded Data (stre	am gau	uge, mor	nitoring	well, a	erial photos, previou	s inspection	s), if availal	ble:								

Project Site:	East-West Corrie	<u>dor</u>			City/Cou	nty: <u>Yakim</u>	na/Yaki	ma	Sampli	ing Date:	<u>1-21-</u>	19	
Applicant/Owner:	<u>Yakima County</u>							State: <u>WA</u>	Sampli	ng Point:	<u>TP-2′</u> wet)	<u>16 (X</u>	<u>(-</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associa	ates		Section,	Fownship, F	Range	<u>S17, T13N, R 19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain		L	ocal relief (co	oncave, cor	ivex, n	one): <u>none</u>		Slo	pe (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>		Lat	: <u>46.6105826</u>		Long:	<u>-120</u>	<u>4866676</u>	D	atum: <u>N</u>	AD83		
Soil Map Unit Name	: Weirman sand	/ loam, channele	ed .					NWI classif	ication:	PFO1A			
Are climatic / hyd	drologic conditions	s on the site typic	cal for	this time of year?	Yes 🛛	No		(If no, explain in Ren	narks.)				
Are Vegetation D,	Soil □,	or Hydrology		significantly disturbe	ed? Are	"Normal Ci	rcums	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	· ۵	naturally problemati	c? (lfn	eeded, exp	lain ar	y answers in Remark	s.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No										
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes	\boxtimes	No					
Wetland Hydrology Present?	Yes	\boxtimes	No										
Remarks: Cobble encounted at 9 inch depth. Entisols in floodplain naturally problematic.													

Remarks: Cobble encounted at 9 inch depth. Entisols in floodplain naturally problematic.

<u> Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:		
1. <u>Populus balsamifera</u>	<u>50</u>	yes	FAC	Number of Dominant Species	4	(A)
2. <u>Acer saccharinum</u>	<u>10</u>	<u>no</u>	FAC	That Are OBL, FACW, or FAC:	<u> </u>	(,,)
3				Total Number of Dominant	6	(B)
4				Species Across All Strata:	<u>.</u>	(2)
50% = <u>30</u> , 20% = <u>12</u>	<u>60</u>	= Total Cov	er	Percent of Dominant Species	66	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:		()
I. <u>Rosa woodsii</u>	<u>30</u>	<u>yes</u>	FACU	Prevalence Index worksheet:		
2				<u>Total % Cover of :</u>	Multiply by:	
3				OBL species	x1 =	
ł				FACW species	x2 =	
5				FAC species	x3 =	
50% =, 20% =	<u>30</u>	= Total Cov	er	FACU species	x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species	x5 =	
. <u>Sonchus arvensis</u>	<u>10</u>	<u>ves</u>	FACU	Column Totals: (A)		(B)
2. <u>Phalaris arundinacea</u>	<u>5</u>	<u>yes</u>	FACW	Prevalence Index = B/A	. =	
3. <u>Euthamia occidentalis</u>	<u>5</u>	<u>yes</u>	FACW	Hydrophytic Vegetation Indicators:		
. <u>Cirsium arvense</u>	<u>5</u>	yes	FAC	Dominance Test is >50%		
5. <u> </u>				Prevalence Index is $\leq 3.0^1$		
)				Morphological Adaptations ¹ (P	rovide supporting	1
,				data in Remarks or on a separ	ate sheet)	
3				Problematic Hydrophytic Vege	tation ¹ (Explain)	
50% = <u>12.5,</u> 20% = <u>5</u>	<u>25</u>	= Total Cov	er			
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)				¹ Indicators of hydric soil and wetland hydro	ology must	
1				be present, unless disturbed of problemati	0.	
2				Under she die		
50% =, 20% =		= Total Cover		Vegetation Yes	🛛 N	lo 🗆
% Bare Ground in Herb Stratum 50	% Cover	of Biotic Crus	t	Present?		

US Army Corps of Engineers

SOIL												Samplir	ng Point:	: <u>TP-21</u>	<u>6 (X -v</u>	<u>vet)</u>	
Profile Desc	cription: (Describ	e to th	e depth	neede	ed to d	ocument the indica	tor or conf	irm the abs	ence of	findica	tors.)						
Depth	Matrix	x				Redox Fea	atures										
(inches)	<u>Color (moist)</u>		<u>%</u>	<u>Col</u>	or <u>(Mo</u>	<u>ist) %</u>	Type ¹	Loc ²		Textu	re	Ren	<u>narks</u>				
<u>0-9</u>	<u>10 YR 3/3</u>		100						_	<u>sandy r</u>	ocky _						
<u>9+</u>		_							_	cobble	rock u	inable to	o dig pas	st			
		_							_								
		_							_								
		_							_								
									_								
¹ Type: C= Ce	oncentration, D=D	epletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or C	Coated Sand	d Grains. ²	Locatio	n: PL=P	ore Linin	g, M=Ma	atrix.				
Hydric Soil	Indicators: (Appl	icable	to all L	RRs, u	nless	otherwise noted.)				Ind	icators f	or Prob	lematic	Hydric \$	Soils ³ :		
Histos	ol (A1)					Sandy Redox (S5)					1 cm	Muck (A	49) (LRF	RC)			
Histic I	Epipedon (A2)					Stripped Matrix (Se	6)				2 cm	Muck (A	(LR	RB)			
Black	Histic (A3)					Loamy Mucky Mine	eral (F1)				Redu	ced Ver	tic (F18))			
Hydro	gen Sulfide (A4)					Loamy Gleyed Mat	trix (F2)				Red I	Parent N	laterial ((TF2)			
Stratifi	ied Layers (A5) (L	RR C)				Depleted Matrix (F	3)			\boxtimes	Othe	r (Explai	n in Ren	narks)			
□ 1 cm N	Muck (A9) (LRR D)				Redox Dark Surfac	ce (F6)										
Deplet	ted Below Dark Su	urface (A11)			Depleted Dark Sur	face (F7)										
Thick I	Dark Surface (A12	2)				Redox Depression	s (F8)				³ Indic	ators of	hydroph	ytic veg	etation	and	
Sandy	Mucky Mineral (S	51)				Vernal Pools (F9)					we	tland hy	drology	must be	preser	t,	
Sandy	Gleyed Matrix (Se	4)									u	nless di	sturbed	or proble	ematic.		
Restrictive I	Layer (if present)):															
Type:																	
Depth (Inche	es):							Hydric So	oils Pre	sent?			Yes		No	\triangleright	3
Remarks:	Cobble encounte	ered at	9 inch c	Jepth. S	Soils fre	equent to erosion, de	postition, flo	ooding maki	ng them	n natural	ly proble	matic.					
	Υ.																
Wetland Hv	drology Indicator	rs:															
Primary India	cators (minimum c	of one r	equired	; check	all tha	t apply)				Seco	ndary Inc	licators	(2 or mo	re requir	ed)		
Surfac	ce Water (A1)			-		Salt Crust (B11)					Water M	larks (B1) (Rive i	rine)	,		
High V	Water Table (A2)					Biotic Crust (B12)					Sedimer	nt Depos	sits (B2)	(Riverin	e)		
□ Satura	ation (A3)				Π	Aquatic Invertebra	tes (B13)				Drift Der	, bosits (B	3) (Rive	erine)	- /		
 □ Water	r Marks (B1) (Non	riverin	e)			, Hvdrogen Sulfide (Ddor (C1)				Drainag	e Patterr	ns (B10)				
☐ Sedim	nent Deposits (B2)	(Nonr	-, iverine))	П	Oxidized Rhizosph	eres along	Livina Roots	s (C3)		Drv-Sea	son Wat	ter Table	e (C2)			
Drift D	Deposits (B3) (Nor	riverir	ne)			Presence of Reduc	ced Iron (C4	-) -)	()		Cravfish	Burrow	s (C8)	(-)			
 □ Surfac	ce Soil Cracks (B6	5)	-,		Π	Recent Iron Reduc	tion in Tilled	, d Soils (C6)			Saturatio	on Visibl	e on Ae	rial Imao	erv (C	9)	
	ation Visible on A	erial Im	aderv (E	B7)	Π	Thin Muck Surface	(C7)				Shallow	Aquitaro	d (D3)			- /	
✓ Water	r-Stained Leaves (B9)	5.7(-	,		Other (Explain in F	(emarks)				FAC-Ne	utral Tes	st (D5)				
Field Obser	vations:	- /				、	,						/				
Surface Wat	er Present?	Yes	П	No	П	Depth (inches):										
Water Table	Present?	Yes		No		Depth (inches)):										
Saturation P	resent?				-		,. <u> </u>		147.01		-			V			_
(includes cap	pillary fringe)	Yes		NO		Depth (inches):		vvetia	na Hyd	rology P	resent?		res	لكا	NO	
Describe Re	corded Data (strea	am gau	ge, mor	nitoring	well, a	ierial photos, previou	s inspectior	ns), it availat	ole:								

Project Site: East-West Corridor					City/County	: <u>Yakima/Yakima</u>	Sampling Date:	<u>1-21-1</u>	9	
Applicant/Owner: <u>Yakima County</u>						State: <u>WA</u>	Sampling Point:	TP-21	5 (X	- up)
Investigator(s): <u>Teddi McFall, Widener & Associa</u>	tes				Section, To	wnship, Range: <u>S17, T13N, R19E</u>				
Landform (hillslope, terrace, etc.): <u>floodplain</u>				Loc	al relief (con	cave, convex, none): <u>none</u>	Slo	pe (%):	<u>5</u>	
Subregion (LRR): <u>B</u>	Lat: 4	16.61	066			Long: <u>-120.486517</u>	Datum: I	VAD83		
Soil Map Unit Name: Weirman sandy loam, channele	d					NWI classif	ication: PFO1A			
Are climatic / hydrologic conditions on the site typic	al for this	s time	e of ye	ar?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)			
Are Vegetation □, Soil □, or Hydrology	🗌 sigi	nifica	ntly dis	sturbed	? Are "N	lormal Circumstances" present?	Yes		No	
Are Vegetation □, Soil ⊠, or Hydrology	nat	urally	proble	ematic?	(If nee	ded, explain any answers in Remark	.s.)			
SUMMARY OF FINDINGS – Attach site man sh	owing	sam	nlina	noint	locations	transects important features	etc			
Hydrophytic Vegetation Present?	Yes		No			,,,,				
Hydric Soil Present?	Yes		No		Is the Sam	oled Area within a Wetland?	Yes		No	
Wetland Hydrology Present?	Yes		No					_		_
Remarks:										
VEGETATION – Use scientific names of plants.										
Tree Stratum (Plot size:30 ' r)	Absolut	te	Domi	nant	Indicator	Dominance Test Worksheet:				
1 Populus balsamifera	<u>% Cove</u> 20	<u>er</u>	<u>Speci</u> ves	<u>es :</u>	<u>Status</u> FAC	Number of Dominant Species				
2.			100			That Are OBL, FACW, or FAC:	<u>2</u>			(A)
3.						Total Number of Dominant				
4.						Species Across All Strata:	<u>5</u>			(B)
50% = 10,20% = 4	20		= Tota	al Cove	r	Porcent of Dominant Species				
						That Are OBL, FACW, or FAC:	<u>40</u>			(A/B)
1.						Prevalence Index worksheet:				
2.						Total % Cover of :	Multip	oly by:		
3.						OBL species	x1 =		_	
4						FACW species	x2 =		_	
5						FAC species <u>31</u>	x3 =	<u>93</u>		
50% =, 20% =			= Tota	al Cove	r	FACU species 5	x4 =	<u>20</u>		
Herb Stratum (Plot size:5 ' r)						UPL species 15	x5 =	75		
1. Bromus tectorum	10		ves		NL (UPL)	Column Totals: 51 (A)		188 ((B)	
2 Rumex crispus	1		<u>no</u>		FAC		ex = B/A = 3.69	<u></u> ,	(-)	
3 Brassica rapa	<u>-</u> 5		ves		FACU	Hydrophytic Vegetation Indicato	rs:			
4 Centaurea sp	<u>~</u> 5		ves		NI (UPL)	\square Dominance Test is >50	%			
5	<u>v</u>		<u>700</u>				01			
6						Prevalence index is <3	.0.			
7						data in Remarks or on a	ons' (Provide sup a separate sheet)	porting		
··							· · · · · · · · · · · · · · · · · · ·			
0						Problematic Hydrophyti	c Vegetation' (Ex	plain)		
$50\% = \frac{10.5}{20\%} = \frac{4.2}{20\%}$	<u>21</u>		= Iota	al Cove	r	¹ Indicators of hydric soil and wetlar	nd hydrology mus	t		
Woody vine Stratum (Plot size: <u>5 r)</u>	10				FAO	be present, unless disturbed or pro	blematic.			
1. <u>Rubus armeniacus</u>	<u>10</u>		<u>yes</u>		FAC					
2	40					Hydrophytic	Vas 🗆	No		
50% = 5, 20% = 2	<u>10</u>		= Tota	al Cove	ſ	vegetation Present?	····	NU		к.Ч
% Bare Ground in Herb Stratum 60	% Co	over o	or Bioti	c Crust						
Demonstration										

US Army Corps of Engineers

SOIL												Samplir	ng Point:	TP-21	<u>5 (X - u</u>	<u>p)</u>	
Profile	Description: (Descri	be to th	ne deptl	n neede	ed to d	ocument	the indica	tor or conf	irm the abs	sence of	indica	tors.)					
Dep	oth Matr	ix					Redox Fea	atures									
<u>(inch</u>	es) <u>Color (moist</u>)	<u>%</u>	Co	<u>lor (Mo</u>	<u>ist)</u>	<u>%</u>	Type ¹	Loc	2	<u>Textu</u>	<u>re</u> <u>Rem</u>	<u>narks</u>				
<u>0+</u>	<u> </u>	_								_	<u>cobb</u>	e <u>Floodplai</u>	n river co	obble to	surface	<u>.</u>	
		_								_							
		-								_							
		-								_							
		-								_							
		_								_							
¹ Type:	C= Concentration, D=I	Depletic	on, RM=	Reduce	ed Matr	ix, CS=C	overed or C	Coated Sand	d Grains. 🤇	² Locatior	n: PL=P	ore Lining, M=Ma	trix.				
Hydric	Soil Indicators: (App	licable	to all L	.RRs, u	nless	otherwis	e noted.)				Ind	icators for Probl	ematic H	Hydric S	oils ³ :		
	Histosol (A1)					Sandy	Redox (S5)	_ \				1 cm Muck (A	.9) (LRR	C)			
	Histic Epipedon (A2)					Strippe	d Matrix (Se	6)				2 cm Muck (A	10) (LRF	₹В)			
	Black Histic (A3)					Loamy	Mucky Min	eral (F1)				Reduced Vert	ic (F18)				
	Hydrogen Sulfide (A4)					Loamy	Gleyed Ma	trix (F2)				Red Parent M	laterial (1	ΓF2)			
	Stratified Layers (A5) (I	RR C)				Deplete	ed Matrix (F	3)				Other (Explair	n in Rem	arks)			
	cm Muck (A9) (LRR I))				Redox	Dark Surfac	ce (F6)									
	Depleted Below Dark S	urface ((A11)			Deplete	ed Dark Sur	face (F7)									
г	Thick Dark Surface (A1	2)				Redox	Depression	s (F8)				³ Indicators of I	hydrophy	ytic vege	tation a	and	
	Sandy Mucky Mineral (S1)				Vernal	Pools (F9)					wetland hyd	drology m	nust be p	oresent	,	
	Sandy Gleyed Matrix (S	64)							•			unless dis	sturbed o	or proble	matic.		
Restric	ctive Layer (if present	t):															
Type:																	
Depth ((Inches):								Hydric Se	oils Pres	sent?		Yes		No	\boxtimes	
Remar	ks: Cobble to surfa	ce, una	ble to sa	ample b	eneath	n. thin sar	dy layer ov	er cobble in	areas.								
HYDRO																	
Wetlan	d Hydrology Indicato	ors:															
Primary	y Indicators (minimum	of one r	required	; check	all tha	t apply)					Seco	ndary Indicators (2 or mor	e require	ed)		
	Surface Water (A1)					Salt Cr	ust (B11)					Water Marks (B1) (Riveri	ine)	,		
	High Water Table (A2)					Biotic C	rust (B12)					Sediment Depos	its (B2) (Riverin	e)		
	Saturation (A3)					Aquatio	Invertebra	tes (B13)				Drift Deposits (B	3) (River	rine)	,		
	Water Marks (B1) (Nor	nriverin	ie)		П	Hvdroa	en Sulfide (Odor (C1)				Drainage Pattern	is (B10)	,			
	Sediment Deposits (B2) (Noni	riverine)		Oxidize	d Rhizosph	eres along	Livina Root	s (C3)		Drv-Season Wat	er Table	(C2)			
	Drift Deposits (B3) (No	nriveri	ne)	,	П	Presen	ce of Redu	ced Iron (C4	1)	- ()	П	Cravfish Burrows	s (C8)	()			
	Surface Soil Cracks (B	6)	,			Recent	Iron Reduc	tion in Tille	, d Soils (C6)			Saturation Visible	e on Aeri	ial Image	erv (C9)	
	Inundation Visible on A	erial Im	nagerv (B7)		Thin M	uck Surface	e (C7)	(00)			Shallow Aguitard	(D3)		, (00	,	
	Water-Stained Leaves	(B9)		2.)	П	Other (Explain in F	Remarks)				FAC-Neutral Tes	t (D5)				
Field C	Observations:	()			<u> </u>								()				
Surface	e Water Present?	Yes		No		De	pth (inches):									
Water	Table Present?	Yes		No		De	pth (inches):									
Saturat (include	tion Present? es capillary fringe)	Yes		No		De	pth (inches):		Wetla	nd Hyd	rology Present?		Yes		No	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: US Army Corps of Engineers

Project Site:	East-West Corrie	<u>dor</u>		City/County:	Yakima/Yaki	ima	Samplir	ig Date:	<u>1-21-</u>	<u>19</u>	
Applicant/Owner:	Yakima County					State: <u>WA</u>	Samplin	g Point:	<u>TP-22</u> wet)	<u>17 (Y -</u>	:
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associates		Section, Tow	nship, Range	<u>S17, T13N, R19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain_	Lo	cal relief (conca	ive, convex, n	one): <u>none</u>		Slop	e (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>	La	at: <u>46.6098371</u>		Long: <u>-120.</u>	4856819	Da	atum: <u>N</u>	AD83		
Soil Map Unit Name	: Weirman sand	y loam, channeled				NWI classif	fication: <u>F</u>	PFO1A			
Are climatic / hyd	drologic conditions	s on the site typical fo	or this time of year?	Yes 🛛	No 🗌	(If no, explain in Rer	marks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly disturbed	l? Are "No	rmal Circums	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	naturally problematic	? (If need	ed, explain ar	ny answers in Remark	(s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No					
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes	\boxtimes	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No					
Remarks: Soils naturally problematic entisols within ac	tive floo	dplain						

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u> 2	<u>90</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant Species 2 (A	A)
3.				Total Number of Dominant	
4				Species Across All Strata: <u>3</u>	B)
50% =, 20% =	<u>90</u>	= Total Cove	r	Percent of Dominant Species 60	A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)					,
1. <u>Rosa woodsii</u>	<u>20</u>	<u>ves</u>	FACU	Prevalence Index worksheet:	
2				Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% =, 20% =	<u>20</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>80</u>	<u>ves</u>	FACW	Column Totals: (A) (B)	
2. <u>Centaurea sp.</u>	<u>10</u>	<u>no</u>	NL (UPL)	Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				☑ Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6	<u> </u>			Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8	<u> </u>			Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>45</u> , 20% = <u>18</u>	<u>90</u>	= Total Cove	r		
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes 🛛 No	
% Bare Ground in Herb Stratum 20	% Cover	of Biotic Crust		Present?	
Remarks:					

US Army Corps of Engineers

SOIL														Samp	ling Point	: <u>TP-21</u>	7 (Y - w	<u>et)</u>	
Profil	e Descri	ption: (Descri	be to th	he depth	n neede	ed to d	ocument	t the indic	ator or conf	irm the abs	ence of	f indica	tors.)						
De	epth	Matr	rix					Redox F	eatures										
<u>(inc</u>	hes)	Color (moist	<u>t)</u>	<u>%</u>	Co	lor (Mo	<u>ist)</u>	<u>%</u>	Type ¹	Loc ²	-	Textu	<u>ire</u>	R	<u>emarks</u>				
<u>0</u>	-9	<u>10 YR 4/4</u>		<u>100</u>							_	<u>san</u>	<u>d</u>						
<u>9</u>	+		-								_	cobble	rock	unable	to dig de	eper			
			-								_								
			-								_								
			-								_								
			_								_								
¹ Type	: C= Cor	centration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=C	overed or	Coated Sand	d Grains. 2	Locatio	n: PL=F	ore Lin	ing, M=I	Matrix.				
Hydri	c Soil In	dicators: (App	olicable	to all L	RRs, u	nless	otherwis	e noted.)				Ind	licators	for Pro	blematic	Hydric	Soils ³ :		
	Histosol	(A1)					Sandy	Redox (St	5)				1 c	m Muck	(A9) (LR	RC)			
	Histic Ep	oipedon (A2)					Strippe	d Matrix (S	56)				2 c	m Muck	(A10) (LI	RR B)			
	Black Hi	stic (A3)					Loamy	Mucky Mi	neral (F1)				Re	duced V	ertic (F18	3)			
	Hydroge	en Sulfide (A4)					Loamy	Gleyed M	atrix (F2)				Re	d Parent	Material	(TF2)			
	Stratified	d Layers (A5) (I	LRR C)				Deplete	ed Matrix (F3)			\boxtimes	Oth	ner (Expl	ain in Re	marks)			
	1 cm Mu	ıck (A9) (LRR I	D)				Redox	Dark Surfa	ace (F6)										
	Deplete	d Below Dark S	Surface	(A11)			Deplete	ed Dark Su	urface (F7)										
	Thick Da	ark Surface (A1	12)				Redox	Depressio	ons (F8)				³ Inc	dicators of	of hydrop	hytic veg	etation	and	
	Sandy N	lucky Mineral (S1)				Vernal	Pools (F9))				v	vetland h	nydrology	must be	present	t,	
	Sandy G	Bleyed Matrix (S	S4)											unless	disturbed	or proble	ematic.		
Restr	ictive La	ayer (if presen	t):																
Type:																			
Depth	(Inches):								Hydric So	oils Pre	sent?			Yes		No	\boxtimes	
Rema	rks:	Cobble rock en	counter	red at 9 i	nch de	pth. Un	able to sa	ample furt	her. Naturally	problemati	c soil du	ie to loc	ation in	floodpla	ain.				
		,																	
Wetla	nd Hvdr	ology Indicate	ors:																
Prima	rv Indica	tors (minimum	ofone	reauired	: check	all tha	t apply)					Seco	ondarv I	ndicator	s (2 or m	ore reauii	ed)		
	Surface	Water (A1)			,		Salt Cri	ust (B11)					Water	Marks (B1) (Rive	erine))		
	High W	ater Table (A2)	1				Biotic C	Crust (B12)				Sedim	ent Dep	osits (B2) (Riverin	e)		
	Saturati	on (A3)				П	Aquatic	: Invertebr	, ates (B13)				Drift D	enosits	(B3) (Riv	erine)	,		
	Water N	/arks (B1) (No	nriverir	ne)			Hydrog	en Sulfide	Odor (C1)				Draina	age Patte	erns (B10))))			
	Sedime	nt Deposits (B2	2) (Non	riverine	`	п	Oxidize	d Rhizosr	bheres along	l iving Roots	s (C3)		Drv-Se	ason W	ater Tab) le (C2)			
	Drift De	nosits (B3) (Nc	nriveri	ne)	,		Presen	ce of Red	uced Iron (C4)			Cravfi	sh Burro	ws (C8)	(02)			
	Surface	Soil Cracks (B	(6)	,			Recent	Iron Redu	uction in Tiller	1 Soils (C6)			Satura	ation Visi	ble on Ar	erial Imag	erv (C9	0	
	Inundat	ion Visible on A	Aerial Im	nagery (l	B7)		Thin M	uck Surfac	ce (C7)				Shallo	w Aquita	ard (D3)	shar imag		')	
	Water-S	Stained Leaves	(BQ)	lagory (i	51)		Other (Explain in	Remarks)				EAC-N	Jeutral T	est (D5)				
Field	Observa	ations:	(20)				00101 (. ternanto)						23((20)				
Surfac	ce Water	Present?	Yes		No		De	oth (inche	s):										
Water	Table P	resent?	Yes		No		De	oth (inche	-/·										
Satura (includ	ation Pre	sent? lary fringe)	Yes		No		De	pth (inche	s):		Wetla	ind Hyd	irology	Presen	t?	Yes		No	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: US Army Corps of Engineers

Project Site: <u>East-West Corridor</u>					City/County	/: <u>Yakima/Yakima</u>	Sampling Date:	<u>1-21-19</u>	
Applicant/Owner: <u>Yakima County</u>						State: WA	Sampling Point:	<u>TP-218</u>	(Y - up)
Investigator(s): <u>Teddi McFall, Widener & Associa</u>	ites				Section, To	wnship, Range: <u>S17, T13N, R19</u>	<u>E</u>		
Landform (hillslope, terrace, etc.): floodplain				Loc	al relief (con	cave, convex, none): <u>none</u>	Slo	pe (%): <u>(</u>	<u>.</u>
Subregion (LRR): <u>B</u>	Lat:	46.60	98523			Long: <u>-120.4853751</u>	Datum: <u>I</u>	NAD83	
Soil Map Unit Name: <u>Water</u>						NWI clas	sification: PUS/SS	<u>1A</u>	
Are climatic / hydrologic conditions on the site typic	al for thi	is time	of yea	ar?	Yes 🛛	No 🔲 (If no, explain in F	Remarks.)		
Are Vegetation □, Soil □, or Hydrology	🗆 sig	nifica	ntly dis	turbed?	Are "N	Iormal Circumstances" present?	Yes	N N	
Are Vegetation 🔲, Soil 🖾, or Hydrology	🗆 nat	turally	proble	ematic?	(If nee	eded, explain any answers in Rem	arks.)		
SUMMARY OF FINDINGS – Attach site map sh	owing	sam	oling	point	locations,	transects, important feature	s, etc.		
Hydrophytic Vegetation Present?	Yes		No	\boxtimes					
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sam	pled Area within a Wetland?	Yes		\triangleright
Wetland Hydrology Present?	Yes	\boxtimes	No						
Remarks: Soils are entisols within the active floodplain	, therefo	ore fre	quente	ed to floo	ods, erosion,	deposition, etc. making them natu	rallly problematic.		
VEGETATION – Use scientific names of plants.									
<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolu % Cov	ite	Domin	nant es?	Indicator Status	Dominance Test Worksheet:			
1. Populus balsamifera	<u>70 000</u>		ves	<u>cs:</u>	FAC	Number of Dominant Species			
2.	—					That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3.						Total Number of Dominant			
4.						Species Across All Strata:	<u>5</u>		(B)
50% =, 20% =	5		= Tota	al Covei	r	Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size: <u>15 ' r</u>)						That Are OBL, FACW, or FAC:	<u>40</u>		(A/B)
1. <u>Salix exigua</u>	<u>2</u>		yes		FACW	Prevalence Index worksheet:			
2.						Total % Cover of :	Multip	ly by:	
3						OBL species	x1 =		
4						FACW species 2	x2 =	<u>4</u>	
						FAC species 5	x3 =	15	
5								<u></u>	
5 50% =, 20% =	2		= Tota	al Covei	r	FACU species	x4 =		
5 50% =, 20% = Herb Stratum (Plot size:5 ' r)	2		= Tota	al Covei	r	FACU species UPL species 9	x4 = x5 =	45	
5 50% =, 20% = <u>Herb Stratum</u> (Plot size: <u>5 ' r</u>) 1. <i>Centaurea sp.</i>	<u>2</u> 2		= Tota	al Covei	r NL (UPL)	FACU species UPL species <u>9</u> Column Totals: 16 (A)	x4 = x5 =	<u>45</u> 64 (B)	
5 50% =, 20% = <u>Herb Stratum</u> (Plot size: <u>5 ' r)</u> 1. <u>Centaurea sp.</u> 2. Bromus tectorum	<u>2</u> 2 5		= Tota	al Covei	r <u>NL (UPL)</u> NI (UPL)	FACU species UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence	x4 = x5 =	<u>45</u> 64 (B)	
 5 50% =, 20% = <u>Herb Stratum</u> (Plot size:5 ' r) 1. <u>Centaurea sp.</u> <u>Bromus tectorum</u> J. inaria dalmatica 	2 2 5 2		= Tota <u>yes</u> <u>yes</u> yes	al Covei	r <u>NL (UPL)</u> <u>NL (UPL)</u> UPI	FACU species <u>9</u> UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence	x4 = x5 = e Index = B/A = <u>4</u> tors:	<u>45</u> <u>64</u> (B)	
 5 50% =, 20% = <u>Herb Stratum</u> (Plot size:<u>5 ' r</u>) 1. <u>Centaurea sp.</u> <u>Bromus tectorum</u> 3. <u>Linaria dalmatica</u> 4 	2 2 5 2		= Tota <u>yes</u> <u>yes</u> <u>yes</u>	al Covei	n <u>NL (UPL)</u> <u>NL (UPL)</u> <u>UPL</u>	FACU species UPL species 9 Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica	x4 = x5 = e Index = B/A = <u>4</u> tors: 50%	<u>45</u> <u>64</u> (B)	
 5 50% =, 20% = <u>Herb Stratum</u> (Plot size:<u>5 ' r)</u> 1. <u>Centaurea sp.</u> 2. <u>Bromus tectorum</u> 3. <u>Linaria dalmatica</u> 4 5. 	2 2 5 2		= Tota <u>yes</u> <u>yes</u> <u>yes</u>	al Covei	n <u>NL (UPL)</u> <u>NL (UPL)</u> <u>UPL</u> 	FACU species UPL species 9 Column Totals: 16 (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is >	x4 = x5 = e Index = B/A = <u>4</u> tors: 50%	<u>45</u> <u>64</u> (B)	
5.	2 2 5 2 		= Tota <u>ves</u> <u>yes</u> <u>yes</u>	al Cover	n <u>NL (UPL)</u> <u>NL (UPL)</u> <u>UPL</u> 	FACU species 9 UPL species 9 Column Totals: 16 (A) Prevalence Hydrophytic Vegetation Indication Dominance Test is > Prevalence Index is	x4 = x5 = a Index = B/A = <u>4</u> tors: 50% $\leq 3.0^{1}$	<u>45</u> <u>64</u> (B)	
5.	2 2 5 2 		= Tota <u>yes</u> <u>yes</u> <u>yes</u>	al Cover	n <u>NL (UPL)</u> <u>NL (UPL)</u> <u>UPL</u> 	FACU species UPL species 9 Column Totals: 16 (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c	x4 = x5 = a Index = B/A = 4 tors: 50% $\leq 3.0^1$ $ations^1$ (Provide sup n a separate sheet)	<u>45</u> <u>64</u> (B)	
5.	2 2 5 2 		= Tota <u>yes</u> <u>yes</u> 	al Cover	r <u>NL (UPL)</u> <u>UPL</u> 	FACU species UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c	$x4 =$ $x5 =$ $b \text{ Index} = B/A = 4$ $tors:$ 50% $\leq 3.0^{1}$ $ations^{1} (Provide suppling a separate sheet)$	<u>45</u> <u>64</u> (B)	
5.	2 2 5 2 			al Cover	NL (UPL) NL (UPL) UPL 	FACU species 9 UPL species 9 Column Totals: 16 (A) Prevalence Hydrophytic Vegetation Indication Dominance Test is > Prevalence Index is Morphological Adaptidata in Remarks or control Problematic Hydroph	$x4 = x5 =$ a Index = B/A = <u>4</u> tors: 50% $\leq 3.0^{1}$ ations ¹ (Provide sup in a separate sheet) bytic Vegetation ¹ (Ex	<u>45</u> <u>64</u> (B) porting	
5.	2 5 2 		= Tota <u>yes</u> <u>yes</u> = Tota	al Cover	NL (UPL) NL (UPL) UPL 	FACU species <u>9</u> UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c Problematic Hydroph	x4 = x5 = e Index = B/A = <u>4</u> tors: 50% $\leq 3.0^{1}$ ations ¹ (Provide sup on a separate sheet) hytic Vegetation ¹ (Ex land hydrology mus	45 64 (B) porting	
5.	2 5 2 2 		= Tota <u>yes</u> <u>yes</u> = Tota	al Cover	NL (UPL) NL (UPL) UPL 	FACU species 9 UPL species 9 Column Totals: 16 (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or co Problematic Hydroph ¹ Indicators of hydric soil and wet be present, unless disturbed or p	x4 = x5 = $a \ln dex = B/A = 4$ tors: 50% $\leq 3.0^{1}$ $ations^{1}$ (Provide sup in a separate sheet) hytic Vegetation ¹ (Ex land hydrology must problematic.	45 64 (B) porting	
5 50% =, 20% = <u>Herb Stratum</u> (Plot size:5 ' r) 1. <u>Centaurea sp.</u> 2. <u>Bromus tectorum</u> 3. <u>Linaria dalmatica</u> 4 5 6 7 8 50% = 4.5 , 20% = 1.8 <u>Woody Vine Stratum</u> (Plot size:5 ' r) 1	2 5 2 2 9		 = Tota <u>ves</u> <u>ves</u> = Tota	al Cover	n <u>NL (UPL)</u> <u>NL (UPL)</u> <u>UPL</u> 	FACU species <u>9</u> UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is . Prevalence Index is . Prevalence Index is . Prevalence Index is . Problematic Hydroph ¹ Indicators of hydric soil and wef be present, unless disturbed or p	x4 = x5 = e Index = B/A = <u>4</u> tors: 50% $\leq 3.0^{1}$ ations ¹ (Provide sup in a separate sheet) hytic Vegetation ¹ (Ex land hydrology must problematic.	45 64 (B) porting plain)	
5 50% =, 20% = Herb Stratum (Plot size:5 ' r) 1. <u>Centaurea sp.</u> 2. <u>Bromus tectorum</u> 3. <u>Linaria dalmatica</u> 4 5 6 7 8 50% = 4.5 , 20% = 1.8 <u>Woody Vine Stratum</u> (Plot size:5 ' r) 1 2 50% = 00%	2 5 2 9			al Cover	NL (UPL) NL (UPL) UPL 	FACU species <u>9</u> UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c Problematic Hydroph ¹ Indicators of hydric soil and well be present, unless disturbed or p	x4 = x5 = e Index = B/A = <u>4</u> tors: 50% $\leq 3.0^{1}$ ations ¹ (Provide sup in a separate sheet) hytic Vegetation ¹ (Ex- land hydrology mus problematic.	 45 64 (B) porting plain)	
5 50% =, 20% = <u>Herb Stratum</u> (Plot size: <u>5 ' r</u>) 1. <u>Centaurea sp.</u> 2. <u>Bromus tectorum</u> 3. <u>Linaria dalmatica</u> 4 5 6 7 8 50% = 4.5 , 20% = 1.8 <u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>) 1 2 50% =, 20% =	2 5 2 		 <u>yes</u> <u>yes</u> = Tota	al Cover al Cover	r <u>NL (UPL)</u> <u>UPL</u> <u>UPL</u> <u>UPL</u> <u>UPL</u> <u>UPL</u>	FACU species UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c Problematic Hydroph ¹ Indicators of hydric soil and wet be present, unless disturbed or p Hydrophytic Vegetation Present?	$x4 = x5 =$ $e \text{ Index} = B/A = 4$ $tors:$ 50% $\leq 3.0^{1}$ ations ¹ (Provide sup on a separate sheet) hytic Vegetation ¹ (Ex- land hydrology must problematic.	<u>45</u> <u>64</u> (B) porting plain)	
5.	2 5 2 2 	over c	 yes yes = Tota = Tota	al Cover al Cover al Cover c Crust	NL (UPL) NL (UPL) UPL	FACU species <u>9</u> UPL species <u>9</u> Column Totals: <u>16</u> (A) Prevalence Hydrophytic Vegetation Indica Dominance Test is > Prevalence Index is Morphological Adapt data in Remarks or c Problematic Hydroph ¹ Indicators of hydric soil and wet be present, unless disturbed or p Hydrophytic Vegetation Present?	x4 = x5 = e Index = B/A = <u>4</u> tors: 50% ≤3.0 ¹ ations ¹ (Provide sup on a separate sheet) hytic Vegetation ¹ (Ex land hydrology must problematic. Yes □	45 64 (B) porting plain)	

US Army Corps of Engineers

SOIL													Samplii	ng Point	t: <u>TP-21</u>	<u>8 (Y - u</u>	<u>(qı</u>	
Profile Desc	ription: (Describ	oe to tł	he depth	n neede	ed to d	ocument	the indica	tor or conf	firm the abs	sence of	indica	ors.)						
Depth	Matriz	х					Redox Fe	atures										
(inches)	<u>Color (moist)</u>		<u>%</u>	Co	lor <u>(</u> Mo	<u>ist)</u>	<u>%</u>	Type ¹	Loc ²	2	<u>Textu</u>	re	Rem	<u>narks</u>				
<u>0+</u>		-								_	<u>cobb</u>	<u>e th</u>	<u>nin layer</u>	of sand	l in some	areas		
		-								_								
		-								_								
		-								_								
		-								_								
		-								_	-							
¹ Type: C= Co	ncentration, D=D	Depletio	on, RM=	Reduce	ed Matr	ix, CS=Co	overed or (Coated San	d Grains. 2	² Locatior	: PL=P	ore Lining	g, M=Ma	atrix.				
Hydric Soil I	ndicators: (Appl	licable	to all L	RRs, u	nless	otherwise	e noted.)				Ind	cators fo	or Probl	ematic	Hydric S	Soils ³ :		
Histoso	ol (A1)					Sandy F	Redox (S5)					1 cm	Muck (A	9) (LRR	RC)			
Histic E	pipedon (A2)					Stripped	l Matrix (S	6)				2 cm	Muck (A	.10) (LR	R B)			
Black H	listic (A3)					Loamy I	Mucky Min	eral (F1)				Redu	ced Ver	tic (F18))			
Hydrog	en Sulfide (A4)					Loamy	Gleyed Ma	trix (F2)				Red F	Parent N	laterial ((TF2)			
Stratifie	ed Layers (A5) (L	RR C)				Deplete	d Matrix (F	3)				Other	(Explai	n in Ren	narks)			
1 cm M	luck (A9) (LRR D)				Redox [Dark Surfa	ce (F6)										
Deplete	ed Below Dark Su	urface	(A11)			Deplete	d Dark Su	face (F7)										
Thick D	ark Surface (A12	2)				Redox [Depressior	is (F8)				³ Indica	ators of	hvdroph	nvtic veae	etation a	and	
Sandy Sandy	Mucky Mineral (S	61)				Vernal F	Pools (F9)					wet	land hyd	drology i	must be	present	,	
Sandy	Gleyed Matrix (S	4)										u	nless dis	sturbed	or proble	matic.		
Restrictive L	ayer (if present)):																
Туре:																		
Depth (Inches	s):								Hydric So	oils Pres	ent?			Yes		No	\boxtimes	
Remarks:	naturally probler	natic s	oils in flo	oodplai	n. cobb	le to surfa	ace.											
	v																	
Votland Hvd	T Irology Indicator	re:																
Primary India	ators (minimum c	n o. Dfonei	roquirod	· chock	all tha	t apply)					Seco	adary Ind	icatore (2 or mo		od)		
	a Water (A1)		lequileu	, check			ot (P11)					Motor M	orko (P1		rino)	eu)		
	/ator Table (A2)					Biotic C	ISI (DTT)					Sodimon	t Donos	ite (B2)	(Divorin	a)		
						Aquetio	Invortobra	too (P12)				Drift Don		2) (Div o	(Riverin	e)		
Satura □Watar	uon (A3) Marka (B1) (Nan		•••			Aqualic		(BI3)				Drainage		3) (Rive	erine)			
U vvater	Marks (B1) (NON		1e) "''''''''''''''''''''''''''''''''''''	、		Hydroge	en Suitide		Living Deat	a (C2)		Drainage	e Patterr	15 (B10)				
	ent Deposits (B2)		nverine))			u ranizospr	eres along		s (U3)		Diy-Seas	Dumment		= (02)			
	eposits (B3) (Nor	nriveri	nė)			Presenc	e of Redu	ced iron (C4	4) -1 0-11 (00)			Craytish	Burrows	s (C8)			、	
	e Soll Cracks (Be) · · · ·				Recent	Iron Reduc		d Solis (C6)			Saturatio		e on Aei	rial imag	ery (C9)	
		erial In	agery (I	D7)			ICK SUITACE	+ (U7)				Snallow		1 (D3)				
U Water-	Stained Leaves ((BA)				Otner (E	xpiain in F	kemarks)		1		FAC-Net	ural les	st (D5)				
Field Observ	ations:		_		_	-												
Surface Wate	er Present?	Yes		No		Dep	oth (inches):										
Water Table I	Present?	Yes		No		Dep	oth (inches):										
Saturation Pro (includes cap	esent? illary fringe)	Yes		No		Dep	oth (inches):		Wetlar	nd Hyd	ology Pr	resent?		Yes	\boxtimes	No	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Arid West – Version 2.0

A98

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/13/1</u>	<u>6</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-81 V</u>	Vet Z
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, T	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): hillslope		Loc	cal relief (coi	ncave, convex, none): <u>none</u>	Slop	be (%): <u></u>	5
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u> 2	7892		Long: <u>-120.488977</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>				NWI classif	ication: <u>PSS1C</u>		
Are climatic / hydrologic conditions on the site typi	cal for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation \Box , Soil \Box , or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes	⊠ N	•
Are Vegetation \Box , Soil \boxtimes , or Hydrology	naturall	y problematic?	? (If ne	eeded, explain any answers in Remark	.s.)		
SUMMARY OF FINDINGS – Attach site map sl	nowing sam	pling point	locations,	, transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆					
Hydric Soil Present?	Yes 🗌	No 🖾	Is the San	npled Area within a Wetland?	Yes	⊠ N	•
Wetland Hydrology Present?	Yes 🛛	No 🗌					
Remarks: Due to naturally problematic soils, wetla	nd determina	ation was bas	ed on veget	tation and hydrology.			
VEGETATION – Use scientific names of plant	6.						
Tree Stratum (Plot size:10m)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
1. <u>Prunus virginiana</u>	<u>15</u>	ves	FAC	Number of Dominant Species			<i>(</i> •)
2				That Are OBL, FACW, or FAC:	<u>4</u>		(A)
3				Total Number of Dominant			-
4				Species Across All Strata:	<u>4</u>		(B)
50% = <u>7.5,</u> 20% = <u>3</u>	<u>15</u>	= Total Cover		Percent of Dominant Species	100		(
Sapling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. <u>Salix exigua</u>	<u>25</u>	yes	FACW	Prevalence Index worksheet:			
2. <u>Populus balsamifera</u>	<u>20</u>	yes	FAC	Total % Cover of :	Multiply	<u>v by:</u>	
3. <u>Rosa woodsii</u>	<u>4</u>	no	FACU	OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>24.5</u> , 20% = <u>9.8</u>	<u>49</u>	= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:2m)				UPL species	x5 =		
1. Phalaris arundinacea	30	ves	FACW	Column Totals: (A)			(B)
2 Tanacetum vulgare	3	no	FACU	Prevalence Inde	x = B/A =		()
3 Hypericum perforatum	3	no	FACU	Hydrophytic Vegetation Indicator	<u> </u>		
4 Xanthium strumarium	3	no	FAC	Dominance Test is >50%	6		
5 unknown	<u>-</u> 1	no	-		1		
6	<u> </u>		-		1 (D)		
7.				data in Remarks or on a	separate sheet)	orting	
8					Vagatation ¹ (Eyr)	loin)	
50% = 20, 20% = 8	40	= Total Cover			vegetation (Exp	iaiii)	
$\frac{30\%}{20} = \frac{20}{20}$, $\frac{20\%}{20} = \frac{0}{20}$	40			¹ Indicators of hydric soil and wetland	d hydrology must		
1				be present, unless disturbed or prob	lematic.		
2							
<u></u> 50% =20% =	0	= Total Cover		Hydrophytic Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 60	≚ % Cover c	f Biotic Cruet		Present?			_
rtemarks.							

US Army Corps of Engineers

Compline	Daint		Mat 7
Samplind	Point:	18-81	vvet Z

SOIL												Sa	ampling P	pint: <u>TP-8</u>	31 Wet 2
Profil	e Descri	ption: (Descri	be to th	e depth	need	ed to de	ocument the indi	cator or confi	rm the abs	ence of i	ndicato	rs.)			
De	epth	Matr	ix				Redox F	eatures							
<u>(inc</u>	hes)	Color (moist)	<u>%</u>	Co	lor (Moi	<u>st) %</u>	Type ¹	Loc ²		Texture	<u>Remark</u>	<u>s</u>		
<u>0-</u>	-12	<u>2.5Y 3/2</u>		100						_	<u>sand</u>	abundant co	oble		
			_							_					
			_							_					
			_							_					
			-							_					
			_												
¹ Type	: C= Cor	centration, D=I	Depletio	n, RM=F	Reduce	ed Matri	x, CS=Covered o	r Coated Sand	Grains. ²	Location:	PL=Po	e Lining, M=Matrix			
Hydri	c Soil In	dicators: (App	licable	to all Li	RRs, u	nless o	otherwise noted.)	1			Indic	ators for Problem	atic Hydri	c Soils³:	
	Histosol	(A1)					Sandy Redox (S	5)				1 cm Muck (A9) (LRR C)		
	Histic Ep	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10)	(LRR B)		
	Black Hi	stic (A3)					Loamy Mucky M	ineral (F1)				Reduced Vertic (F18)		
	Hydroge	en Sulfide (A4)					Loamy Gleyed M	latrix (F2)				Red Parent Mate	rial (TF2)		
	Stratified	d Layers (A5) (I	RR C)				Depleted Matrix	(F3)				Other (Explain in	Remarks	1	
	1 cm Mu	ıck (A9) (LRR E	D)				Redox Dark Sur	face (F6)							
	Depleted	d Below Dark S	urface (A11)			Depleted Dark S	urface (F7)							
	Thick Da	ark Surface (A1	2)				Redox Depressi	ons (F8)				³ Indicators of hyd	rophytic v	egetation a	and
	Sandy N	lucky Mineral (S1)				Vernal Pools (F9	9)				wetland hydrol	ogy must l	pe present	,
	Sandy G	Bleyed Matrix (S	64)									unless distur	ped or pro	blematic.	
Restr	ictive La	ayer (if present	:):												
Туре:															
Depth	(Inches):							Hydric So	oils Prese	ent?	Ye	s 🗌	No	\boxtimes
Rema	irks: I	Naturally proble	ematic. (On riprap	o bank	. Contai	ning newly depos	ited soils. Wet	and determ	ination ba	ased on	other indicators.			
HYD	ROLOG	βY													
Wetla	nd Hydr	ology Indicato	ors:												
Prima	ry Indica	tors (minimum	of one r	equired;	check	all that	apply)				Secon	dary Indicators (2 o	more rec	uired)	
	Surface	Water (A1)					Salt Crust (B11)				Ο V	Vater Marks (B1) (F	liverine)		
	High W	ater Table (A2)					Biotic Crust (B12	2)				ediment Deposits (B2) (Rive	rine)	
	Saturati	on (A3)					Aquatic Inverteb	rates (B13)				Drift Deposits (B3) (Riverine)		
	Water N	/larks (B1) (Nor	nriverin	e)			Hydrogen Sulfid	e Odor (C1))rainage Patterns (I	310)		
	Sedime	nt Deposits (B2	!) (Nonr	iverine)			Oxidized Rhizos	pheres along l	iving Roots	s (C3))ry-Season Water T	able (C2)		
	Drift De	posits (B3) (No	nriverir	ne)			Presence of Rec	luced Iron (C4)			Crayfish Burrows (C	8)		
	Surface	Soil Cracks (B	6)				Recent Iron Red	uction in Tilleo	l Soils (C6)			aturation Visible or	Aerial Im	agery (C9)
	Inundat	ion Visible on A	erial Im	agery (E	87)		Thin Muck Surfa	ce (C7)				Shallow Aquitard (D	3)		
	Water-S	Stained Leaves	(B9)				Other (Explain ir	n Remarks)			🛛 F	AC-Neutral Test (D	5)		
Field	Observa	ations:													
Surfac	ce Water	Present?	Yes		No	\boxtimes	Depth (inche	es):							
Water	Table P	resent?	Yes		No	\boxtimes	Depth (inche	es):							

Wetland Hydrology Present? \boxtimes Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturation Present?

Remarks: US Army Corps of Engineers

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Yes

 \boxtimes

No

Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/13/16</u>	<u>}</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-80 U</u>	<u>p Z</u>
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, To	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): Terrace		Lo	cal relief (cor	ncave, convex, none): <u>convex</u>	Slop	be (%): <u>4</u>	<u>.</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	6 <u>17889</u>		Long: <u>-120.488895</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>				NWI classi	ication: <u>None</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tir	ne of year?	Yes 🛛	No 🔲 (If no, explain in Rei	marks.)		
Are Vegetation \Box , Soil \Box , or Hydrology	signific	antly disturbed	l? Are "	Normal Circumstances" present?	Yes	🛛 No	⊃ 🗆
Are Vegetation D, Soil D, or Hydrology	natura	lly problematic	? (If ne	eded, explain any answers in Remark	(s.)		
SUMMARY OF FINDINGS – Attach site map sh	nowing sai	mpling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛					
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	pled Area within a Wetland?	Yes		⊳ ⊠
Wetland Hydrology Present?	Yes 🗌	No 🛛					
Remarks:							
VEGETATION – Use scientific names of plants	6.						
Tree Stratum (Plot size:10m)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
1	<u>/// 00/01</u>			Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:	<u>0</u>		(A)
3.				Total Number of Dominant			
4.				Species Across All Strata:	<u>0</u>		(B)
50% =, 20% =	0	= Total Cove	r	Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	<u>0</u>		(A/B)
1				Prevalence Index worksheet:			
2				<u>Total % Cover of :</u>	Multiply	<u>by:</u>	
3				OBL species	x1 =		
4.				FACW species	x2 =		
5				FAC species	x3 =		
50% =	0	= Total Cove	r	FACU species	x4 =		
Herb Stratum (Plot size:2m)	_			UPL species	x5 =		
1 Linaria dalmatica	1	no					'B)
2 Promus toctorum	<u>-</u> 2	<u>no</u>		Provalence Inde	$v = B/\Lambda =$	\	0)
2. <u>Diomas tectorum</u>	<u> </u>	110	<u>INL (OFL)</u>		<u> </u>		
3					5.		
4					'0 - 1		
5. <u> </u>				\square Prevalence Index is ≤ 3.0)1		
6				Morphological Adaptatic data in Remarks or on a	ns ¹ (Provide suppo separate sheet)	orting	
7							
				Problematic Hydrophytic	: Vegetation1 (Expl	lain)	
50% = 1.5, 20% = 0.6	<u>3</u>	= I otal Cove	r	¹ Indicators of hvdric soil and wetlan	d hvdroloav must		
vvoody vine Stratum (Piot size:4m)				be present, unless disturbed or prot	lematic.		
ı							
2				Hydrophytic		No	
50% =, 20% =	<u>U</u>	= Iotal Cove	r	vegetation Present?	.63 🗆	NU	
% Bare Ground in Herb Stratum <u>97</u>	% Cover	of Biotic Crust					
Remarks: Vegetation did not exceed 5%							

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SOIL							
Profile Desci	ription: (Describe t	to the depth	needed to docum	ent the indic	ator or confirm	n the absence	of indicators.)
Depth	Matrix			Redox Fe	atures		
(inches)	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²	Texture
<u>0-12</u>	<u>2.5Y 3/2</u>	<u>100</u>					sand
			. <u></u>				
			. <u></u>				
			. <u></u>				

_						
¹ Typ	e: C= Concentration, D=Depletion, RM=Reduc	ed Matri	x, CS=Covered or Coated Sand Grains.	² Location: PL	_=Pore	e Lining, M=Matrix.
Hyd	ic Soil Indicators: (Applicable to all LRRs, ι	inless c	otherwise noted.)	I	Indica	tors for Problematic Hydric Soils ³ :
	Histosol (A1)		Sandy Redox (S5)	ו		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	[2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	[Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	ו		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	[Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)			
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)			
	Thick Dark Surface (A12)		Redox Depressions (F8)			³ Indicators of hydrophytic vegetation and
_	Canada Marala Minanal (O4)					indicatore of fryarophytic vegetation and

	Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Vernal Pools (F9)		wetland hydr unless dist	ology n urbed c	nust be nust be or proble	present, matic.
Rest	rictive Layer (if present):						
Туре	c						
Dept	h (Inches):		Hydric Soils Present?	,	Yes		No
Rem	arks:				-		

1.001	i i cai i	ω.	

HYD	ROLOGY														
Wetl	and Hydrology Indica	tors:													
Prim	ary Indicators (minimur	n of one r	equired	; check	all tha	t apply)		Secondary Indicators (2 or more required)							
	Surface Water (A1)					Salt Crust (B11)			Water Marks (B1) (Riverine)						
	High Water Table (A2	2)				Biotic Crust (B12)			Sediment Deposits (B2) (Riverine)						
	Saturation (A3)					Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)								
	Water Marks (B1) (N	onriverin	e)			Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)							
	Sediment Deposits (B	32) (Nonr	iverine)		Oxidized Rhizospheres along Living Roots	Dry-Season Water Table (C2)								
	Drift Deposits (B3) (N	lonriverir	ıe)			Presence of Reduced Iron (C4)			Crayfish Burrows (C8)						
	Surface Soil Cracks ((B6)				Recent Iron Reduction in Tilled Soils (C6)			Saturation Visible on Aerial Imagery (C9)						
	Inundation Visible on	Aerial Im	agery (l	B7)		Thin Muck Surface (C7)	Shallow Aquitard (D3)								
	Water-Stained Leave	es (B9)				Other (Explain in Remarks)			FAC-Neutral Test (D5)						
Field	Observations:														
Surfa	ace Water Present?	Yes		No	\boxtimes	Depth (inches):									
Wate	er Table Present?	Yes		No	\boxtimes	Depth (inches):									
Satu (inclu	Saturation Present? Yes No (includes capillary fringe)					Depth (inches):	Depth (inches): Wetland Hydrology Present? Yes D No								
Desc	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:														
Re	Remarks:														
US A	Army Corps of Engineer	ſS							Arid West – Version 2.0						

Sampling Point: TP-80 Up Z

Remarks

 \boxtimes

abundant cobble

Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/12/1</u>	<u>6</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-83 \</u>	<u>Net Z</u>
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, T	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): hillslope		Lo	cal relief (cor	ncave, convex, none): <u>none</u>	Slop	oe (%):	<u>100</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.62</u>	20546		Long: <u>-120.488793</u>	Datum: <u>N</u>	IAD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classif	ication: <u>PFO1C</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Ren	narks.)		
Are Vegetation D, Soil D, or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes		10 🗌
Are Vegetation 🔲, Soil 🖾, or Hydrology	naturall	y problematic?	? (If ne	eded, explain any answers in Remark	s.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing sam	npling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌					
Hydric Soil Present?	Yes 🗌	No 🖾	Is the Sam	pled Area within a Wetland?	Yes	M N	lo 🗌
Wetland Hydrology Present?	Yes 🛛	No 🗌					
Remarks: Due to naturally problematic soils, wetla	nd determina	ation was bas	ed on veget	ation and hydrology.			
VEGETATION – Use scientific names of plants	s.						
Tree Stratum (Plot size:10m)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1 Populus balsamifera	<u>% Cover</u> 35	<u>Species ?</u>	FAC	Number of Deminent Creation			
2	<u></u>	100	1710	That Are OBL, FACW, or FAC:	<u>4</u>		(A)
3				Total Number of Densin ant			
4				Species Across All Strata:	<u>4</u>		(B)
50% = 17.5, 20% = 7	35	= Total Cover		Demonst of Dominant Spacing			
Sanling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. Salix exigua	10	ves	FACW	Prevalence Index worksheet:			
2. Populus balsamifera	3	no	FAC	Total % Cover of :	Multiply	/ bv:	
3. Alnus viridis	7	ves	FACW	OBL species	x1 =		
4.	-		<u></u>	FACW species	x2 =		
5.				FAC species	x3 =		
50% = 10, 20% = 4	20	= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:2m)	<u> </u>	i olu. ooroi			x5 =		
	3	no	EACU		X0 -		(B)
	<u> </u>	<u>110</u>	FACU	Column Totals: (A)			(В)
2. <u>Tanacetum vulgare</u>	<u>∠</u>	no	FACU		<u>= B/A =</u>		
3. <u>Phalaris arundinacea</u>	<u>15</u>	<u>yes</u>	FACW	Hydrophytic vegetation indicators	3: ,		
4. <u>equisetum arvense</u>	3	<u>no</u>	FAC	Dominance Test is >50%	3		
5. <u>Xanthium strumarium</u>	<u>1</u>	<u>no</u>	FAC	Prevalence Index is <3.0	1		
6. <u>Lotus corniculatus</u>	<u>1</u>	no	<u>FAC</u>	Morphological Adaptatio	ns ¹ (Provide supp	orting	
7. <u>unknown</u>	<u>1</u>	no	-	data in Remarks of on a	separate sneet)		
8				Problematic Hydrophytic	Vegetation ¹ (Exp	lain)	
50% = <u>13</u> , 20% = <u>5.2</u>	<u>26</u>	= Total Cover		1 undicators of budging call and waters	hudrologu must		
Woody Vine Stratum (Plot size: <u>4m</u>)				be present, unless disturbed or prob	lematic.		
1				'			
2				Hydrophytic	_		_
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 74	% Cover o	of Biotic Crust		Present?			
Remarks:							

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SOIL												Sampling Point: <u>TP WC1</u>
Profile Descr	iption: (Descril	be to th	ie depth	n neede	ed to d	ocument	the indicat	or or conf	irm the abs	sence o	findicat	ors.)
Depth	Matr	ix					Redox Fea	tures				
(inches)	Color (moist)	%	Col	or (Mo	ist)	<u>%</u>	Type ¹	Loc	2	Textur	re <u>Remarks</u>
<u>0-10</u>	2.5Y 3/2		<u>100</u>							_	loam	some round gravel, in riprap slope
<u>10+</u>		_										<u>riprap</u>
		_										
		_								_		
		_								_		
		_								_		
¹ Type: C= Co	ncentration, D=[Depletio	n, RM=	Reduce	ed Matr	ix, CS=Co	overed or C	oated Sano	d Grains.	² Locatio	n: PL=Pc	ore Lining, M=Matrix.
Hydric Soil Ir	ndicators: (App	licable	to all L	.RRs, u	nless	otherwise	noted.)				Indi	cators for Problematic Hydric Soils ³ :
Histoso	l (A1)					Sandy F	Redox (S5)					1 cm Muck (A9) (LRR C)
Histic E	pipedon (A2)					Stripped	I Matrix (S6)				2 cm Muck (A10) (LRR B)
Black H	istic (A3)					Loamy N	Mucky Mine	ral (F1)				Reduced Vertic (F18)
Hydroge	en Sulfide (A4)					Loamy (Gleyed Mat	rix (F2)				Red Parent Material (TF2)
□ Stratifie	d Layers (A5) (L	RR C)				Deplete	d Matrix (F3	3)				Other (Explain in Remarks)
□ 1 cm M	uck (A9) (LRR D))				Redox D	Dark Surfac	e (F6)				
Deplete	d Below Dark S	urface ((A11)			Deplete	d Dark Surf	ace (F7)				
Thick D	ark Surface (A1	2)				Redox D	Depressions	s (F8)				³ Indicators of hydrophytic vegetation and
Sandy M	Mucky Mineral (S	S1)				Vernal F	Pools (F9)					wetland hydrology must be present,
□ Sandy (Gleyed Matrix (S	64)										unless disturbed or problematic.
Restrictive L	ayer (if present	:):										
Туре:												
Depth (Inches	s):								Hydric S	oils Pre	sent?	Yes 🔲 No 🛛
Remarks:	Naturally proble	ematic. (On ripra	p bank.	Conta	ining newl	ly deposited	l soils. We	tland detern	nination	based or	n other indicators.
	2V											
Wetland Hvd	rology Indicato	ors:										
Primary Indica	ators (minimum	of one r	required	: check	all that	t apply)					Secor	ndary Indicators (2 or more required)
	e Water (A1)		- 1	,		Salt Cru	st (B11)					Water Marks (B1) (Riverine)
	ater Table (A2)					Biotic C	rust (B12)					Sediment Deposits (B2) (Riverine)
□ Saturat	tion (A3)				П	Aquatic	Invertebrat	es (B13)				Drift Deposits (B3) (Riverine)
□ Water I	Marks (B1) (Nor	nriverin	ie)		П	Hydroge	en Sulfide C	odor (C1)				Drainage Patterns (B10)
	ent Deposits (B2) (Nonr	-, riverine`)		Oxidized	Rhizosph	eres along	l ivina Root	ts (C3)		Dry-Season Water Table (C2)
	eposits (B3) (No	nriverii	ne)	,	П	Presenc	e of Reduc	ed Iron (C4	1)			Cravfish Burrows (C8)
	e Soil Cracks (B	6)	,			Recent	Iron Reduct	ion in Tille	., d Soils (C6))		Saturation Visible on Aerial Imagery (C9)
	tion Visible on A	erial Im	agery (F	B7)	П	Thin Mu	ck Surface	(C7)		/		Shallow Aquitard (D3)
□ Water-	Stained Leaves	(B9)	ugory (L	51)		Other (F	xplain in R	emarks)				FAC-Neutral Test (D5)
Field Observ	ations:	()			-	(E						
Surface Wate	r Present?	Yes		No		Der	oth (inches)	:				
Water Table F	Present?	Yes		No		Der	oth (inches)	. <u> </u>				
Saturation Pre	esent?				2	-						
(includes capi	llary fringe)	Yes		No		Dep orial phot	oth (inches)		ne) if availa	wetia	ına Hydr	ology Present? Yes 🛛 No 🗌
Describe Rec	orded Data (Stre	ani yat	iye, moi	moring	weii, a	enai prioto	us, previous	sinspection	is), ii avalla	ible:		

Project Site:	East-West Corrid	lor			City/County:	Yakima	Samp	Sampling Date: <u>10/12/16</u>					
Applicant/Owner:	Yakima County							State: <u>WA</u>	Sampl	ing Point:	<u>TP-82</u>	2 Up	<u>Z</u>
Investigator(s):	<u>Sam Payne, Wid</u>	ener and Assoc	iates		Section, Tow	nship, R	ange:	<u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, etc.): <u>hil</u>	<u>Islope</u>		L	Local relief (conca	ve, con	/ex, n	one): <u>none</u>		Slo	pe (%):	<u>4</u>	
Subregion (LRR)	: <u>B</u>		Lat:	46.620560		Long:	<u>-120.</u>	4 <u>88735</u>		Datum: <u>N</u>	JAD83		
Soil Map Unit Name	: <u>Weirman sandy</u>	loam, channele	ed					NWI	classification:	PFO1C			
Are climatic / hyd	drologic conditions	on the site typic	cal for t	this time of year?	Yes 🛛	No		(If no, explain	in Remarks.)				
Are Vegetation D,	Soil □,	or Hydrology	🗆 s	ignificantly disturbe	ed? Are "No	rmal Cir	cumst	ances" present	?	Yes	\bowtie	No	
Are Vegetation D,	Soil □,	or Hydrology	🗆 n	aturally problemati	tic? (If need	ed, expla	ain an	y answers in R	emarks.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soil Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🛛
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	20	yes	FAC	Number of Dominant Species	(•)
2				That Are OBL, FACW, or FAC: 3	(A)
3				Total Number of Dominant	
4				Species Across All Strata: 2	(В)
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u>	= Total Cove	er	Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	(A/B)
1. <u>Rosa woodsii</u>	<u>7</u>	yes	FACU	Prevalence Index worksheet:	
2. <u>Populus balsamifera</u>	<u>3</u>	<u>no</u>	FAC	Total % Cover of : Multiply	by:
3. <u>Ribes aureum</u>	<u>2</u>	no	FAC	OBL species x1 =	
4. <u>Prunus virginiana</u>	<u>4</u>	yes	FAC	FACW species x2 =	
5. <u>Cornus spp.</u>	<u>2</u>	no	-	FAC species x3 =	
50% = <u>9</u> , 20% = <u>3.6</u>	<u>18</u>	= Total Cove	er	FACU species x4 =	
Herb Stratum (Plot size:2m)				UPL species x5 =	
1. <u>Clematis ligusticifolia</u>	<u>5</u>	yes	FAC	Column Totals: (A)	(B)
2. <u>Lactuca serriola</u>	<u>1</u>	no	FACU	Prevalence Index = B/A =	
3. <u>Bromus tectorum</u>	<u>3</u>	yes	NL (UPL)	Hydrophytic Vegetation Indicators:	
4. <u>Poaceae spp.</u>	<u>2</u>	no	<u>NI</u>	Dominance Test is >50%	
5				Prevalence Index is <3.0 ¹	
6				Morphological Adaptations ¹ (Provide support	ortina
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Expl	ain)
50% = <u>5.5,</u> 20% = <u>2.2</u>	<u>11</u>	= Total Cove	er		,
Woody Vine Stratum (Plot size:4m)				¹ Indicators of hydric soil and wetland hydrology must	
1				be present, unless disturbed of problematic.	
2				Hudrophytic	
50% =, 20% =	<u>0</u>	= Total Cove	er	Vegetation Yes	No 🗌
% Bare Ground in Herb Stratum 89	% Cover	of Biotic Crus	t	Present?	
Remarks:				•	

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SOIL										Sampling Point: TP-82 Up 2	<u>Z</u>
Profile Descr	iption: (Descri	be to th	ne depth	n neede	ed to d	ocument the indicator or con	firm the abs	sence o	of indica	ators.)	
Depth	Matr	ix				Redox Features					
(inches)	Color (moist	<u>)</u>	%	Co	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	2	Textu	ure <u>Remarks</u>	
<u>0-4</u>	<u>2.5Y 3/2</u>		100					_	sandy l	loam abundant round gravel and cobble	
<u>4-11</u>	<u>2.5Y 4/2</u>		<u>100</u>					_	<u>sandy l</u>	loam abundant round gravel and cobble	
		_						_			
		_						_			
		_						_			
		_									
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated Sar	d Grains. ²	² Locatio	on: PL=P	Pore Lining, M=Matrix.	
Hydric Soil In	dicators: (App	olicable	to all L	RRs, u	nless	otherwise noted.)			Ind	licators for Problematic Hydric Soils ³ :	
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)	
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)	
Black H	istic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)	
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)	
Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)	
🔲 1 cm Mu	uck (A9) (LRR I	D)				Redox Dark Surface (F6)					
Deplete	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)					
Thick Da	ark Surface (A1	2)				Redox Depressions (F8)				³ Indicators of hydronhytic vogotation and	
Sandy N	/lucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology must be present.	
□ Sandy C	Bleyed Matrix (S	54)								unless disturbed or problematic.	
Restrictive La	ayer (if presen	t):									
Туре:											
Depth (Inches):						Hydric S	oils Pre	esent?	Yes 🗌 No 🖾	
Remarks:											
HYDROLOG	βY]
Wetland Hyd	rology Indicato	ors:									
Primary Indica	tors (minimum	of one r	required	; check	all that	t apply)			Seco	ondary Indicators (2 or more required)	
Surface	Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)	
🔲 High W	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)	
□ Saturat	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)	
□ Water M	Marks (B1) (No i	nriverin	ie)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)	
Sedime	nt Deposits (B2	2) (Non i	riverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table (C2)	
Drift De	posits (B3) (No	nriveri	ne)			Presence of Reduced Iron (C	4)	()		Cravfish Burrows (C8)	
	Soil Cracks (B	6)	,			Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)	
 □ Inundat	ion Visible on A	, Aerial Im	nagery (E	B7)		Thin Muck Surface (C7)	()			Shallow Aquitard (D3)	
	Stained Leaves	(B9)	0 , (,		Other (Explain in Remarks)				FAC-Neutral Test (D5)	
Field Observa	ations:	. ,				/			_		
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):					
Water Table F	resent?	Yes		No		Depth (inches):	-				
Saturation Pre	esent?	~~~					-	Mat	and Live		
(includes capi	llary fringe)	Yes		NO		Depth (Inches):	ns) if availa	weth	ariu Hyû	arology Present? Tes 🔲 No	
Describe Reco		sam yat	.ye, 110	moning	wen, a	enai priotos, previous inspectio	n <i>ə)</i> , ir availa				

Project Site: East-West Corridor					City/Count	ty: <u>Yakima/Yakima</u> Sam	oling Date:	<u>10/12</u>	/16	
Applicant/Owner: Yakima County						State: <u>WA</u> Samp	ling Point:	TP-98	3 We	t AA
Investigator(s): Sam Payne, Widener and Assoc	iates				Section, T	ownship, Range: <u>17, 13N, 19E</u>				
Landform (hillslope, terrace, etc.): <u>Hillslope</u>				Loc	cal relief (cor	ncave, convex, none): <u>concave</u>	Slo	pe (%):	<u>3</u>	
Subregion (LRR): <u>B</u>	Lat: 4	16.606	809			Long: <u>-120.478472</u>	Datum: I	NAD83		
Soil Map Unit Name: Weirman sandy loam, channele	ed					NWI classification:	None			
Are climatic / hydrologic conditions on the site typic	cal for this	s time	of yea	ar?	Yes 🛛	No 🔲 (If no, explain in Remarks.)				
Are Vegetation \Box , Soil \Box , or Hydrology	🗌 sigi	nifican	tly dist	turbed	? Are "	Normal Circumstances" present?	Yes	\boxtimes	No	
Are Vegetation □, Soil □, or Hydrology	🗆 nat	urally	proble	matic?	e (lf ne	eeded, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map sh	nowing	samp	oling I	point	locations,	, transects, important features, etc.				
Hydrophytic Vegetation Present?	Yes		NO					_		_
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sam	npled Area within a Wetland?	Yes	\bowtie	No	
Wetland Hydrology Present?	Yes	\boxtimes	No							
Remarks:										
VEGETATION – Use scientific names of plants	S.	<u>а г</u>	Domina	ont	Indicator					
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	% Cove	r S	Species	s?	<u>Status</u>	Dominance Test Worksheet:				
1. <u>Populus balsamifera</u>	<u>80</u>	У	<u>es</u>		FAC	Number of Dominant Species	4			(A)
2		-				That Are OBL, FACW, or FAC:	4			(ন)
3		_				Total Number of Dominant	5			(B)
4		-				Species Across All Strata:	5			(D)
50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	=	= Total	Cover		Percent of Dominant Species	80			(A/R)
Sapling/Shrub Stratum (Plot size:4m)						That Are OBL, FACW, or FAC:	00			(,,,,,,)
1. <u>Populus balsamifera</u>	<u>3</u>	Y	/es		FAC	Prevalence Index worksheet:				
2. <u>Rosa woodsii</u>	<u>3</u>	Y	/es		FACU	Total % Cover of :	Multipl	y by:		
3		_				OBL species	x1 =		_	
4		_				FACW species	x2 =		_	
5		_				FAC species	x3 =		_	
50% = <u>3</u> , 20% = <u>1.2</u>	<u>6</u>	=	= Total	Cover		FACU species	x4 =		_	
Herb Stratum (Plot size:2m)						UPL species	x5 =		_	
1. <u>Agropyron repens</u>	<u>10</u>	У	es		FAC	Column Totals: (A)			(B)
2. <u>Carex spp.</u>	<u>10</u>	Y	es		<u>NI</u>	Prevalence Index = B/A	=			
3						Hydrophytic Vegetation Indicators:				
4.						Dominance Test is >50%				
5.						$\square Prevalence Index is <3.0^{1}$				
6.						Morphological Adaptations ¹ (Pr	ovido cup	orting		
7.		_				data in Remarks or on a separa	ate sheet)	Johnny		
8		_					ation ¹ (Ex	alain)		
50% = 10, 20% = 4	20	-	: Total	Cover				Jiairi)		
Woody Vine Stratum (Plot size:4m)	20		Total	00001		¹ Indicators of hydric soil and wetland hydro	logy must			
1						be present, unless disturbed or problemation	2.			
2		_								
<u></u> 50% =20% =	0	_	= Total	Cover		Hydrophytic Vegetation Yes	\boxtimes	No		
% Bare Ground in Herb Stratum 80	≚ % ∩~	- ver of	Biotic	Cruet		Present?	_			
	/0 00			Just		1				

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Sampling Point: <u>TP-9</u>	99 Wet

SOIL												Samplir	ng Point:	<u>TP-99</u>	Wet	AA
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)																
Depth	Mat	rix				F	Redox Fea	atures								
(inches)	Color (mois	t)	%	Co	olor (Mo	ist)	<u>%</u>	Type ¹	Loc	2	Textur	<u>Remarks</u>				
<u>0-7</u>	<u>10YR 3/2</u>		<u>97</u>	7	.5YR 4/	6	<u>3</u>	<u>C</u>	M		<u>silt loa</u>	<u>m</u>				
<u>7-12</u>	<u>10YR 3/2</u>		<u>80</u>	7	.5YR 4/	6	<u>20</u>	<u>C</u>	<u>M</u>		<u>silt loa</u>	<u>m</u>				
		_				_				_						
		_				_										
		_				_										
		_				_				_						
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduc	ed Matr	ix, CS=Cov	vered or C	Coated San	d Grains.	² Locatio	n: PL=Po	ore Lining, M=Matrix.				
Hydric Soil In	dicators: (Ap	plicable	to all L	RRs, ı	unless	otherwise	noted.)				Indi	cators for Problematic	Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Re	edox (S5)					1 cm Muck (A9) (LRF	R C)			
Histic Ep	pipedon (A2)					Stripped	Matrix (Se	6)				2 cm Muck (A10) (LR	R B)			
Black Hi	istic (A3)					Loamy M	ucky Min	eral (F1)				Reduced Vertic (F18))			
Hydroge	en Sulfide (A4)					Loamy G	leyed Ma	trix (F2)				Red Parent Material	(TF2)			
Stratified	d Layers (A5) ((LRR C)				Depleted	Matrix (F	3)				Other (Explain in Rer	narks)			
🔲 1 cm Mu	uck (A9) (LRR	D)			\boxtimes	Redox Da	ark Surfac	ce (F6)								
Deplete	d Below Dark S	Surface ((A11)			Depleted	Dark Sur	face (F7)								
Thick Da	ark Surface (A	12)				Redox De	epression	s (F8)				31		4 - 4:		
□ Sandy N	/ucky Mineral ((S1)				Vernal Po	ools (F9)					vetland hydrology	nytic vege must be	nresent	and	
Sandy G	Gleyed Matrix (S4)										unless disturbed	or proble	matic.	.,	
Restrictive La	ayer (if presen	nt):														
Туре:																
Depth (Inches):								Hydric S	oils Pre	sent?	Yes	\boxtimes	No]
Remarks:																
	ev.															
Wetland Hydr	z i rology Indicat	ors:														
Primary Indica	ators (minimum	n of one r	equired	· check	k all tha	t apply)					Secor	ndary Indicators (2 or mo	ore requir	ed)		
	Water (A1)		- 1	,		Salt Crus	t (B11)					Water Marks (B1) (Rive	rine)	/		
	ater Table (A2))				Biotic Cru	ust (B12)					Sediment Deposits (B2)	(Riverin	e)		
	ion (A3)	,					nvertehra	tes (R13)				Drift Deposits (R3) (Pive	vrine)	-,		
Water M	Marks (R1) (No	nrivorin	e)			Hydroder	n Sulfide (Odor (C1)				Drainage Patterns (R10)				
	ant Denceite (P	2) (Non-	ivorino'	`		Ovidized	Rhizoenh		Living Root	s (C3)		Dry-Season Water Tabl	- - (C2)			
	nnoeite (B3) (N			,		Dresoner	of Rodu	red from (C	2111111 1100L	5 (00)		Cravifish Burrows (Co)	- (UZ)			
	Soil Cracks (E		ne)			Recont	on Roduc		T) d Soile (CE)	\		Saturation Visible on As	rial Imag		N	
	ion Visible on v	50) A arial Ina		דר					u 30115 (CO))		Saturation visible on Ae	nai imay	ery (Ce	')	
			lagery (i	57)			K Sunace	(C7)								
Eigld Obser		5 (D9)					vpiairi iri F	ciliaiKS)		1		TAG-INEULIAI TESL (D5)				
Surface Mater	auoris:	Vaa		Na		Da4	h (incha-	\.								
Surface vvater		res				Dept	II (INCHES)								
vvater Table P	resent?	Yes		NO	M	Dept	n (Inches):								
Saturation Pre (includes capil	esent? llary fringe)	Yes		No	\boxtimes	Dept	h (inches):		Wetla	nd Hydr	ology Present?	Yes	\boxtimes	No	
Describe Reco	orded Data (str	eam gau	uge, moi	nitoring	g well, a	erial photo	s, previou	s inspectio	ns), if availa	ible:				<u>.</u>		<u>.</u>
Remarks [.]																

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Project Site: East-West Corridor			City/County	r: Yakima/Yakir	<u>na</u>	Sampling Date:	<u>10/12/1</u>	6
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	TP-97	Up AA
Investigator(s): Sam Payne, Widener and Assoc	<u>iates</u>		Section, To	wnship, Range:	<u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): Hillslope		Loca	l relief (con	cave, convex, no	one): <u>convex</u>	Slop	e (%):	<u>10</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6072</u>	269		Long: <u>-120.4</u>	76628	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	<u>ed</u>				NWI classific	cation: <u>None</u>		
Are climatic / hydrologic conditions on the site typic	cal for this time o	of year?	Yes 🛛	No 🛛	(If no, explain in Rem	arks.)		
Are Vegetation □, Soil □, or Hydrology	significantl	ly disturbed?	Are "N	Iormal Circumst	ances" present?	Yes		10 🗆
Are Vegetation D, Soil D, or Hydrology	naturally p	problematic?	(If nee	ded, explain an	y answers in Remarks	s.)		
SUMMARY OF FINDINGS – Attach site map sh	nowing sampl	ling point lo	ocations,	transects, im	portant features, e	ŧc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌						
Hydric Soil Present?	Yes 🗌	No 🛛 !	is the Sam	oled Area within	n a Wetland?	Yes		lo 🛛
Wetland Hydrology Present?	Yes 🗌	No 🛛						
Remarks:								
VEGETATION – Use scientific names of plants	S.							
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	Absolute Do	ominant l	ndicator	Dominance Te	st Worksheet:			
1. Populus balsamifera	45 ve	es F	AC	Number of Don	inant Species			
2.				That Are OBL,	FACW, or FAC:	<u>4</u>		(A)
3.				Total Number o	f Dominant			
4.				Species Across	All Strata:	<u>4</u>		(B)
50% = 40, 20% = 16	80 =	Total Cover		Percent of Dom	inant Species			
Sapling/Shrub Stratum (Plot size: <u>4m</u>)	_			That Are OBL,	FACW, or FAC:	<u>100</u>		(A/B)
1. <u>Prunus virginiana</u>	<u>25 ye</u>	<u>es F</u>	AC	Prevalence Inc	lex worksheet:			
2. <u>Rosa woodsii</u>	<u>3 no</u>	<u> </u>	ACU	To	tal % Cover of :	Multiply	by:	
3. <u>Ribes aureum</u>	<u>10 ye</u>	<u>es F</u>	AC	OBL species		x1 =		

= Total Cover

= Total Cover

= Total Cover

% Cover of Biotic Crust

yes

no

no

FAC

FACU

FAC

38

<u>50</u>

4

1

55

0

<u>45</u>

FACW species

FAC species

FACU species

UPL species

 \boxtimes

Hydrophytic

Vegetation Present?

Column Totals:

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is <3.01

¹Indicators of hydric soil and wetland hydrology must

be present, unless disturbed or problematic.

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% Bare Ground in Herb Stratum

4.

5.

1.

2.

3.

4.

5.

6.

7. 8.

1. 2.

50% = <u>19</u>, 20% = <u>7.6</u>

50% = <u>27.5</u>, 20% = <u>11</u>

50% = ____, 20% = ____

Remarks:

Herb Stratum (Plot size:2m)

Lepidium latifolium

Hypericum perforatum

Toxicodendron radicans

Woody Vine Stratum (Plot size:4m)

Arid West – Version 2.0

 \boxtimes

x2 =

x3 =

x4 =

x5 =

(A)

Prevalence Index = B/A =

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

Yes

_ (B)

No

SOIL						Sampling Point: TP-97 Up AA
Depth Matrix	th needed to do	Redox Fea	tor or confiri atures	n the absence	of indicator	s.)
(inches) Color (moist) %	Color (Moi	st) %	Type ¹	Loc ²	_ Texture	Remarks
<u>0-14 10YR 3/1 100</u>		<u> </u>			silt loam	
<u> </u>						
¹ Type: C= Concentration, D=Depletion, RM	=Reduced Matri	x, CS=Covered or C	Coated Sand (Grains. ² Locat	tion: PL=Pore	e Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless c	otherwise noted.)			Indica	tors for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox (S5)				1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (Se	3)			2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mine	eral (F1)			Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Mat	trix (F2)			Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)		Depleted Matrix (F	3)			Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surfac	ce (F6)			
Depleted Below Dark Surface (A11)		Depleted Dark Sur	face (F7)			
Thick Dark Surface (A12)		Redox Depression	s (F8)			³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Vernal Pools (F9)				wetland hydrology must be present,
Sandy Gleyed Matrix (S4)						unless disturbed or problematic.
Restrictive Layer (if present):						
Туре:						
Depth (Inches):				Hydric Soils P	resent?	Yes 🗌 No 🖂
Remarks:			•			

Wetl	and Hydrology Indicat	ors:											
Prim	ary Indicators (minimum	of one re	equired	check	all that	apply)	Secondary Indicators (2 or more required)						
	Surface Water (A1) Salt Crust (B11)								Water Marks (B1) (Riverine)				
	High Water Table (A2))				Biotic Crust (B12)	I		Sediment Deposits (B2) (Riverine)				
	Saturation (A3)					Aquatic Invertebrates (B13)	I		Drift Deposits (B3) (Riverine)				
	Water Marks (B1) (No	nriverine	∍)			Hydrogen Sulfide Odor (C1)	I		Drainage Patterns (B10)				
	Sediment Deposits (B	2) (Nonri	verine)			Oxidized Rhizospheres along Living Roots (0	C3)		Dry-Season Water Table (C2)				
Drift Deposits (B3) (Nonriverine)							I		Crayfish Burrows (C8)				
	Surface Soil Cracks (B6)								Saturation Visible on Aerial Imagery (C9)				
	Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)						I		Shallow Aquitard (D3)				
	Water-Stained Leaves	s (B9)				Other (Explain in Remarks)	I		FAC-Neutral Test (D5)				
Field	Observations:												
Surfa	ace Water Present?	Yes		No	\boxtimes	Depth (inches):							
Wate	r Table Present?	Yes		No	\boxtimes	Depth (inches):							
Satu (inclu	ration Present? ides capillary fringe)	Yes		No	\boxtimes	Depth (inches):	Wetland	Нус	irology Present? Yes 🗌 No 🛛				
Desc	ribe Recorded Data (str	eam gau	ge, mor	nitoring	well, a	erial photos, previous inspections), if available	e:						
Rei	marks:												

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Project Site: East-West Corridor		City/County: <u>Yakima/Yakima</u>	Sampling Date: <u>9/22/16</u>
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: TP-100 Wet BB
Investigator(s): Sam Payne, Widener and Assoc	iates	Section, Township, Range: 20, 13N, 19E	
Landform (hillslope, terrace, etc.): hillslope	Loc	al relief (concave, convex, none): <u>none</u>	Slope (%): <u>60</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.605855</u>	Long: <u>-120.474735</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: Weirman sand loam, channeled	<u>d</u>	NWI classif	ication: <u>none</u>
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes 🔲 No 🖾 (If no, explain in Rer	narks.)
Are Vegetation 🔲, Soil 🖾, or Hydrology	significantly disturbed?	Are "Normal Circumstances" present?	Yes 🛛 No 🗌
Are Vegetation 🔲, Soil 🖾, or Hydrology	naturally problematic?	(If needed, explain any answers in Remark	.s.)
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling point	ocations, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes 🛛 No 🗌		
Hydric Soil Present?	Yes 🗌 No 🖾	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌
Wetland Hydrology Present?	Yes 🛛 No 🗌		
Remarks: WETS Table indicates dryer than normal	past three months.		
VEGETATION – Use scientific names of plant	s		
Tree Stratum (Plot size:10m)	Absolute Dominant	Indicator Dominance Test Worksheet:	
	<u>% Cover</u> Species?	Status	
1		Number of Dominant Species That Are OBL_EACW_or EAC:	<u>2</u> (A)
2			
3		Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
4			
50% =	<u>u</u> = Total Cover	Percent of Dominant Species	<u>100</u> (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>4m)</u>			
1. <u>Salix exigua</u>	<u>95 yes</u>	FACW Prevalence Index worksheet:	
2. <u>Salix lucida</u>	<u>3 no</u>	FACW Total % Cover of :	<u>Multiply by:</u>
3		OBL species	x1 =
4		FACW species	x2 =
5		FAC species	x3 =
50% = <u>49</u> , 20% = <u>19.6</u>	98 = Total Cover	FACU species	x4 =
<u>Herb Stratum</u> (Plot size: <u>2m</u>)		UPL species	x5 =
1. <u>Clematis ligusticifolia</u>	<u>10 yes</u>	FAC Column Totals: (A)	(B)
2. <u>Unknown</u>	<u>1 no</u>	Prevalence Index	κ = B/A =
3. <u>Unknown</u>	<u>2 no</u>	Hydrophytic Vegetation Indicators	s:
4		Dominance Test is >50%	6
5		Prevalence Index is <3.0)1
6.			ns ¹ (Provide supporting
7.		data in Remarks or on a	separate sheet)
8			Vegetation ¹ (Explain)
50% = 65,20% = 2,6	13 = Total Cover		
Woody Vine Stratum (Plot size:4m)		¹ Indicators of hydric soil and wetland	d hydrology must
1		be present, unless disturbed or prob	lematic.
··			
<u></u>		Hydrophytic	Yes 🛛 No 🗆
% Baro Cround in Horb Stratum 97	Cover of Pietic Crust	Present?	
Remarks:			

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Compling D

SOIL									Samplin	g Point:	<u>TP-10</u>	0 Wet	BB
Profile Desc	ription: (Describe t	o the depth	n neede	ed to d	ocument the indicator or c	onfirm the a	bsence o	of indicat	ors.)				
Depth	Matrix				Redox Features								
(inches)	Color (moist)	<u>%</u>	Col	lor (Moi	ist) <u>%</u> <u>Type</u>	e ¹ Lo	<u>c²</u>	Textu	re <u>Remarks</u>				
<u>0+</u>									riprap				
¹ Type: C= Co	ncentration, D=Dep	letion, RM=I	Reduce	ed Matri	ix, CS=Covered or Coated S	Sand Grains.	² Locatio	on: PL=Po	ore Lining, M=Matrix.				
Hydric Soil I	ndicators: (Applica	ble to all L	RRs, u	nless o	otherwise noted.)			Indi	cators for Problematic	Hydric S	Soils ³ :		
Histoso	l (A1)				Sandy Redox (S5)				1 cm Muck (A9) (LR	R C)			
Histic E	pipedon (A2)				Stripped Matrix (S6)				2 cm Muck (A10) (Ll	RR B)			
Black H	listic (A3)				Loamy Mucky Mineral (F1))			Reduced Vertic (F18	3)			
Hydrog	en Sulfide (A4)				Loamy Gleyed Matrix (F2)				Red Parent Material	(TF2)			
Stratifie	ed Layers (A5) (LRR	C)			Depleted Matrix (F3)				Other (Explain in Re	marks)			
□ 1 cm M	uck (A9) (LRR D)				Redox Dark Surface (F6)								
Deplete	ed Below Dark Surfa	ce (A11)			Depleted Dark Surface (F7	7)							
Thick D	ark Surface (A12)				Redox Depressions (F8)				³ Indicators of hydron	hytic yea	etation	and	
☐ Sandy	Mucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology	must be	presen	it,	
□ Sandy	Gleyed Matrix (S4)								unless disturbed	or proble	ematic.		
Restrictive L	ayer (if present):												
Туре:													
Depth (Inches	s):					Hydric	Soils Pre	esent?	Yes		No	\boxtimes]
Remarks:	On riprap bank. no	soil present	and co	ould not	t dig test pit. Wetland determ	nination made	based or	n other cr	iteria.				
HYDROLO	GY												
Wetland Hyd	Irology Indicators:												
Primary Indic	ators (minimum of o	ne required;	; check	all that	t apply)			Secor	ndary Indicators (2 or m	ore requir	red)		
Surfac	e Water (A1)				Salt Crust (B11)				Water Marks (B1) (Rive	erine)			
🔲 High W	/ater Table (A2)				Biotic Crust (B12)			\boxtimes	Sediment Deposits (B2)) (Riverin	ie)		
□ Satura	tion (A3)				Aquatic Invertebrates (B13	3)		\bowtie	Drift Deposits (B3) (Riv	erine)			
□ Water	Marks (B1) (Nonriv e	erine)			Hydrogen Sulfide Odor (C	1)			Drainage Patterns (B10)			
Sedim	ent Deposits (B2) (N	onriverine))		Oxidized Rhizospheres ald	ong Living Ro	ots (C3)		Dry-Season Water Tabl	le (C2)			
Drift D	eposits (B3) (Nonriv	verine)			Presence of Reduced Iron	(C4)			Crayfish Burrows (C8)				
□ Surfac	e Soil Cracks (B6)				Recent Iron Reduction in T	Tilled Soils (C	6)		Saturation Visible on A	erial Imag	ery (C	9)	
🗌 Inunda	tion Visible on Aeria	l Imagery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves (B9)			Other (Explain in Remarks	;)		\boxtimes	FAC-Neutral Test (D5)				
Field Observ	vations:								. ,				
Surface Wate	er Present? Ye	es 🗆	No	\boxtimes	Depth (inches):								
Water Table	Present? Ye	es 🗆	No	\boxtimes	Depth (inches):	-							
Saturation Pr	esent?	_ _	Na		Denth (inches):		Woth		ology Prosont?	Vac		No	
(includes cap	illary fringe)	:> 🗆	110	<u>ل</u> كا 	Deput (incres):		vvetic	anu riyur	ology Flesellt	162		NU	
Describe Rec	orded Data (stream	daude, mor	nitorina	well, a	erial photos, previous inspec	ctions), if avai	lable:						

Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>9/22/16</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-99 U</u>	p BB
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, To	ownship, Range: <u>20, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): hillslope		Loc	cal relief (cor	icave, convex, none): <u>convex</u>	Slop	be (%): <u>2</u>	<u>0</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.60</u>	05893		Long: <u>-120.474698</u>	Datum: <u>N</u>	IAD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classifi	cation: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🛛 (If no, explain in Ren	∩arks.)		
Are Vegetation , Soil , or Hydrology	signific:	antly disturbed	? Are "	Normal Circumstances" present?	Yes	🛛 No	
Are Vegetation . Soil . or Hydrology	 □ naturali	v problematic?	(If ne	eded. explain any answers in Remark	s.)		
		,	(
SUMMARY OF FINDINGS – Attach site map sh	lowing san	pling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛					
Hydric Soil Present?	Yes 🗌	No 🖾	Is the Sam	pled Area within a Wetland?	Yes	□ No	
Wetland Hydrology Present?	Yes 🗌	No 🛛					
Remarks: WETS Table indicates dryer than normal	past three n	nonths.					
VEGETATION – Use scientific names of plants	s.						
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:			
1			_	Number of Dominant Species	0		(•)
2				That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3				Total Number of Dominant	_		-
4				Species Across All Strata:	<u>5</u>		(B)
50% =, 20% =	<u>0</u>	= Total Cover		Percent of Dominant Species	10		
Sapling/Shrub Stratum (Plot size: <u>4m)</u>				That Are OBL, FACW, or FAC:	<u>40</u>		(A/D)
1. <u>Salix exigua</u>	<u>25</u>	yes	FACW	Prevalence Index worksheet:			
2. <u>Betula occidentalis</u>	<u>8</u>	yes	FACW	<u>Total % Cover of :</u>	Multiply	<u>/ by:</u>	
3				OBL species <u>0</u>	x1 =	<u>0</u>	
4				FACW species <u>33</u>	x2 =	66	
5				FAC species <u>0</u>	x3 =	0	
50% = <u>16.5</u> , 20% = <u>6.6</u>	33	= Total Cover		FACU species <u>10</u>	x4 =	40	
Herb Stratum (Plot size:2m)				UPL species <u>13</u>	x5 =	<u>65</u>	
1. Linaria dalmatica	5	yes	NL (UPL)	Column Totals [.] 56 (A)		171 (B)	
2. Bromus tectorum	8	ves	NL (UPL)	Prevalence Inde	ex = B/A = 3.05	()	
3. Lactuca serriola	10	ves	FACU	Hydrophytic Vegetation Indicators	<u> </u>		
4.		<u> </u>		Dominance Test is >50%	0		
5		_		Prevalence Index is <3.0	j ¹		
6				Morphological Adaptation	ns ¹ (Provide supp	ortina	
7				data in Remarks or on a	separate sheet)	5	
8				Problematic Hydrophytic	Vegetation ¹ (Exp	lain)	
50% = <u>11.5</u> , 20% = <u>4.6</u>	<u>23</u>	= Total Cover					
Woody Vine Stratum (Plot size: <u>4m)</u>				¹ Indicators of hydric soil and wetland be present unless disturbed or prob	I hydrology must		
1					iomato.		
2				Hydrophytic			
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation	Yes 🗌	No	\boxtimes
% Bare Ground in Herb Stratum 77	% Cover of	of Biotic Crust		Present?			
Remarks:							

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SOIL										Sampling Point: <u>TP-99 Up BB</u>
Profile Descri	ption: (Descr	ibe to th	ne depth	neede	ed to d	ocument the indicator or con	firm the abs	sence of	findicate	ors.)
Depth	Mat	rix				Redox Features				
(inches)	Color (mois	<u>t)</u>	%	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	2	Textur	e <u>Remarks</u>
<u>0+</u>		_						_		riprap under 3 inches of duff
		_						_		<u> </u>
		_						_		<u> </u>
		_						_		
		_						_		
		_						_		
¹ Type: C= Con	centration, D=	Depletic	on, RM=I	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. 🤅	² Locatio	n: PL=Po	pre Lining, M=Matrix.
Hydric Soil In	dicators: (Ap	plicable	to all L	RRs, u	nless o	otherwise noted.)			Indio	cators for Problematic Hydric Soils ³ :
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)
Histic Ep	ipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)
Black His	stic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)
Hydroge	n Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)
Stratified	l Layers (A5) (LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)
🔲 1 cm Mu	ck (A9) (LRR	D)				Redox Dark Surface (F6)				
Depleted	Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)				
Thick Da	rk Surface (A	12)				Redox Depressions (F8)				31 11 1 11 11 11 11 11 11
□ Sandy M	lucky Mineral ((S1)				Vernal Pools (F9)				 Indicators of hydrophytic vegetation and wetland bydrology must be present
□ Sandy G	leved Matrix (S4)				ζ, γ				unless disturbed or problematic.
Restrictive La	ver (if presen	, it):								•
Type:										
Depth (Inches)	:						Hydric S	oils Pre	sent?	Yes 🗌 No 🛛
Remarks: 0	On riprap bank	. no soil	present	and co	ould not	t dig test pit. Wetland determina	tion made b	ased on	other cri	iteria.
	Y alagy Indiant									
		ors:			- 11 41 4				0	
		or one r	equirea,	спеск					Secon	
	water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)
High Wa	ater Table (A2))				Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)
	on (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)
U Water M	larks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)
Sedimer	nt Deposits (B	2) (Non i	riverine)			Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table (C2)
Drift Dep	posits (B3) (N o	onriveri	ne)			Presence of Reduced Iron (C	4)			Crayfish Burrows (C8)
Surface	Soil Cracks (E	36)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)
Inundati	on Visible on /	Aerial Im	nagery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)
□ Water-S	tained Leaves	s (B9)				Other (Explain in Remarks)				FAC-Neutral Test (D5)
Field Observa	tions:									
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):				
Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):				
Saturation Pres (includes capill	sent? ary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetla	nd Hydr	ology Present? Yes 🗌 No 🛛
Decertified Decer	rded Data (str	eam dau	uge, mor	nitoring	well, a	erial photos, previous inspectio	ns), if availa	ble:		

Project Site:	East-West Corri	<u>dor</u>		City/County:	<u>Yakima/Yaki</u>	Sampling	Date:	<u>2/29/</u>	16		
Applicant/Owner:	Yakima County					State: <u>WA</u>	Sampling	Point:	<u>TP-5</u> <u>CC</u>	2, WI	ET
Investigator(s):	Jason Cade, Wi	dener and Associate	<u>s</u>	Section, Tow	/nship, Range:	<u>18, 13N, 19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain_	Loc	al relief (conca	ave, convex, n	one): <u>convex</u>		Slop	e (%)	<u> 1</u>	
Subregion (LRR)	: <u>B</u>	L	at:		Long:	_	Dat	um: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sand</u>	<u>y loam, channeled</u>				NWI class	ification: P	SS1C			
Are climatic / hyd	drologic condition	s on the site typical f	or this time of year?	Yes 🛛	No 🗌	(If no, explain in R	emarks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly disturbed	? Are "No	ormal Circumst	tances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	naturally problematic?	(If need	led, explain ar	y answers in Rema	rks.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				

Remarks: Island within the primary channel of the Yakima River. Naturally problematic soil - vegetated sand bar within floodplain.

VEGETATION -	llse	scientific	names	of	nlants
VEGETATION -	USE	SCIEILUIL	IIaiiies		Jianis.

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>None</u> 2.		—	—	Number of Dominant Species That Are OBL, FACW, or FAC: 2	(A)
3				Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
50% =, 20% = Sapling/Shrub Stratum (Plot size:15')	<u>0</u>	= Total Cove	r	Percent of Dominant Species <u>100</u> That Are OBL, FACW, or FAC: <u>100</u>	(A/B)
1. Salix exigua	40	ves	FACW	Prevalence Index worksheet:	
2. Cornus sericea	40	ves	FACW	Total % Cover of : Multiply by:	
3. Betula pumila	5	no	OBL	OBL species x1 =	
4.				FACW species x2 =	
5				FAC species x3 =	
50% = <u>42.5,</u> 20% = <u>17</u>	<u>85</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species x5 =	
1. <u>None</u>				Column Totals: (A) (f	B)
2				Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				☑ Dominance Test is >50%	
5				□ Prevalence Index is <3.0 ¹	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% =, 20% =	<u>0</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetland hydrology must	
1. <u>None</u>				be present, unless disturbed of problematic.	
2				Hydrophytic	
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes 🛛 No	
% Bare Ground in Herb Stratum 100	% Cover	of Biotic Crust		Present?	
Remarks:					

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Sampling Point:	TP-52 WET CC

SOIL										Sampling F	Point: 1	P-52,	WET	<u>cc</u>
Profile Descr	ription: (Descri	be to th	e depth	n neede	ed to d	ocument the indicator or con	firm the abs	sence of	indicat	ors.)				
Depth	Matr	ix				Redox Features								
(inches)	Color (moist)	%	Co	lor (Mo	ist) <u>%</u> <u>Type¹</u>	Loc	2	Textur	e <u>Remarks</u>				
<u>0-20</u>	<u>10YR 2/2</u>	-				<u> </u>		_	sand	·				
		-						_						
		-						_						
		-						_						
		-						_						
17 0 0				<u> </u>			<u> </u>	21 11						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :														
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C)														
	ninedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (I RE	2 B)			
	listic (A3)					Loamy Mucky Mineral (E1)				Reduced Vertic (F18)	()			
	en Sulfide (A4)					Loamy Gleved Matrix (F2)				Red Parent Material (1	F2)			
	d Lavers (A5) (I	RR C)				Depleted Matrix (F3)				Other (Explain in Rem	arks)			
	uck (A9) (LRR [)				Redox Dark Surface (F6)					antoj			
	d Below Dark S	-, Jurface (A11)			Depleted Dark Surface (F7)								
	ark Surface (A1	2)	,,			Redox Depressions (F8)								
□ Sandv M	Mucky Mineral (_, S1)			П	Vernal Pools (F9)				³ Indicators of hydrophy wotland bydrology m	tic vege	tation	and	
□	Gleved Matrix (S	ý 54)			_					unless disturbed o	r proble	matic.	.,	
Restrictive La	aver (if present	, t):												
Type:		,												
Depth (Inches	s):						Hydric S	oils Pres	sent?	Yes		No	\boxtimes]
Remarks:	Naturally proble	ematic s	oil - veg	etated	sand b	ar wihin floodplain								
	2V													
Wetland Hvd	rology Indicato	ors:												
Primary Indica	ators (minimum	of one r	equired	; check	all that	t apply)			Secor	idary Indicators (2 or mor	e requir	ed)		
Surface	e Water (A1)			,		Salt Crust (B11)				Water Marks (B1) (Riveri	ne)	,		
High W	(A2)					Biotic Crust (B12)				Sediment Deposits (B2) (, Riverin	e)		
□ Saturat	tion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (River	ine)	,		
□ Water M	Marks (B1) (Nor	nriverin	e)			Hydrogen Sulfide Odor (C1)			\boxtimes	Drainage Patterns (B10)	,			
Sedime	ent Deposits (B2	2) (Nonr	verine))		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift De	eposits (B3) (No	nriverir	1e)			Presence of Reduced Iron (C	4)	. ,		Crayfish Burrows (C8)	. ,			
Surface	e Soil Cracks (B	6)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeri	al Imag	ery (CS)	
Inundat	tion Visible on A	erial Im	agery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)	-		-	
□ Water-S	Stained Leaves	(B9)		,		Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Observ	ations:					· · · ·								
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pre	esent?	Vee		No		Depth (inches):		Wetla	nd Hydr	ology Present?	Yes		No	
(includes capi	illary fringe)	000 000		aitorin~			ne) if oucide	blo:						
	ordeu Data (Stre	sam yau	ige, mor	moning	wen, a		nə), ii availa	NIC.						

Project Site:	East-West Corri	<u>dor</u>			City/County:	<u>Yakima/Yaki</u>	ma		Sampli	ng Date:	<u>2/29/</u>	<u>16</u>	
Applicant/Owner:	Yakima County						State:	WA	Samplir	ng Point:	<u>TP-5</u> DD	3 <u>, WI</u>	<u>=T</u>
Investigator(s):	<u>Jason Cade, Wi</u>	dener and Assoc	ciates		Section, Township, Range: <u>18, 13N, 19E</u>								
Landform (hillslope,	terrace, etc.): fl	oodplain		Loca	al relief (conca	ave, convex, n	one): <u>o</u>	convex	Slope (%): <u>1</u>				
Subregion (LRR)): <u>B</u>		Lat:			Long:	_		D	atum: <u>N</u>	IAD83		
Soil Map Unit Name	: <u>Weirman sand</u>	y loam, channele	ed					NWI classific	cation:	PSS1C			
Are climatic / hyd	drologic condition	s on the site typi	cal for th	his time of year?	Yes 🛛	No 🗌	(If no,	explain in Rem	arks.)				
Are Vegetation D,	Soil □,	or Hydrology	🗆 sig	gnificantly disturbed?	Are "No	ormal Circumst	tances"	present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil ⊠,	or Hydrology	🗆 na	aturally problematic?	(If need	led, explain an	iy answ	ers in Remarks	s.)				

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				

Remarks: Island within the primary channel of the Yakima River. Naturally problematic soil - vegetated sand/gravel bar within floodplain.

VEGETATION – Use scientific names of plant	s.				
Tree Stratum (Plot size:30')	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
Populus balsamifera	<u>20</u>	<u>yes</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
3		_		Total Number of Dominant <u>3</u> (B)	
50% = 10, 20% = 4	20	= Total Cove		' Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				That Are OBL, FACW, or FAC: <u>100</u> (A/E	3)
1. <u>Salix exigua</u>	<u>40</u>	<u>ves</u>	FACW	Prevalence Index worksheet:	
2				Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cover	-	FACU species x4 =	
Herb Stratum (Plot size:5')				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>2</u>	<u>ves</u>	FACW	Column Totals: (A) (B)	
2				Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				☑ Dominance Test is >50%	
5				\square Prevalence Index is <3 0 ¹	
6.				Mornhological Adaptations ¹ (Provide supporting	
7.				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>1</u> , 20% = <u>0.4</u>	<u>2</u>	= Total Cove			
Woody Vine Stratum (Plot size:15')				¹ Indicators of hydric soil and wetland hydrology must	
1. <u>None</u>				be present, unless disturbed of problematic.	
2				Undrauktés	
50% =, 20% =	<u>0</u>	= Total Cover	-	Vegetation Yes No	
% Bare Ground in Herb Stratum <u>98</u>	% Cover	of Biotic Crust		Present?	
Remarks:					

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- 30	1

SOIL											:	Sampling	Point:	FP-53,	WET [DD
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features																
Depth	Matr	ix				Redox	Features									
(inches)	Color (moist)	%	Col	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²		Textur	<u>re Re</u>	marks				
<u>0-8</u>	<u>10YR 2/2</u>		100						_	sand						
<u>8+</u>	<u>10 YR 2/2</u>		<u>100</u>						_	<u>cobbly</u>	<u>sa</u>					
		_							_							
		_							_							
		_							_							
		_							_							
¹ Type: C= Co	oncentration, D=I	Depletic	n, RM=	Reduce	ed Matr	ix, CS=Covered c	or Coated Sand	Grains. 2	Locatior	n: PL=Po	ore Lining, M=N	latrix.				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :																
□ Histosol (A1) □ Sandy Redox (S5) □ 1 cm Muck (A9) (LRR C)																
Histic E	Epipedon (A2)					Stripped Matrix	(S6)				2 cm Muck	(A10) (LR	R B)			
Black H	Histic (A3)					Loamy Mucky M	lineral (F1)				Reduced Ve	ertic (F18)				
Hydrog	gen Sulfide (A4)					Loamy Gleyed I	Matrix (F2)				Red Parent	Material (TF2)			
Stratifie	ed Layers (A5) (I	RR C)				Depleted Matrix	(F3)			\boxtimes	Other (Expla	ain in Rem	narks)			
🔲 1 cm N	/luck (A9) (LRR D))				Redox Dark Sur	face (F6)									
Deplete	ed Below Dark S	urface ((A11)			Depleted Dark S	Surface (F7)									
Thick [Dark Surface (A1	2)				Redox Depress	ions (F8)				³ Indicators o	f hydroph	vtic vea	tation	and	
Sandy	Mucky Mineral (S1)				Vernal Pools (F	9)				wetland h	ydrology r	nust be	present	t,	
Sandy	Gleyed Matrix (S	64)									unless c	disturbed of	or proble	matic.		
Restrictive L	Layer (if present	t):														
Туре:																
Depth (Inche	es):							Hydric So	oils Pres	sent?		Yes		No	\boxtimes	
Remarks:	Naturally proble	ematic s	oil - veg	etated	sand/g	ravel bar within flo	odplain									
HYDROLO	GY															
Wetland Hyd	drology Indicate	ors:														
Primary Indic	cators (minimum	of one r	required	; check	all that	t apply)				Secor	ndary Indicators	s (2 or mo	re requir	ed)		
Surfac	ce Water (A1)					Salt Crust (B11)					Water Marks (E	31) (River	ine)			
🔲 High V	Vater Table (A2)					Biotic Crust (B1	2)			\boxtimes	Sediment Depo	osits (B2)	(Riverin	e)		
Satura	ation (A3)					Aquatic Inverteb	orates (B13)			\boxtimes	Drift Deposits (B3) (Rive	rine)			
□ Water	Marks (B1) (Nor	nriverin	e)			Hydrogen Sulfid	le Odor (C1)			\boxtimes	Drainage Patte	rns (B10)				
Sedim	ent Deposits (B2	2) (Nonr	iverine)		Oxidized Rhizos	spheres along L	iving Roots	s (C3)		Dry-Season Wa	ater Table	e (C2)			
Drift D	eposits (B3) (No	nriverii	ne)			Presence of Re	duced Iron (C4)			Crayfish Burrov	ws (C8)				
Surfac	ce Soil Cracks (B	6)				Recent Iron Rec	duction in Tilled	Soils (C6)			Saturation Visil	ble on Aer	ial Imag	ery (C9)	
🗌 Inunda	ation Visible on A	erial Im	agery (I	B7)		Thin Muck Surfa	ace (C7)				Shallow Aquita	rd (D3)				
U Water	-Stained Leaves	(B9)				Other (Explain i	n Remarks)				FAC-Neutral Te	est (D5)				
Field Observ	vations:															
Surface Wate	er Present?	Yes		No	\boxtimes	Depth (inch	es):									
Water Table	Present?	Yes		No	\boxtimes	Depth (inch	ies):									
Saturation Pr	resent?	Vee		Na		Denth (in -t			Watla	nd Hude	ology Procont	2	Vac		No	
(includes cap	oillary fringe)	am dai		nitoring		erial photos previ	ious inspection	s) if availa	nle.	na riyul	ology Preselli	•	163		NU	
Describe Rec		ani yat	ige, moi	moning	wen, a			oj, ii avallai	JIG.							

Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>2/29/16</u>	<u>6</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-55,</u>	WET FF
Investigator(s): Jason Cade, Widener and Assoc	iates		Section, T	ownship, Range: <u>18, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): floodplain		Loc	cal relief (coi	ncave, convex, none): <u>convex</u>	Slop	be (%):	<u>1</u>
Subregion (LRR): <u>B</u>	Lat:	_		Long:	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classi	fication: <u>PSS1C</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	ne of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)		
Are Vegetation \Box , Soil \Box , or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes		No 🗌
Are Vegetation \Box , Soil \boxtimes , or Hydrology	naturall	ly problematic?	lf ne	eded, explain any answers in Remarl	<s.)< td=""><td></td><td></td></s.)<>		
SUMMARY OF FINDINGS – Attach site map sh	lowing san	npling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌		`			
Hydric Soil Present?	Yes 🛛	No 🖾	Is the San	pled Area within a Wetland?	Yes		No 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗆		-			
Remarks: Island within the primary channel of the	Yakima Rive	r. Naturally pr	oblematic s	ioil - vegetated sand/gravel bar witl	nin floodplain.		
VEGETATION – Use scientific names of plants	S.						
<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:			
1. <u>None</u>				Number of Dominant Species	2		(A)
2				That Are OBL, FACW, or FAC:	<u> </u>		(A)
3				Total Number of Dominant	2		(B)
4				Species Across All Strata:	<u>-</u>		(D)
50% =, 20% =	<u>0</u>	= Total Cover		Percent of Dominant Species	100		(A/B)
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Are OBL, FACW, or FAC:	100		(10)
1. <u>Salix exigua</u>	<u>10</u>	yes	FACW	Prevalence Index worksheet:			
2. <u>Cornus sericea</u>	<u>15</u>	yes	FACW	<u>Total % Cover of :</u>	Multiply	v by:	
3. <u>Robinia pseudoacacia</u>	<u>5</u>	<u>no</u>	FACU	OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cover		FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species	x5 =		
1. <u>None</u>				Column Totals: (A)			(B)
2				Prevalence Inde	x = B/A =		
3				Hydrophytic Vegetation Indicator	s:		
4				Dominance Test is >50°	%		
5				Prevalence Index is <u><</u> 3.	0 ¹		
6				Morphological Adaptatic	ons ¹ (Provide supp	orting	
7				data in Remarks or on a	separate sheet)		
8				Problematic Hydrophyti	c Vegetation ¹ (Expl	lain)	
50% =, 20% =	<u>0</u>	= Total Cover					
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetlan	d hydrology must		
1. <u>None</u>							
2				Hydrophytic			
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 100	% Cover o	of Biotic Crust		Present?			
Remarks:							

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SOIL								Sampling Point: TP-55, W	ET FF
Profile Desc	ription: (Describe	to the depth	n needed to docum	ent the indic	ator or confirm	n the absenc	e of indicators	.)	
Depth	Matrix			Redox Fe	eatures				
(inches)	Color (moist)	%	Color (Moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks	
<u>0-20</u>	<u>10YR 2/2</u>	<u>100</u>					<u>sa cobble</u>		
			<u> </u>						
				. <u> </u>					
¹ Type: C= Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	Covered or	Coated Sand C	Grains. ² Loca	ation: PL=Pore I	Lining, M=Matrix.	
Hydric Soil I	Indicators: (Applica	able to all L	RRs, unless otherv	vise noted.)			Indicate	ors for Problematic Hydric Soils ³ :	
Histoso	ol (A1)		Sano Sano	ly Redox (S5	i)			1 cm Muck (A9) (LRR C)	
Histic E	Epipedon (A2)		☐ Strip	ped Matrix (S	6)			2 cm Muck (A10) (LRR B)	

	Histic Epipedon (A2)		Stripped Matrix (S6)				2 cm Muck	(A10) (LR	RB)		
	Black Histic (A3)		Loamy Mucky Mineral (F1)				Reduced Ve	ertic (F18)			
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)				
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)			\boxtimes	Other (Expl	ain in Ren	narks)		
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)								
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)								
	Thick Dark Surface (A12)		Redox Depressions (F8)				³ Indicators o	of hydroph	vtic vea	etation an	hd
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)			wetland h	ydrology i	nust be	present,		
	Sandy Gleyed Matrix (S4)					unless o	disturbed of	or proble	ematic.		
Rest	rictive Layer (if present):										
Туре	:										
Dept	h (Inches):	Hydric So	ils Pres	ent?		Yes		No	\boxtimes		
Rem	Remarks: Naturally problematic soil - vegetated sand/gravel bar within floodplain										
	,,	0									
HYC	ROLOGY										
HYD Wetl	ROLOGY and Hydrology Indicators:										
HYC Wetl Prim	PROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check	c all tha	t apply)			Seco	ondary Indicators	s (2 or mo	re requi	red)	
HYE Wetl Prim	PROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1)	all tha	t apply) Salt Crust (B11)			Seco	ondary Indicators Water Marks (F	s (2 or mo 31) (River	re requi 'ine)	red)	
HYC Wetl Prim	ROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2)	all tha	t apply) Salt Crust (B11) Biotic Crust (B12)			Seco	ndary Indicators Water Marks (f Sediment Depo	s (2 or mo 31) (River osits (B2)	re requi ine) (Riverir	red) ne)	
HYD Wetl Prim	PROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3)	all tha	t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)			Seco Seco S	ndary Indicators Water Marks (f Sediment Depo Drift Deposits (s (2 or mo 31) (River osits (B2) B3) (Rive	re requi 'ine) (Riverir rine)	red) ne)	
HYD Wetl Prim	PROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	all tha	t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)			Secc Secc Secc Secc Secc	ndary Indicators Water Marks (f Sediment Depo Drift Deposits (Drainage Patte	s (2 or mo 31) (River osits (B2) B3) (Rive erns (B10)	re requi ine) (Riverir rine)	red) ne)	
HYC Wetl Prim	PROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	all tha	t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	Living Roots	(C3)	Seco Seco S	ondary Indicators Water Marks (f Sediment Depo Drift Deposits (Drainage Patte Dry-Season W	s (2 or mo 31) (River osits (B2) (B3) (Rive orns (B10) ater Table	re requi ine) (Riverir rine) e (C2)	red) ie)	
HYC Wetl Prim	ROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)		t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4	Living Roots	(C3)	Secco	ondary Indicators Water Marks (f Sediment Depo Drift Deposits (Drainage Patte Dry-Season W Crayfish Burro	s (2 or mo 31) (River osits (B2) B3) (Rive erns (B10) ater Table ws (C8)	re requi ine) (Riverir rine) e (C2)	red) ne)	
HYC Wetl Prim	ROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)		t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled	Living Roots	(C3)	Secco	ondary Indicators Water Marks (f Sediment Depo Drift Deposits (Drainage Patte Dry-Season W Crayfish Burro Saturation Visi	s (2 or mo 31) (River posits (B2) B3) (Rive rrns (B10) ater Table ws (C8) ble on Ael	re requi rine) (Riverir rine) a (C2) rial Imaç	red) ne)	
HYC Wetl Prim	ROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)		t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilleo Thin Muck Surface (C7)	Living Roots	(C3)	Secc Secc Secc Secc Secc Secc Secc Secc	ndary Indicators Water Marks (f Sediment Depo Drift Deposits (Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Shallow Aquita	s (2 or mo 31) (River osits (B2) (B3) (Rive rrns (B10) ater Table ws (C8) ble on Aer rd (D3)	re requi rine) (Riverir rine) e (C2) rial Imaç	red) ie) jery (C9)	
HYE Wetl Prim	ROLOGY and Hydrology Indicators: ary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		t apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	Living Roots	(C3)	Seco	ondary Indicators Water Marks (I Sediment Depo Drift Deposits (Drainage Patte Dry-Season W Crayfish Burrov Saturation Visi Shallow Aquita FAC-Neutral To	s (2 or mo 31) (River osits (B2) B3) (Rive erns (B10) ater Table ws (C8) ble on Aer rd (D3) est (D5)	re requi ine) (Riverir rine) e (C2) rial Imag	red) re) rey (C9)	

Remarks: US Army Corps of Engineers

(includes capillary fringe)

Surface Water Present?

Water Table Present?

Saturation Present?

Yes

Yes

Yes

No

No

No

 \boxtimes

 \boxtimes

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Depth (inches):

Depth (inches):

Depth (inches):

Arid West - Version 2.0

Yes

 \boxtimes

No

Wetland Hydrology Present?

A120

Project Site:	East-West Corrie	<u>dor</u>		City/County:	<u>Yakima/Yaki</u>	<u>ma</u>	Sampling Date:	3/1/1	6			
Applicant/Owner:	Yakima County					State: <u>WA</u>	Sampling Point:	<u>TP-5</u> <u>HH</u>	7. W	<u>ET</u>		
Investigator(s):	Jason Cade, Wi	dener and Associ	ates	Section, Tow	nship, Range:	<u>18, 13N, 19E</u>						
Landform (hillslope,	terrace, etc.): flo	odplain_		Local relief (conca	ave, convex, n	one): <u>convex</u>	Slo	Slope (%): <u>1</u>				
Subregion (LRR)	: <u>B</u>		Lat:		Long:	_	Datum:	NAD83				
Soil Map Unit Name	e: <u>Weirman sand</u>	y loam, channeled	<u>1</u>			NWI class	ification: <u>PFO1A</u>					
Are climatic / hye	drologic conditions	s on the site typic	al for this time of year	?Yes 🛛	No 🗌	(If no, explain in R	emarks.)					
Are Vegetation	Soil □,	or Hydrology	significantly distu	rbed? Are "No	ormal Circumst	tances" present?	Yes	\boxtimes	No			
Are Vegetation	Soil 🛛,	or Hydrology	naturally problem	natic? (If need	led, explain ar	ly answers in Rema	rks.)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				

Remarks: Island within the primary channel of the Yakima River. Naturally problematic soil - vegetated sand/gravel bar within floodplain.

VEGETATION – Use scientific names of plant	s.			
Tree Stratum (Plot size: <u>30'</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:
 <u>Populus balsamifera</u> 2. 	<u>30</u>	<u>yes</u>	FAC	Number of Dominant Species <u>2</u> (A) That Are OBL, FACW, or FAC:
3				Total Number of Dominant <u>2</u> (B)
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cove	r	Percent of Dominant Species 100 (A/B
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				That Are OBL, FACW, or FAC:
1. <u>Populus balsamifera</u>	<u>30</u>	<u>yes</u>	FAC	Prevalence Index worksheet:
2				Total % Cover of : Multiply by:
3				OBL species x1 =
4				FACW species x2 =
5				FAC species x3 =
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cove	r	FACU species x4 =
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				UPL species x5 =
1. <u>None</u>				Column Totals: (A) (B)
2				Prevalence Index = B/A =
3				Hydrophytic Vegetation Indicators:
4				☑ Dominance Test is >50%
5				Prevalence Index is <3.0 ¹
6				Morphological Adaptations ¹ (Provide supporting
7				data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation ¹ (Explain)
50% =, 20% =	<u>0</u>	= Total Cove	r	
Woody Vine Stratum (Plot size: <u>15'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>None</u>				
2				Hydronhytic
50% =, 20% =	<u>0</u>	= Total Cove	r	Vegetation Yes No
% Bare Ground in Herb Stratum <u>100</u>	% Cover of Biotic Crust			
Remarks:				

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SOII

SOIL											Sampling P	oint: <u>1</u>	P-57,	WETH	HH		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)																	
Depth	Matrix Redox Features						res										
(inches)	Color (moist	t)	%	Co	lor (Mo	ist) <u>%</u>	Type ¹	Loc ²		Textur	e <u>Remarks</u>						
<u>0-6</u>	<u>10YR 2/2</u>		<u>100</u>						_	<u>silty sa</u>	<u>a</u>						
<u>6+</u>	<u>10YR 2/2</u>	_							_	cobbly s	<u>sa</u>						
		_							_								
		_							_								
		_							_								
		_							_								
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.																	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :																	
Histosol	(A1)					Sandy Redox (S5)			1 cm Muck (A9) (LRR C)								
Histic Ep	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LRR	: B)					
Black His	stic (A3)					Loamy Mucky Minera	Reduced Vertic (F18)										
Hydroge	n Sulfide (A4)					Loamy Gleyed Matrix	(F2)		Red Parent Material (TF2				F2)				
□ Stratified	Lavers (A5) (LRR C)				Depleted Matrix (F3)	· /			$\square \qquad \text{Other (Explain in Remarks)}$							
	ick (A9) (LRR	D)				Redox Dark Surface	(F6)			_		,					
Depleted	Below Dark S	, Surface ((A11)			Depleted Dark Surfac	e (F7)										
Thick Da	ark Surface (A	12)				Redox Depressions (F8)				0						
Sandy Mucky Mineral (S1)				Vernal Pools (F9)	al Pools (F9) vetland hydrolog							phytic vegetation and					
Sandy Gleved Matrix (S4)									unless disturbed or	r proble	matic.	,					
Restrictive La	ver (if presen	ut):										provid					
Denth (Inches):							Hvdric So	oils Pres	sent?	Yes	П	No					
Remarks:	v. Naturally proble	ematic s	oil - veo	etated	sand/a	ravel bar within floodola	in					<u> </u>					
. tomanior .	tatatan) propr			otatoa	ounu, g												
HYDROLOG	iΥ																
Wetland Hydr	ology Indicate	ors:															
Primary Indicators (minimum of one required; check all that apply)										Secon	dary Indicators (2 or more	e requir	ed)				
Surface	Water (A1)					Salt Crust (B11)					Water Marks (B1) (Riveri i	ne)					
🖾 🛛 High Wa	High Water Table (A2)					Biotic Crust (B12)				\boxtimes	Sediment Deposits (B2) (I	Riverin	e)				
Saturation	Saturation (A3)					Aquatic Invertebrates	(B13)			X I	Drift Deposits (B3) (River	ine)	e)				
U Water M	Water Marks (B1) (Nonriverine)					Hydrogen Sulfide Od	or (C1)		Drainage Patterns (B10)								
Sediment Deposits (B2) (Nonriverine)					Oxidized Rhizosphere	es along	Living Roots	s (C3)	Dry-Season Water Table (C2)								
Drift Deposits (B3) (Nonriverine) Presence of Re						Presence of Reduced	I Iron (C4	4)		Crayfish Burrows (C8)							
Surface Soil Cracks (B6) Recent Iron Reduction in Tille						n in Tille	d Soils (C6)	Saturation Visible on Aerial Imagery (C9)									
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)							Shallow Aquitard (D3)										
Water-Stained Leaves (B9) Other (Explain in Remarks)				narks)				FAC-Neutral Test (D5)									
Field Observa	tions:																
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):											
Water Table P	resent?	Yes	\boxtimes	No		Depth (inches):	8										
Saturation Pres	sent?	Yes		No		Depth (inches)	6		Wetlar	nd Hvdro	ology Present?	Yes		No			
(includes capill	lary fringe)			nitorin~				nc) if availat	blo:								
		eani yat	iye, 110	moning	well, a	enai priotos, previous l	ispection	nə), ii availai	ue.								
Remarks [.]																	

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Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	: <u>3/1/16</u>		
Applicant/Owner: Yakima County	State: <u>WA</u> Sampling Point: <u>TP-58, WE</u>							
Investigator(s): Jason Cade, Widener and Assoc	<u>ciates</u>		Section, T	ownship, Range: <u>18, 13N, 19E</u>				
Landform (hillslope, terrace, etc.): floodplain		Loc	cal relief (coi	ncave, convex, none): <u>convex</u>	Slc	ope (%): <u>1</u>		
Subregion (LRR): <u>B</u>	Lat:	_		Long:	Datum:	NAD83		
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classi	fication: <u>PFO1/U</u>	SA		
Are climatic / hydrologic conditions on the site typi	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)			
Are Vegetation □, Soil □, or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	🛛 No		
Are Vegetation 🔲, Soil 🖾, or Hydrology	natural	ly problematic?	e (lf ne	eded, explain any answers in Remark	(s.)			
SUMMARY OF FINDINGS – Attach site map st Hydrophytic Vegetation Present?	Nowing sar	No	locations,	, transects, important features,	etc.			
Hydric Soil Present?		No M	le the San	anled Area within a Wetland?	Vos		. п	
Wotland Hydrology Prosent?	Voc M			ipieu Area within a Wellanu :	163		,	
Remarks: Island within the primary channel of the	Yakima Rive	r Naturally pr	oblematics	soil - vegetated sand/gravel bar with	nin floodplain			
VEGETATION - Use scientific names of plant			obiciliatie e					
Tree Stratum (Plot size:30')	Absolute	Dominant	Indicator	Dominance Test Worksheet:				
1. <u>None</u>	<u>% Cover</u>	<u>Species /</u>	Status	Number of Dominant Species				
2				That Are OBL, FACW, or FAC:	<u>1</u>		(A)	
3				Total Number of Dominant	3		(B)	
4				Species Across All Strata:	<u>u</u>		(0)	
50% =, 20% =	<u>0</u>	= Total Cover		Percent of Dominant Species	<u>33</u>		(A/B)	
Sapling/Shrub Stratum (Plot size: <u>15')</u>				That Ale OBL, FACW, of FAC.				
1. <u>Salix exigua</u>	<u>30</u>	yes	FACW	Prevalence Index worksheet:				
2. <u>Populus balsamifera</u>	<u>2</u>	<u>no</u>	FAC	<u>Total % Cover of :</u>	Multipl	ly by:		
3	<u> </u>			OBL species	x1 =			
4				FACW species <u>30</u>	x2 =	<u>60</u>		
5				FAC species <u>2</u>	x3 =	<u>6</u>		
50% = <u>16</u> , 20% = <u>6.4</u>	<u>32</u>	= Total Cover		FACU species	x4 =			
Herb Stratum (Plot size: <u>5'</u>)				UPL species <u>3</u>	x5 =	<u>15</u>		
1. Linaria dalmatica	<u>2</u>	yes	UPL	Column Totals: <u>35</u> (A)		<u>81</u> (B)		
2. <u>Centaurea sp.</u>	<u>1</u>	yes	UPL	Prevalence Inde	ex = B/A = <u>2.31</u>			
3				Hydrophytic Vegetation Indicator	s:			
4				Dominance Test is >509	%			
5				Prevalence Index is <3.	0 ¹			
6				Morphological Adaptatio	ons ¹ (Provide sup	porting		
7	<u> </u>			data in Remarks or on a	separate sheet)			
8				Problematic Hydrophytic	c Vegetation¹ (Ex	plain)		
50% = <u>1.5,</u> 20% = <u>0.6</u>	<u>3</u>	= Total Cover						
Woody Vine Stratum (Plot size: <u>15'</u>)				Indicators of hydric soil and wetlan be present, unless disturbed or prob	d hydrology must plematic.			
1. <u>None</u>				, ,				
2				Hydrophytic				
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation Yes 🛛 No 🗆				
% Bare Ground in Herb Stratum <u>100</u>	% Cover	of Biotic Crust		Present?				
Remarks:								

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SOIL					Sampling Point: <u>TP-58, WET II</u>
Profile Description: (Describe to the depth need	led to do	ocument the indicator or confirm the	absence	of indicators	.)
Depth Matrix		Redox Features			
(inches) Color (moist) % Co	olor (Mois	<u>st) % Type1 L</u>	oc ²	Texture	Remarks
<u>0-6 10YR 3/2 100</u>				fine sand	
<u>6+</u>				<u>cobble</u>	
¹ Type: C= Concentration, D=Depletion, RM=Reduc	ed Matrix	x, CS=Covered or Coated Sand Grains.	² Locati	on: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs,	unless o	therwise noted.)		Indicate	ors for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox (S5)			1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)			2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)			Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)			Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)			Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)			
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)			
Thick Dark Surface (A12)		Redox Depressions (F8)		3	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Vernal Pools (F9)			wetland hydrology must be present,
Sandy Gleyed Matrix (S4)					unless disturbed or problematic.
Restrictive Layer (if present):					
Туре:					
Depth (Inches):		Hydric	: Soils Pr	resent?	Yes 🗌 No 🛛
Remarks: Naturally problematic soil - vegetated	I sand/gra	avel bar within floodplain			
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required: chec	k all that	apply)		Seconda	v Indicators (2 or more required)
Surface Water (A1)	Π	Salt Crust (B11)		□ Wa	ter Marks (B1) (Riverine)
High Water Table (A2)		Biotic Crust (B12)		Sec	liment Deposits (B2) (Riverine)
\square Saturation (A3)		Aquatic Invertebrates (B13)			t Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine)	П	Hydrogen Sulfide Odor (C1)		Dra	inage Patterns (B10)
Sediment Deposits (B2) (Nonriverine)	П	Oxidized Rhizospheres along Living R	oots (C3)		-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		□, □ Cra	vfish Burrows (C8)
Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (26)	□ Sat	uration Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)	,		allow Aquitard (D3)
Water-Stained Leaves (B9)		Other (Explain in Remarks)			C-Neutral Test (D5)
Field Observations:					
Surface Water Present? Ves D No.		Depth (inches):			
Water Table Present? Ves I No		Depth (inches):			
Saturation Present?					
(includes capillary fringe) Yes No	\boxtimes	Depth (inches):	Wetl	iand Hydrolo	av Present? Yes 🖾 No 🗌

Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>3/1/16</u>	
Applicant/Owner: <u>Yakima County</u>				State: <u>WA</u>	Sampling Point:	<u>TP-59 (we</u>	et JJ)
Investigator(s): Jason Cade, Widener & Associat	es		Section, To	ownship, Range: <u>S18, T13N, R19E</u>			
Landform (hillslope, terrace, etc.): floodplain		Loc	al relief (con	icave, convex, none): <u>none</u>	Slop	e (%): <u>0</u>	
Subregion (LRR): <u>B</u>	Lat:	_		Long:	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	d			NWI classif	ication: <u>PFO1/US</u>	A	
Are climatic / hydrologic conditions on the site typic	al for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Ren	narks.)		
Are Vegetation □, Soil □, or Hydrology	significa	antly disturbed	? Are "I	Normal Circumstances" present?	Yes	🛛 No	
Are Vegetation □, Soil □, or Hydrology	naturall	y problematic?	(If ne	eded, explain any answers in Remark	s.)		
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point	locations.	transects, important features.	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆		,			
Hydric Soil Present?	Yes 🛛	No 🗆	Is the Sam	pled Area within a Wetland?	Yes	No No	
Wetland Hydrology Present?	Yes 🕅	No 🗆					
Remarks:							
VEGETATION – Use scientific names of plants.							
Tree Stratum (Plot size:30 ' r)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1 Populus balcomiforo	% Cover	Species?	Status				
1. <u>Populus baisanniera</u>	20	<u>yes</u>	<u>1 AC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u>		(A)
2							
3				Total Number of Dominant Species Across All Strata:	<u>2</u>		(B)
4.	20	- Total Covo					
50% - 10, 20% - 4	20		I	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
Saping/Shub Stratum (Plot size: 15-1)	20		FAC	Drevelance Index worksheet			
1. <u>Populus baisaminera</u>	<u>20</u>	<u>yes</u>			Multipl		
2. <u>Salix exigua</u>	<u>5</u>	no	FACW	Total % Cover of :		<u>y by:</u>	
3. <u>Allus mombitolia</u>	<u>3</u>	no	FACW	OBL species	x1 =	<u> </u>	
4. <u>Rosa woodsii</u>	<u>1</u>	no	FACU	FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>14</u> , 20% = <u>5.8</u>	<u>29</u>	= Total Cove	r	FACU species	x4 =	<u> </u>	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species	x5 =		
1				Column Totals: (A)		(E	3)
2				Prevalence Inde	ex = B/A =		
3				Hydrophytic Vegetation Indicator	rs:		
4				Dominance Test is >50 ⁶	%		
5				Prevalence Index is <3.	0 ¹		
6				Morphological Adaptatio	ons ¹ (Provide supp	orting	
7				data in Remarks or on a	a separate sheet)		
8				Problematic Hydrophytic	c Vegetation ¹ (Exp	olain)	
50% =, 20% =		= Total Cove	r				
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)				be present, unless disturbed or pro	la nyarology must blematic.		
1							
2				Hydrophytic			
50% =, 20% =		= Total Cove	r	Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum	% Cover	of Biotic Crust		Present?			
Remarks:							

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Profile Description: (Description: (Description: (Description: (Description: Description: (Description: Description: Description: Description: (Description: Description: Descript	SOIL												Samp	oling Poir	nt: <u>TP-5</u>	9 (wet	<u>JJ)</u>	
Depth Matrix Redox Features (inclusis) Color (mostal) % Sa. cobble Coarsis grained, unable to sample deeper 6 10 YR 3/2 100	Profile Dese	cription: (Describe	e to the	depth	neede	d to d	ocument the indicato	r or conf	irm the abs	ence of	indica	tors.)						
International Sis Color Color Example Loci Taxbure Remarks 0.6 10YR 322 95 ZAYR 4/6 \$ C PL siss	Depth	Matrix					Redox Featu	ires										
bit 10 YR 3/2 95 Z.SYR.46 5 C PL alias	<u>(inches)</u>	Color (moist)		<u>%</u>	<u>Col</u>	or <u>(Moi</u>	<u>st) %</u>	Type ¹	Loc ²		<u>Textu</u>	ire	Re	marks				
6± 10YR.22 100 sa. cobble coarse grained, unable to sample deeper Type: C Coarse grained, unable to sample deeper coarse grained, unable to sample deeper Type: C Coarse grained, unable to all URRs, unless otherwise noted, Indicators: (Applicable to all LRss, unless otherwise noted, Histica (A) Sandy Redox (S5) 1 cm Muck (A9) (LRR 0) Sandy Redox (S5) 2 cm Muck (A10) (LR B) Histica Epipadon (A2) Straped Matrix (S3) Coarry Muck (M10) (LR B) Red Parch Material (TF2) Histica (A3) Loarry Muck Minral (F1) Red Parch Material (TF2) Red Parch Material (TF2) Stratified Layers (A) (LRR 0) Depleted Matrix (S3) Other (Explain in Remarks) 1 on Muck (A9) (LRR 0) Depleted bark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) watan hydrology must be present, unless disturbed or problematic. Type: Depleted Matrix (S4) unless disturbed or problematic. Retrictive Layer (If present): Type: Depleted Matrix (S1) watan hydrology must be present, unless disturbed or problematic. Type:	<u>0-6</u>	<u>10 YR 3/2</u>	9	<u>95</u>	<u>7.</u>	5YR 4/	<u>6 5</u>	<u>C</u>	<u>PL</u>		<u>si s</u>	<u>a</u> .						
Type: C: Concentration, D:Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soile*: Histosci (A1) Image: Strapped Matrix (S5) I torn Muck (A9) (LRR C) Histosci (A1) Sandy Redox (S5) I torn Muck (A9) (LRR C) Black Histo (A3) Loamy Mucky Mineral (F1) Red Parent Material (F2) Black Histo (A3) Loamy Mucky Mineral (F1) Red Parent Material (F2) Black Histo (A1) Depleted Matrix (F3) Other (Explain in Remarks) I torn Muck (A9) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I torn Muck (A9) (LRR D) Redox Dark Surface (F1) Indicators of hydrophytic vegetation and weather hydrology music be present, unless disturbed or problemate. Sandy Klocky Mineral (S1) Vermal Pools (F9) weathen hydrology music be present, unless disturbed or problemate. Restrictive Layer (If present): Type: Hydric Soils Present? Ves Type: Sandy Klocky Matrix (S1) Saturation (S1) Saturation (S1) (Revrine) Bepth (inches): Hydric Soils Present? Ves No Depleted Matrix (S1) Saturation (A3) Apaulaci Invertebrates (B1	<u>6+</u>	<u>10YR 2/2</u>	<u>1</u>	00						_	<u>sa, col</u>	oble	coarse o	grained,	unable to	sampl	e dee	per
Type: C: Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Caded Sand Grains. PLocation: PL=Pore Lining, M=Matrix. Histosol (A1) Sandy Redox (S5) 1 non Muck (A9) (LRR C) Histosol (A1) Sandy Redox (S5) 1 on Muck (A9) (LRR C) Histosol (A1) Sandy Redox (S5) 1 on Muck (A9) (LRR B) Black Histo (A2) Stripped Matrix (S1) 2 cm Muck (A10) (LRR B) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Redox device (F16) Hydrogen Suffice (A4) Loamy Gieyed Matrix (F2) Red Parent Material (TF2) I cm Muck (A9) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I cm Muck (A9) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Vermal Pools (F9) Wetand hydrophytic vegetation and wetand hydrophytic vegetation and wetand hydrophytic vegetation and wetand hydrology Indicators (P1) Sandy Mucky Mineral (S1) Vermal Pools (F9) Wetand Hydrology Indicators (2 or more required) Sandy Mucky Mineral (S1) Sand Crust (B11) Secondary Indicators (2 or more required) Sandy Mucky Mineral (S1) (Riverine) Biolic Crust (B12) Secondary Indicators (2 or more required) Satarow Mater Kans (B1) (Nonriverine) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										_								
Type: C: Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Histics Epipedion (A2) Stripped Matrix (S6) 1 cm Muck (A9) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Red Parent Material (TF2) Stripped Matrix (S1) Depleted Matrix (F2) Red Parent Material (TF2) In m Muck (A9) (LRR D) Depleted Matrix (F3) Other (Explain in Remarks) In ten Muck (A9) (LRR D) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and wetand hydrology must be present; In ten Muck (A9) (LRR D) Redox Dark Surface (F7) Indicators of hydrophytic vegetation and wetand hydrology must be present; In ten Kurk (A9) (LRR D) Redox Dark Surface (F7) Indicators (A1) Underset (A1) In thick (A9) (LRR D) Redox Dark Surface (F7) Indicators (CP) Indicators (A1) In thick (A9) (LRR D) Redox Dark Surface (F8) Indicators (CP) Indicators (CP) In thick (A9) (LRR D) Vermal Pools (F9) Indicators (2 or more required) Redox Dark Surface (A12) Secondary Indicators (2 or more required) Indicators (A1) (RNereine) Indicators (A1) (RNereine)										_								
Type: C- Concentration, D-Depletion, RM=Reduced Matrix, CS=Covered or Coaled Sand Grains. ³ Location: PL=Pore Lining, M=Matrix. Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Sols ³ : Histics (A1) Sandy Redox (S5) 1 cm Muck (A0) (LRR C) Histic Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Sols ³ : Histic Eppedion (A2) Stripped Matrix (S6) 2 cm Muck (A0) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Redox Overtic (F18) Hydrogen Suffice (A4) Loamy Gieyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I om Muck (A9) (LRR D) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): unless disturbed or problematic. Type:										_								
Type: Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coaled Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solis! Histosel (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Bilack Histic (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Hydrogon Suffie (A4) Loamy Guyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Distratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Thick Nark Surface (A11) Depleted Dark Surface (F7) Thick Nark Surface (A12) Redox Depressions (F8) Sandy Gloged Matrix (S4) Uremal Pools (F9) *uelland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Trp:										_								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Histics [A] Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histics [A] Loamy Mucky Mineral (F1) Reduced Vertic (F18) Histics [A] Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gieyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Tom Mucky Mineral (S1) Vernal Pools (F9) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:	¹ Type: C= C	oncentration, D=De	epletion	i, RM=F	Reduce	d Matr	ix, CS=Covered or Coa	ated Sand	d Grains. ²	Locatior	n: PL=P	ore Linir	ng, M=M	latrix.				
□ Histics (A1) □ Sandy Redox (S5) □ 1 cm Muck (A9) (LRR C) □ Histic Speedon (A2) □ Stripped Matrix (S5) □ 2 cm Muck (A0) (LRR B) □ Black Histic (A3) □ Leamy Gleyed Matrix (F2) □ Red Parent Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redex Dark Surface (F6) □ Other (Explain in Remarks) □ Thick Dark Surface (A11) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A12) □ Redox Depressions (F8) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Bashdy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Remarks:	Hydric Soil	Indicators: (Appli	cable t	o all Li	RRs, u	nless o	otherwise noted.)				Ind	icators	for Prob	olematic	Hydric S	Soils ³ :		
□ Histic Epipedon (A2) □ Stripped Matrix (S6) □ 2 cm Muck (A10) (LRR B) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sulfide (A4) □ Loamy Gieyed Matrix (F2) □ Red Arenet Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ tor Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ □ □ Depleted Balow Dark Surface (A11) □ Depleted Dark Surface (F7) □ □ □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) ■ ■ ■ Sandy Gleyed Matrix (S4) Unless disturbed or problematic. Restrictive Layer (If present): ■ ■ ■ ■ Type:	Histos	iol (A1)					Sandy Redox (S5)					1 cm	Muck (A9) (LRF	τC)			
□ Black Histic (A3) □ Learny Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sulfide (A4) □ Learny Gieyed Matrix (F2) □ Red Parent Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F7) □ Thick Dark Surface (A11) □ Depleted Dark Surface (F8) □ □ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Type:		Epipedon (A2)					Stripped Matrix (S6)					2 cm	n Muck (A10) (LF	RRB)			
□ Hydrogen Sullide (A4) □ Loamy Gleyed Matrx (F2) □ Red Parent Material (F2) □ Statified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ Thick Dark Surface (A11) □ Depleted Dark Surface (F6) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) 3 Sandy Mudky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:	Black	Histic (A3)					Loamy Mucky Minera	al (F1)				Redu	uced Ve	ertic (F18)			
□ Strattide Layers (A5) (LRR 6) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR 0) □ Redox Dark Surface (F6) □ □ Depleted Delow Dark Surface (A12) □ Redox Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Image Strattine (S1) Image Strattine (S1) □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Image Strattine (S1) Image Strattine (S1) Peter (Inches):	∐ Hydro	gen Sulfide (A4)					Loamy Gleyed Matrix	(F2)				Red	Parent	Material	(TF2)			
□ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F4) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Type:		ied Layers (A5) (LR	RR C)				Depleted Matrix (F3)					Othe	er (Expla	ain in Rer	narks)			
□ bepieted below Dark Surface (A12) □ Depieted Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present):		Muck (A9) (LRR D)					Redox Dark Surface	(F6)										
□ Intex Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present):		ted Below Dark Sur	face (A	(11)			Depleted Dark Surface	ce (F7)										
□ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. unless disturbed or problematic. Restrictive Layer (If present):		Dark Surface (A12))				Redox Depressions ((F8)				³ India	cators o	f hydropł	nytic veg	etation	and	
□ Sandy Gleyed Matrix (S4) unless disturbed of problematic. Restrictive Layer (if present): Type:	□ Sandy	Mucky Mineral (S1	1)				Vernal Pools (F9)					We	etland h	ydrology	must be	presen	t,	
Type:	□ Sandy	Gleyed Matrix (S4)									ι	uniess d	listurbed	or proble	matic.		
Type:	Restrictive	Layer (if present):																
Remarks: Hybric Sons Present? Test No Instrume Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Water Table Present?	Type: Dopth (Inch								Hydric Sc	ile Droc	ont?			Vac		No	Г	-
Trements: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Saturation Present? Yes No Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No	Bemarke:								Hyunc Sc	JIS FIES	Senti			162		NU		1
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Water Marks (B1) (Nonriverine) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: No Depth (inches): Saturation Present? Yes No Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No	Remarks.																	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Nater Marks (B1) (Riverine) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) (Riverine) Sediment Deposits (B2) (Nonriverine) Value Ricent Iron Reduction in Tilled Solis (C6) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Solis (C6) Saturation Visible on Aerial Imagery (C9) Water -Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No Depth (inches): Craylish Leaver and unde monitoring well aerial photos previous inspectione) if available: Wetland Hydrology Present? Yes No No	HYDROLOG	9Y																
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Surface Water (A1) □ Salt Crust (B11) □ Water Marks (B1) (Riverine) Image: Crust (B12) Image: Crust (B12) Image: Crust (B12) Image: Crust (B13) Image: Crust (Crust (B13) Image: Crust (Crust (B13) Image: Crust (Crust (B13) Image: Crust (Primary Indi	cators (minimum of	one re	quired;	check	all that	apply)				Seco	ndary In	dicators	; (2 or mo	ore requir	ed)		
High Water Table (A2) □ Biotic Crust (B12) ☑ Sediment Deposits (B2) (Riverine) Saturation (A3) □ Aquatic Invertebrates (B13) □ Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) □ Hydrogen Sulfide Odor (C1) □ Drainage Patterns (B10) Drift Deposits (B3) (Nonriverine) □ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) □ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) Field Observations: □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Saturation Present? Yes No □ Depth (inches):	Surfa	ce Water (A1)					Salt Crust (B11)					Water N	/larks (B	81) (Rive	rine)			
□ Saturation (A3) □ Aquatic Invertebrates (B13) □ Drift Deposits (B3) (Riverine) □ Water Marks (B1) (Nonriverine) □ Hydrogen Sulfide Odor (C1) □ Drainage Patterns (B10) □ Sediment Deposits (B2) (Nonriverine) ☑ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) □ Drift Deposits (B3) (Nonriverine) ☑ Presence of Reduced Iron (C4) □ Crayfish Burrows (C8) □ Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) Field Observations: □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Surface Water Present? Yes No □ Depth (inches):	High High	Water Table (A2)					Biotic Crust (B12)				\boxtimes	Sedime	nt Depo	osits (B2)	(Riverin	e)		
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) X Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge monitoring well aerial photos previous inspections) if available: Wetland Hydrology Present? Yes No No	Satur:	ation (A3)					Aquatic Invertebrates	s (B13)				Drift De	posits (I	B3) (Rive	erine)			
□ Sediment Deposits (B2) (Nonriverine) ☑ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) □ Drift Deposits (B3) (Nonriverine) □ Presence of Reduced Iron (C4) □ Crayfish Burrows (C8) □ Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	Wate	r Marks (B1) (Nonr i	iverine)			Hydrogen Sulfide Od	or (C1)				Drainag	e Patte	rns (B10))			
□ Drift Deposits (B3) (Nonriverine) □ Presence of Reduced Iron (C4) □ Crayfish Burrows (C8) □ Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	Sedin Sedin	nent Deposits (B2)	(Nonriv	verine)		\boxtimes	Oxidized Rhizospher	es along	Living Roots	s (C3)		Dry-Sea	ason Wa	ater Table	e (C2)			
□ Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	Drift D	Deposits (B3) (Non	riverine	e)			Presence of Reduce	d Iron (C4	+)			Crayfisł	n Burrov	vs (C8)				
□ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	Surfa	ce Soil Cracks (B6))				Recent Iron Reduction	on in Tilleo	d Soils (C6)			Saturati	ion Visit	ole on Ae	rial Imag	ery (CS	9)	
□ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes □ No □ Depth (inches):	Inund	ation Visible on Ae	rial Ima	gery (E	87)		Thin Muck Surface (C7)				Shallow	/ Aquita	rd (D3)				
Field Observations: Surface Water Present? Yes No Depth (inches):	U Wate	r-Stained Leaves (E	39)				Other (Explain in Ren	marks)				FAC-Ne	eutral Te	est (D5)				
Surface Water Present? Yes No Depth (inches):	Field Obser	vations:																
Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Saturation Present? (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge monitoring well aerial photos previous inspections) if available: Wetland Hydrology Present? Yes No Image: Stream gauge monitoring well aerial photos previous inspections) if available:	Surface Wat	ter Present?	Yes		No		Depth (inches):											
Saturation Present? (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge monitoring well aerial photos previous inspections) if available:	Water Table	Present?	Yes		No		Depth (inches):											
DESIDE DEDUCED DATA DEPENDENT DATUE TOOTOTOTO WELL'ARDA DIDUCT. DIEVIOUS INSPECTORS IL AVAILADIE.	Saturation P (includes ca	Present? pillary fringe)	Yes		No		Depth (inches):) if availab	Wetla	nd Hyd	rology F	Present	?	Yes		No	

Project Site: East-West Corridor			City/County	y: <u>Yakima/Yakima</u> Sam	pling Date: 🗧	<u>3/2/16</u>	
Applicant/Owner: <u>Yakima County</u>				State: <u>WA</u> Samp	oling Point:	<u>TP-61 (</u> ι	<u>ipl JJ)</u>
Investigator(s): <u>Jason Cade, Widener & Associat</u>	es		Section, To	wnship, Range: <u>S18, T13N, R19E</u>			
Landform (hillslope, terrace, etc.): upland area in rive	rine island	Loc	al relief (con	cave, convex, none):	Slope	e (%): _	
Subregion (LRR): <u>B</u>	Lat:	_		Long:	Datum: <u>NA</u>	<u>D83</u>	
Soil Map Unit Name: Weirman sandy loam, channele	<u>d</u>		_	NWI classification	: <u>PFO1/USA</u>	<u> </u>	
Are climatic / hydrologic conditions on the site typic	al for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Remarks.)	ļ	_	_
Are Vegetation , Soil , or Hydrology	significa	antly disturbed?	? Are "N	Normal Circumstances" present?	Yes [X No	› 🗆
Are Vegetation □, Soil ⊠, or Hydrology	naturall	y problematic?	(If nee	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point	locations,	transects, important features, etc.			
Hydrophytic Vegetation Present?	Yes 🖂						-
Hydric Soil Present?	Yes 📋	No 🖂	Is the Sam	pled Area within a Wetland?	Yes L		、 ⊠
Wetland Hydrology Present?	Yes 🗌	No 🛛					
Remarks: Soils cobble to surface, naturally problemation	С.						
VEGETATION – Use scientific names of plants.		<u> </u>					
<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
 <u>Populus balsamifera</u> 2. 	<u>60</u>	<u>ves</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>		(A)
3.				Total Number of Dominant Species Across All Strata:	<u>4</u>		(B)
4 50% =, 20% =	<u>60</u>	= Total Cover	r	Percent of Dominant Species	<u>75</u>		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, of FAC.			
1. <u>Populus balsamifera</u>	<u>3</u>	yes	<u>FAC</u>	Prevalence Index worksheet:			
2. <u>Ribes aureum</u>	<u>1</u>	<u>yes</u>	<u>FAC</u>	<u>Total % Cover of :</u>	Multiply	by:	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>2</u> , 20% = <u>0.8</u>	<u>4</u>	= Total Cover	r	FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species	x5 =		
1. Linaria dalmatica	<u>3</u>	yes	NL (UPL)	Column Totals: (A)			(B)
2				Prevalence Index = B/A	A =		
3				Hydrophytic Vegetation Indicators:			
4.				Dominance Test is >50%			
5				Prevalence Index is <u><</u> 3.0 ¹			
6 7				Morphological Adaptations ¹ (P data in Remarks or on a sepa	'rovide suppo rate sheet)	orting	
8				Problematic Hydrophytic Vege	tation ¹ (Expl	ain)	
50% =	3	= Total Cover	r		allon (Expi	,	
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)	-			¹ Indicators of hydric soil and wetland hydr be present, unless disturbed or problemat	ology must ic.		
1							
2				Hydrophytic		N-	
50% =, 20% =		= Total Cover	r	Vegetation Yes Present?	۲	NO	
% Bare Ground in Herb Stratum	% Cover	of Biotic Crust					
Remarks:							

US Army Corps of Engineers

SOIL										Sampl	ing Poin	t: <u>TP-6</u>	1 (upl 、	<u>11)</u>	
Profile Description: (Descri	be to th	e depti	n neede	ed to d	ocument the indicator of	or confi	rm the abs	ence of	indica	tors.)					
Depth Mati	rix				Redox Feature	s									
(inches) Color (moist	<u>t)</u>	<u>%</u>	<u>Col</u>	or <u>(Mo</u>	<u>ist) % T</u>	vpe ¹	Loc ²		<u>Textu</u>	<u>re</u> <u>Ren</u>	<u>narks</u>				
0+	_				<u> </u>			_	<u>cobb</u>	<u>e</u>					
	_				<u> </u>			_							
	_				<u> </u>			_							
	-							_							
	_							_							
	_							_							
¹ Type: C= Concentration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Coate	ed Sand	Grains. ²	Location	: PL=P	ore Lining, M=Ma	atrix.				
Hydric Soil Indicators: (App	olicable	to all L	.RRs, u	nless	otherwise noted.)				Ind	icators for Probl	ematic	Hydric S	ioils ³ :		
Histosol (A1)					Sandy Redox (S5)					1 cm Muck (A	9) (LRR	l C)			
Histic Epipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A	(10) (LR	R B)			
Black Histic (A3)					Loamy Mucky Mineral ((F1)				Reduced Ver	tic (F18)				
Hydrogen Sulfide (A4)					Loamy Gleyed Matrix (F	F2)				Red Parent M	laterial (TF2)			
Stratified Layers (A5) (LRR C)				Depleted Matrix (F3)				\boxtimes	Other (Explai	n in Ren	narks)			
1 cm Muck (A9) (LRR	D)				Redox Dark Surface (F	6)									
Depleted Below Dark S	Surface (A11)			Depleted Dark Surface	(F7)									
Thick Dark Surface (A1	12)				Redox Depressions (F8	3)				³ Indicators of	hydroph	vtic vege	tation	and	
Sandy Mucky Mineral (S1)				Vernal Pools (F9)					wetland hy	drology i	must be i	oreseni	t,	
Sandy Gleyed Matrix (S4)									unless dis	sturbed	or proble	matic.		
Restrictive Layer (if presen	t):														
Туре:															
Depth (Inches):							Hydric So	oils Pres	ent?		Yes		No	\boxtimes	1
Remarks: Large cobble to	o surface	•													
IYDROLOGY															
Wetland Hydrology Indicate	ors:														
Primary Indicators (minimum	of one r	equired	; check	all tha	t apply)				Seco	ndary Indicators ((2 or mo	re requir	ed)		
Surface Water (A1)					Salt Crust (B11)					Water Marks (B1	I) (River	ine)			
High Water Table (A2)	1				Biotic Crust (B12)					Sediment Depos	sits (B2)	(Riverin	e)		
Saturation (A3)					Aquatic Invertebrates (B	B13)				Drift Deposits (B	3) (Rive	rine)			
Water Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor	(C1)				Drainage Patterr	ns (B10)				
Sediment Deposits (B2	2) (Nonr	iverine)		Oxidized Rhizospheres	along L	_iving Roots	s (C3)		Dry-Season Wat	ter Table	e (C2)			
Drift Deposits (B3) (No	onriverir	ne)			Presence of Reduced In	ron (C4)			Crayfish Burrows	s (C8)				
Surface Soil Cracks (B	86)				Recent Iron Reduction	in Tilled	l Soils (C6)			Saturation Visibl	e on Aei	rial Image	ery (C9)	
Inundation Visible on A	Aerial Im	agery (I	B7)		Thin Muck Surface (C7)				Shallow Aquitare	d (D3)	-	-		
Water-Stained Leaves	(B9)				Other (Explain in Rema	ırks)				FAC-Neutral Tes	st (D5)				
Field Observations:															
Surface Water Present?	Yes		No		Depth (inches):										
Water Table Present?	Yes		No		Depth (inches):										
Saturation Present? (includes capillary fringe)	Yes		No		Depth (inches):			Wetlar	nd Hyd	rology Present?		Yes		No	\triangleright
Describe Recorded Data (stre	eam gau	ige, moi	nitoring	well, a	erial photos, previous ins	pection	s), if availat	ole:							

Remarks: no evidence of hydrology found US Army Corps of Engineers

Project Site:	East-West Corri	<u>dor</u>		City/County:	Yakima/Ya	<u>ikima</u>		Sampling	g Date:	<u>1-21-</u>	<u>19</u>	
Applicant/Owner:	Yakima County					State:	WA	Sampling	g Point:	<u>TP-20</u> wet)	0 <u>6 (</u> K	<u>K -</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associates		Section, Tow	nship, Rang	e: <u>S17, </u>	<u>F13N, R19E</u>					
Landform (hillslope,	terrace, etc.): flo	odplain_	Loc	al relief (conca	ave, convex,	none): <u>r</u>	none		Slop	be (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>	La	t: <u>46.614653</u>		Long: <u>-12</u>	0.487631		Da	tum: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sand</u>	<u>y loam, channeled</u>					NWI classific	cation: <u>R</u>	3USC			
Are climatic / hyd	drologic conditions	s on the site typical fo	r this time of year?	Yes 🛛	No 🗌	(If no,	explain in Rem	arks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly disturbed	? Are "No	ormal Circum	stances"	present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🛛,	or Hydrology	naturally problematic?	(If need	led, explain a	any answ	ers in Remarks	s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗌
Wetland Hydrology Present?	Yes	\boxtimes	No				

Remarks: Entisols within floodplain naturally problematic. Wetland boundary drawn at intersection of more densely-vegetated area and sparsely-populated cobble rock

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. <u>Salix fragilis</u> 2	<u>50</u>	<u>yes</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
3 4				Total Number of Dominant 6 (B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)	<u>50</u>	= Total Cove	r	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B
1. <u>Salix exigua</u>	<u>50</u>	<u>yes</u>	FACW	Prevalence Index worksheet:
2				Total % Cover of : Multiply by:
3.				OBL species x1 =
4				FACW species x2 =
5				FAC species x3 =
50% =, 20% =		= Total Cove	r	FACU species x4 =
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =
1. <u>Bassia scoparia</u>	<u>30</u>	<u>yes</u>	FAC	Column Totals: (A) (B)
2. <u>Rumex crispus</u>	<u>20</u>	<u>yes</u>	FAC	Prevalence Index = B/A =
3. <u>Tanacetum vulgare</u>	<u>20</u>	<u>ves</u>	FACU	Hydrophytic Vegetation Indicators:
4. <u>Centaurea sp.</u>	<u>20</u>	<u>yes</u>	NL (UPL)	☑ Dominance Test is >50%
5. <u>Lythrum salicaria</u>	<u>10</u>	<u>no</u>	<u>OBL</u>	Prevalence Index is <3.0 ¹
6				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7				
8				Problematic Hydrophytic Vegetation ¹ (Explain)
50% = 50, 20% = 20	<u>100</u>	= Total Cove	r	¹ Indicators of hydric soil and wetland hydrology must
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)				be present, unless disturbed or problematic.
1	<u> </u>			
2				Hydrophytic G G G
50% =, 20% =		= Total Cove	r	Vegetation Yes 🛛 No 🗌
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		
Remarks:				

US Army Corps of Engineers

SOIL											Sar	npling Poi	nt: <u>TP-</u>	·206 (I	<k -="" th="" w<=""><th>et)</th><th></th></k>	et)	
Profile Desc	cription: (Describ	e to th	e depth	n neede	ed to d	ocument the indica	ator or conf	irm the abs	ence of	f indicat	ors.)						
Depth	Matrix	(Redox Fe	atures										
(inches)	Color (moist)		%	Col	or (Mo	<u>ist) %</u>	<u>Type¹</u>	Loc ²		<u>Textu</u>	<u>re</u>	<u>Remark</u>	<u>s</u>				
<u>0-10</u>	<u>10 YR 4/3</u>		100						_	<u>sand</u>	<u>y</u>						
<u>10+</u>		_							_	cobble i	<u>rock</u> una	able to sar	nple de	eper			
		_							_								
		_							_								
		_							_								
		_							_								
¹ Type: C= Co	oncentration, D=D	epletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or	Coated Sand	d Grains. ²	Location	n: PL=P	ore Lining,	M=Matrix					
Hydric Soil	Indicators: (Appl	icable	to all L	RRs, u	nless	otherwise noted.)				Indi	cators for	Problem	atic Hy	dric S	oils³:		
Histos	ol (A1)					Sandy Redox (S5)				1 cm M	uck (A9) (LRR C))			
Histic I	Epipedon (A2)					Stripped Matrix (S	6)				2 cm M	uck (A10)	(LRR E	3)			
Black I	Histic (A3)					Loamy Mucky Min	ieral (F1)				Reduce	ed Vertic (F18)				
Hydrog	gen Sulfide (A4)					Loamy Gleyed Ma	atrix (F2)				Red Pa	rent Mate	rial (TF2	2)			
Stratifi	ed Layers (A5) (Ll	RR C)				Depleted Matrix (F	-3)			\boxtimes	Other (Explain in	Remarl	<s)< td=""><td></td><td></td><td></td></s)<>			
🔲 1 cm N	Muck (A9) (LRR D))				Redox Dark Surfa	ce (F6)										
Deplet	ed Below Dark Su	rface (A11)			Depleted Dark Su	rface (F7)										
Thick I	Dark Surface (A12)				Redox Depressior	ns (F8)				³ Indicat	ors of hyd	rophytic	vege	tation	and	
Sandy	Mucky Mineral (S	1)				Vernal Pools (F9)					wetla	nd hydrol	ogy mus	st be p	resent	t,	
Sandy	Gleyed Matrix (S4	4)									unl	ess disturl	oed or p	robler	natic.		
Restrictive I	Layer (if present)	:															
Туре:																	
Depth (Inche	es):							Hydric So	oils Pres	sent?		Ye	s [No	\boxtimes]
Remarks:	cobble encounte	red at	10 inch	depth.	Proble	matic soil conditions	due to frequ	uent flooding	g, erosio	n, and c	lepostion ir	n floodplai	n.				
HYDROLOG	βY																
Wetland Hy	drology Indicator	's:															
Primary Indic	cators (minimum o	f one r	equired	; check	all tha	t apply)				Seco	ndary Indic	ators (2 o	r more r	equire	ed)		
Surfac	ce Water (A1)					Salt Crust (B11)				\boxtimes	Water Mar	ks (B1) (F	Riverine	e)			
🔲 🛛 High V	Water Table (A2)					Biotic Crust (B12)				\boxtimes	Sediment	Deposits (B2) (Ri	verine	e)		
Satura	ation (A3)					Aquatic Invertebra	ates (B13)			\boxtimes	Drift Depo	sits (B3) (I	Riverin	e)			
□ Water	Marks (B1) (Noni	riverin	e)			Hydrogen Sulfide	Odor (C1)			\boxtimes	Drainage I	Patterns (E	310)				
Sedim	nent Deposits (B2)	(Nonr	verine))		Oxidized Rhizospl	neres along	Living Roots	s (C3)		Dry-Seaso	n Water T	able (C	2)			
Drift D	eposits (B3) (Non	riverir	ne)			Presence of Redu	ced Iron (C4	+)			Crayfish B	urrows (C	8)				
Surfac	ce Soil Cracks (B6)				Recent Iron Redu	ction in Tilleo	d Soils (C6)			Saturation	Visible or	Aerial	Image	ery (C9)	
🗌 Inunda	ation Visible on Ae	erial Im	agery (E	37)		Thin Muck Surface	e (C7)				Shallow A	quitard (D	3)				
⊠ Water	-Stained Leaves (B9)				Other (Explain in I	Remarks)				FAC-Neut	ral Test (D	95)				
Field Obser	vations:																
Surface Wat	er Present?	Yes		No		Depth (inches	s):										
Water Table	Present?	Yes		No		Depth (inches	s):										
Saturation Pr (includes cap	resent? oillary fringe)	Yes		No		Depth (inches	s):		Wetla	nd Hydi	rology Pre	sent?	,	Yes		No	
Describe Re	corded Data (strea	am gau	ige, moi	nitoring	well, a	erial photos, previou	us inspectior	ns), if availal	ole:								

Project Site:	East-West Corrie	dor		City/County:	<u>Yakima</u>	/Yakima		Sampli	ng Date:	<u>1-21-</u>	<u>19</u>	
Applicant/Owner:	Yakima County					State:	WA	Sampliı	ng Point:	<u>TP-2</u> up)	<u>05 (K</u>	<u>K -</u>
Investigator(s):	<u>Teddi McFall, W</u>	idener & Associates		Section, Tow	nship, Ra	ange: <u>S17</u> ,	T13N, R19E					
Landform (hillslope,	terrace, etc.): flo	odplain	Loc	al relief (conca	ave, conv	ex, none):	none		Slo	oe (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>	La	t: <u>46.6144772</u>		Long:	-120.48762	<u>35</u>	D	atum: <u>N</u>	IAD83		
Soil Map Unit Name	: <u>Weirman sand</u>	<u>y loam, channeled</u>					NWI classif	fication:	PUS/FO	<u>1A</u>		
Are climatic / hyd	drologic conditions	s on the site typical fo	r this time of year?	Yes 🛛	No	□ (If no	explain in Rei	marks.)				
Are Vegetation	Soil □,	or Hydrology	significantly disturbed?	P Are "No	ormal Circ	cumstances	" present?		Yes	\boxtimes	No	
Are Vegetation	Soil 🛛,	or Hydrology	naturally problematic?	(If need	led, expla	ain any ansv	vers in Remark	(s.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No					
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No	\boxtimes
Wetland Hydrology Present?	Yes	\boxtimes	No					
								,

Remarks: floodplain entisols naturally problematic. Very low density in vegetation, mostly cobble with hydrophytic weedy species. Wetland boundary drawn at edge of more dense foliage and less-vegetated cobble rock area.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1 2			_	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
3 4				Total Number of Dominant Species Across All Strata: <u>3</u>	(B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)		= Total Cove	r	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u>	(A/B)
1. <u>Salix exigua</u>	<u>5</u>	<u>yes</u>	FACW	Prevalence Index worksheet:	
2				Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species x2 =	
5				FAC species x3 =	
50% =, 20% =	<u>5</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Xanthium strumarium</u>	<u>8</u>	<u>yes</u>	FAC	Column Totals: (A)	(B)
2. <u>Phalaris arundinacea</u>	<u>2</u>	<u>yes</u>	FACW	Prevalence Index = B/A =	
0				Hydrophytic Vegetation Indicators:	
3.					
3 4				Dominance Test is >50%	
3 4 5		_		☑ Dominance Test is >50% □ Prevalence Index is ≤3.01	
3 4 5 6				☑ Dominance Test is >50% □ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting	
3. 4. 5. 6. 7.				☑ Dominance Test is >50% □ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
3.				☑ Dominance Test is >50% □ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation ¹ (Explain)	
3 4 5 6 7 8 50% = <u>5</u> , 20% = <u>2</u>	 10	 = Total Cove		☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain)	
3 4 5 6 7 8 50% = <u>5</u> , 20% = <u>2</u> <u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)	 <u>10</u>	 = Total Cove		☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic	
3 4 5 6 7 8 50% = <u>5</u> , 20% = <u>2</u> <u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>) 1	 <u>10</u>	 = Total Cove		☑ Dominance Test is >50% ☑ Prevalence Index is ≤3.01 ☑ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) ☑ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3 4 5 6 7 8 50% = $\underline{5}$, 20% = $\underline{2}$ <u>Woody Vine Stratum</u> (Plot size: $\underline{5} ' \mathbf{r}$) 1 2	 <u>10</u>	 = Total Cove		☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3 4 5 6 7 8 50% = <u>5</u> , 20% = <u>2</u> <u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>) 1 2 50% =, 20% =	 <u>10</u>	= Total Cove		☑ Dominance Test is >50% □ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation ¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Yes No	
3.	 10 % Cover	= Total Cove		☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	

US Army Corps of Engineers

SOIL											S	ampling	Point:	TP-205	<u>(KK - ι</u>	<u>(qı</u>	
Profile Desc	cription: (Describe	to the	e depth	n neede	ed to d	ocument the indic	ator or conf	irm the abs	ence of	f indicat	ors.)						
Depth	Matrix					Redox F	eatures										
<u>(inches)</u>	Color (moist)		<u>%</u>	Col	or <u>(Mo</u>	<u>ist) %</u>	Type ¹	Loc ²		<u>Textu</u>	re	Rema	arks				
<u>0+</u>		_							_	cobble i	<u>rock u</u>	nable to	dig deep	oer, fine	sand o	coating	<u>a</u>
		_							_								
		_							_								
		_							_			<u> </u>					
		_							_			<u> </u>					
									_								
¹ Type: C= C	oncentration, D=De	epletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or	Coated Sand	I Grains. ²	Locatio	n: PL=P	ore Lining	, M=Mat	rix.				
Hydric Soil	Indicators: (Applie	cable	to all L	RRs, u	nless	otherwise noted.)				Ind	cators fo	or Proble	matic H	lydric S	oils ³ :		
Histos	ol (A1)					Sandy Redox (S	5)				1 cm l	Muck (A9	9) (LRR	C)			
Histic	Epipedon (A2)					Stripped Matrix (S6)				2 cm l	Muck (A1	0) (LRF	RB)			
Black	Histic (A3)					Loamy Mucky Mi	neral (F1)				Reduc	ced Verti	c (F18)				
□ Hydrog	gen Sulfide (A4)					Loamy Gleyed M	atrix (F2)				Red F	Parent Ma	aterial (T	F2)			
Stratifi	ed Layers (A5) (LR	RC)				Depleted Matrix ((F3)				Other	(Explain	in Rem	arks)			
1 cm N	Muck (A9) (LRR D)					Redox Dark Surf	ace (F6)										
Deplet	ted Below Dark Sur	face (A	A11)			Depleted Dark S	urface (F7)										
Thick	Dark Surface (A12)					Redox Depression	ons (F8)				³ Indica	ators of h	ydrophy	/tic vege	tation	and	
□ Sandy	Mucky Mineral (S1)				Vernal Pools (F9)				wet	land hydi	rology m	nust be p	oresen	t,	
Sandy	Gleyed Matrix (S4)									ur	nless dist	urbed o	r problei	matic.		
Restrictive	Layer (if present):																
Туре:																	
Depth (Inche	es):							Hydric So	oils Pre	sent?			Yes		No	\boxtimes	3
Remarks:	Cobble encounter	red to	surface	. Soils	natural	ly problematic due	to location in	active flood	plain wi	th little ti	me to dev	velop.					
IYDROLOG	SY																
Wetland Hy	drology Indicators	5:															
Primary India	cators (minimum of	one re	equired	; check	all tha	t apply)				Seco	ndary Ind	icators (2	or mor	e require	ed)		
Surfac	ce Water (A1)					Salt Crust (B11)					Water Ma	arks (B1)	(Riveri	ne)			
🔲 High \	Water Table (A2)					Biotic Crust (B12)			\boxtimes	Sedimen	t Deposit	s (B2) (Riverine	∋)		
Satura	ation (A3)					Aquatic Invertebr	ates (B13)			\boxtimes	Drift Dep	osits (B3) (River	ine)			
Water	^r Marks (B1) (Nonr i	verine	e)			Hydrogen Sulfide	e Odor (C1)			\boxtimes	Drainage	Patterns	s (B10)				
Sedim	nent Deposits (B2)	(Nonri	iverine))		Oxidized Rhizosp	oheres along	Living Roots	s (C3)		Dry-Seas	son Wate	r Table	(C2)			
Drift D	Deposits (B3) (Non i	riverin	ie)			Presence of Red	uced Iron (C4	·)			Crayfish	Burrows	(C8)				
Surfac	ce Soil Cracks (B6)					Recent Iron Redu	uction in Tilled	d Soils (C6)			Saturatio	n Visible	on Aeri	al Image	ery (CS))	
🔲 Inund	ation Visible on Ae	rial Ima	agery (E	37)		Thin Muck Surfac	ce (C7)				Shallow /	Aquitard	(D3)				
Water	r-Stained Leaves (E	89)				Other (Explain in	Remarks)				FAC-Neu	utral Test	(D5)				
Field Obser	vations:																
Surface Wat	er Present?	Yes		No		Depth (inche	es):										
Water Table	Present?	Yes		No		Depth (inche	es):										
Saturation P (includes cap	resent? pillary fringe)	Yes		No		Depth (inche	es):		Wetla	nd Hyd	rology Pr	resent?		Yes		No	
Describe Re	corded Data (strea	m gau	ge, mor	nitoring	well, a	erial photos, previo	ous inspectior	ıs), if availat	ble:								

Project Site: <u>East-West Corridor</u>		City/County: Yakima/Yakima	Sampling Date: <u>10/13/16</u>
Applicant/Owner: Yakima County		State: WA	Sampling Point: TP-84 Wet LL
Investigator(s): <u>Sam Payne, Widener and Assoc</u>	iates	Section, Township, Range: <u>17, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): depression	Lo	cal relief (concave, convex, none): <u>convex</u>	Slope (%): <u>0</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.616076</u>	Long: <u>-120.487827</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: Weirman sandy loam, channele	ed	NWI classi	fication: None
Are climatic / hydrologic conditions on the site type		Yes 🛛 No 🗍 (If no, explain in Re	marks.)
Are Vegetation Soil Or or Hydrology	significantly disturbed	Are "Normal Circumstances" present?	Yes 🛛 No 🗆
Are Vegetation Soil or Hydrology	naturally problematic'	(If needed, explain any answers in Remark	
			(3.)
SUMMARY OF FINDINGS – Attach site map sh	lowing sampling point	locations, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes 🛛 No 🗆		
Hydric Soil Present?	Yes 🖾 No 🗖	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌
Wetland Hydrology Present?	Yes 🛛 No 🗌		
Remarks:			
VEGETATION – Use scientific names of plants	<u>.</u>		
Tree Stratum (Plot size:10m)	Absolute Dominant <u>% Cover Species?</u>	Indicator Status Dominance Test Worksheet:	
1. <u>Acer saccharinum</u>	<u>10 yes</u>	FAC Number of Dominant Species	
2		That Are OBL, FACW, or FAC:	<u>2</u> (A)
3		Total Number of Dominant	
4		Species Across All Strata:	<u>2</u> (B)
50% = <u>5</u> , 20% = <u>2</u>	10 = Total Cove	r Percent of Dominant Species	(10)
Sapling/Shrub Stratum (Plot size:4m)		That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
1		Prevalence Index worksheet:	
2.		Total % Cover of :	Multiply by:
3.		OBL species	x1 =
4.		FACW species	x2 =
5.		FAC species	x3 =
50% = 20% =	0 = Total Cove		×4 =
Herb Stratum (Dist size: $2m$)			X 4 =
THEID Stratum (FIOL SIZE. ZIT)		LIPI species	x5 -
		UPL species	x5 = (D)
1. <u>Phalaris arundinacea</u>	<u>15 yes</u>	UPL species FACW Column Totals: (A)	x5 = (B)
 <u>Phalaris arundinacea</u> <u>Centaurea spp.</u> 	<u>15 yes</u> 2 <u>no</u>	UPL species	x5 = (B) x = B/A =
 <u>Phalaris arundinacea</u> <u>Centaurea spp.</u> 	15 yes 2 no	UPL species FACW Column Totals: NL (UPL) Prevalence Inde Hydrophytic Vegetation Indicator	x5 = (B) x = B/A = (B)
 <u>Phalaris arundinacea</u> <u>Centaurea spp.</u> 	15 yes 2 no	UPL species	x5 = (B) x = B/A = (B) 's: %
Phalaris arundinacea Centaurea spp.	<u>15 yes</u> 2 no 	UPL species FACW Column Totals: NL (UPL) Prevalence Index Hydrophytic Vegetation Indicator Image: Solution	x5 = (B) x = B/A = (B) s: %
Phalaris arundinacea Centaurea spp.	15 yes 2 no	UPL species FACW Column Totals: NL (UPL) Prevalence Index Hydrophytic Vegetation Indicator ⊠ Dominance Test is >50° □ Prevalence Index is ≤3. □ Morphological Adaptation	x5 = (B) x = B/A = x5: % 0 ¹ ons ¹ (Provide supporting
Phalaris arundinacea Centaurea spp.	15 yes 2 no	UPL species FACW Column Totals: NL (UPL) Prevalence Index Hydrophytic Vegetation Indicator □ Dominance Test is >50° □ Prevalence Index is ≤3. □ Morphological Adaptatic data in Remarks or on at	x5 = (B) x = B/A = 's: % 0 ¹ ons ¹ (Provide supporting a separate sheet)
Phalaris arundinacea 2. <u>Centaurea spp.</u> 3.	15 yes 2 no	UPL species	x5 = (B) x = B/A = s: % 0 ¹ ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain)
Phalaris arundinacea Centaurea spp.	15 yes 2 no 17 = Total Cover	FACW Column Totals:	x5 = (B) x = B/A = (B) s: % 0 ¹ ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain)
 <u>Phalaris arundinacea</u> <u>Centaurea spp.</u> 	15 yes 2 no	UPL species	x5 = (B) x = B/A = (B) rs: % 0 ¹ ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain) d hydrology must olematic.
Phalaris arundinacea 2. <u>Centaurea spp.</u> 3.	15 yes 2 no	UPL species	x5 = (B) x = B/A = (B) rs: % 0 ¹ ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain) d hydrology must olematic.
Phalaris arundinacea Centaurea spp. 3.	15 yes 2 no	EACW Column Totals:	x5 = (B) x = B/A = s: % 01 ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain) d hydrology must olematic.
Phalaris arundinacea 2. Centaurea spp. 3.	15 yes 2 no	UPL species	x5 = (B) x = B/A = rs: % 01 ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain) d hydrology must olematic. Yes
 <u>Phalaris arundinacea</u> <u>Centaurea spp.</u> Moody Vine Stratum (Plot size:4m) <	15 yes 2 no	UPL species	x5 =(B) x = B/A =(B) rs: % 0 ¹ ons ¹ (Provide supporting a separate sheet) c Vegetation ¹ (Explain) d hydrology must olematic. Yes No □

US Army Corps of Engineers

SOIL												Sampli	ng Point:	<u>TP-84</u>	Wet LL
Profile Desc	ription: (Describ	be to th	e depth	need	ed to d	ocument the indicat	or or conf	irm the abs	ence of indi	cators.)					
Depth	Matri	х				Redox Fea	tures								
(inches)	Color (moist)		%	Co	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²	Te	dure	Re	<u>marks</u>			
<u>0-2</u>	<u>10YR 3/1</u>	-	100						silt	loam_					
<u>2-8</u>	<u>10YR 3/1</u>		<u>80</u>	7	.5YR 4/	<u>/6 20</u>	<u>C</u>	M	silt	<u>loam</u>					
		_							_						
¹ Type: C= Cc	oncentration. D=D)epletio	n. RM=F	Reduc	ed Matr	ix. CS=Covered or C	oated San	d Grains. 2	Location: PL	=Pore Lir	ina. M=N	latrix.			
Hydric Soil I	ndicators: (App	licable	to all LI	RRs. L	inless	otherwise noted.)				dicators	s for Prot	olematic	Hvdric S	Soils ³ :	
☐ Histoso	ol (A1)			-, -		Sandv Redox (S5)			Γ] 1 c	m Muck (A9) (LRF	τC)		
Histic F	- - - - - - - - - - - - - - - - - - -					Stripped Matrix (S6)		ſ] 2 c	m Muck (A10) (LF	R B)		
	Histic (A3)					Loamy Mucky Mine	, ral (F1)		- -		duced Ve	rtic (F18)		
	ien Sulfide (A4)					Loamy Gleved Mat	rix (F2)		ſ] Re	d Parent	Material	, (TF2)		
□ Stratifie	ed Lavers (A5) (RR C)				Depleted Matrix (E3	3)		ſ		er (Evols	ain in Rer	(11 –) narks)		
))				Redox Dark Surface	,, ⊳ (E6)		L				nantoj		
	ad Below Dark Su	rface (Δ11)			Depleted Dark Surf	ace (F7)								
	ark Surface (A1		¬ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Podox Doprossions									
	Mucky Minoral (S	-) 21)				Vernal Pools (E0)	s (1 0)			³ Inc	dicators o	f hydropł	nytic vege	etation a	nd
	Cloved Metrix (S	4)								V	vetland h	ydrology	must be	present,	
	Gleyed Matrix (S	4) \.									uniess u	istuibeu		mauc.	
Tumor	ayer (il present)). d reatria	tive leve												
Type:	-): 0		live laye	<u>er</u>				Livelai e Ce	ile Dressut			Vee		Na	-
Depth (Inches	s): <u>o</u>							Hyune Se	JIS FIESEIIL			Tes		NO	
Remarks:															
HYDROLO	GY														
Wetland Hyd	rology Indicato	rs:													
Primary Indic	ators (minimum o	of one re	equired;	check	all that	t apply)			Se	condary	ndicators	(2 or mo	ore requir	ed)	
□ Surfac	e Water (A1)					Salt Crust (B11)				Water	Marks (E	31) (Rive	rine)		
 □ Hiah V	Vater Table (A2)					Biotic Crust (B12)				Sedim	ient Depo	sits (B2)	, (Riverin	e)	
□ Satura	tion (A3)					Aquatic Invertebrat	es (B13)			Drift D	eposits (B3) (Rive	erine)	-,	
□ Water	Marks (B1) (Non	riverin	_)			Hydrogen Sulfide C	odor (C1)			Draina	ane Patte	rns (B10))		
	ent Denosits (B2)) (Nonri	, ivorino)					Living Root	s (C3)	Dry-S	eason Wa	ater Tabl	, e (C2)		
	enosits (R3) (Nor	nriverin				Presence of Reduc	ed Iron (C)	1)		Cravfi	sh Burrow	vs (C8)	(02)		
	e Soil Cracke (PA	3)				Recent Iron Reduct		T) d Soile (CB)		Satur	ation Vieik		rial Imag		
	ation Visible on A	~/ orial Im-		37)		Thin Muck Surface	(C7)			Shalla			na inay	ciy (09)	
		(R0)	agery (E	,,,		Other (Evolution in P	(U) emarke)			ENC		a(D3)			
	-Stailleu Leaves ((69)					ciliaiks)			FAC-I		551 (DO)			
		¥-	_												
Surrace Wate	er Present?	Yes		NO		Depth (Inches)	: <u> </u>								
Water Table	Present?	Yes		No	\bowtie	Depth (inches)	:								
Saturation Pr	esent?	Yes		No	\boxtimes	Depth (inches)	: <u> </u>		Wetland H	drology	Present	?	Yes	\boxtimes	No 🗌

(includes capillary fringe) Tes I into Beptil (includes). _____ ••• Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: US Army Corps of Engineers

Project Site: East-West Corridor	City/Count	iy: <u>Yakima/Yakima</u>	Sampling Date: <u>10/12/16</u>	
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: <u>TP-85 Up LL</u>	
Investigator(s): Sam Payne, Widener and Assoc	iates Section, T	ownship, Range: <u>17, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): terrace	Local relief (cor	າcave, convex, none): <u>none</u>	Slope (%): <u>0</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.614127</u>	Long: <u>-120.486287</u>	Datum: <u>NAD83</u>	
Soil Map Unit Name: Weirman sandy loam, channele	<u>ed</u>	NWI classif	ication: <u>None</u>	
Are climatic / hydrologic conditions on the site typi	 cal for this time of year? Yes ⊠	No 🔲 (If no, explain in Ren	narks.)	
Are Vegetation \Box , Soil \Box , or Hydrology	☐ significantly disturbed? Are "	Normal Circumstances" present?	Yes 🛛 No 🗌	
Are Vegetation \square . Soil \square . or Hydrology	□ naturally problematic? (If ne	eded. explain any answers in Remark	s.)	
5 <u> </u>		, i ,	1	
SUMMARY OF FINDINGS – Attach site map sl	lowing sampling point locations,	transects, important features,	etc.	
Hydrophytic Vegetation Present?	Yes 🗌 No 🖾			
Hydric Soil Present?	Yes 🔲 No 🖾 Is the Sam	pled Area within a Wetland?	Yes 🗌 No 🛛	
Wetland Hydrology Present?	Yes 🗌 No 🖾			
Remarks:				
VEGETATION – Use scientific names of plants	3.			
Tree Stratum (Plot size:10m)	Absolute Dominant Indicator % Cover Species? Status	Dominance Test Worksheet:		
1. <u>Prunus virginiana</u>	<u>10 yes FAC</u>	Number of Dominant Species		
2		That Are OBL, FACW, or FAC:	<u>0</u> (A)	
3.		Total Number of Dominant		
4.		Species Across All Strata:	<u>2</u> (B)	
50% = 5, 20% = 2	10 = Total Cover	Percent of Dominant Species		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>4m)</u>	_	That Are OBL, FACW, or FAC:	<u>0</u> (A/B	3)
1		Prevalence Index worksheet:		
2		<u>Total % Cover of :</u>	Multiply by:	
3		OBL species <u>0</u>	x1 = <u>0</u>	
4		FACW species 0	x2 = <u>0</u>	
5		FAC species <u>10</u>	x3 = <u>30</u>	
50% =, 20% =	0 = Total Cover	FACU species 0	x4 = 0	
Herb Stratum (Plot size:2m)	-	UPL species 95	x5 = 475	
1 Bromus tectorum	90 ves NI (LIPL)	$\frac{105}{105}$	505 (B)	
2 Sisymbrium altissimum	5 po NI (UPL)	Prevalence Inde	$\frac{000}{100}$ (2)	
2. <u>Oisymbhain alussinain</u> 3		Hydrophytic Vegetation Indicators	x - b/A - <u>4.01</u>	
<u>. </u>			·	
			1	
6		Prevalence index is <3.0	,. 	
7.		data in Remarks or on a	separate sheet)	
8		Problematic Hydrophytic	Vegetation ¹ (Explain)	
50% = 47.5. 20% = 19	95 = Total Cover		-9	
Woody Vine Stratum (Plot size:4m)		¹ Indicators of hydric soil and wetland	l hydrology must	
1.		be present, unless disturbed or prob	iematic.	
2.				
2 50% =20% =	0 = Total Cover	Hydrophytic Vegetation	Yes 🗌 No 🖾	
2 50% =, 20% = % Bare Ground in Herb Stratum <u>5</u>	0 = Total Cover % Cover of Biotic Crust	Hydrophytic Vegetation Present?	Yes 🗌 No 🛛	

US Army Corps of Engineers

Sam	nlina	Point [.]	TP-85	Un	Ш
Jain	pinig	i onit.	11-05	UΡ	

SOIL										Sampl	ing Point	: <u>TP-8</u>	5 Up l	<u>_L</u>
Profile I	Description: (Descri	be to th	e depth	n neede	d to d	ocument the indicator or conf	irm the abs	sence of	indicate	ors.)				
Dept	h Matr	rix				Redox Features								
(inche	es) Color (moist	<u>t)</u>	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²	-	Textur	<u>e Remarks</u>				
<u>0-13</u>	<u>10YR 3/2</u>		<u>100</u>					_	loam	abundant gravel,	some co	ncrete	and	
		_						_						
		-						_						
		_						_						
		-				<u> </u>		_						
1Tume: 0				Deduce	d Mate									
Hydric S	Soil Indicators: (Apr		to all I		nless (therwise noted)	i Grains.	Location	I: PL=P0	cators for Problematic	Hydric S	oile ³		
	stosol (A1)	JICable		nns, u		Sandy Redox (S5)				1 cm Muck (A9) (I RR		0115 .		
	stic Eninedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LR	P B)			
	ack Histic (A3)					Loamy Mucky Mineral (E1)				Reduced Vertic (F18)	к b)			
	vdrogen Sulfide (A4)					Loamy Gleved Matrix (F2)				Red Parent Material (TE2)			
	ratified Lavers (A5) (I					Depleted Matrix (F3)				Other (Explain in Ren	narks)			
	cm Muck (A9) (I RR I	ר (ח)				Redox Dark Surface (E6)					lantsj			
	epleted Below Dark S	-, Surface (A11)			Depleted Dark Surface (F7)								
	nick Dark Surface (A1	2)	,			Redox Depressions (F8)								
□ … □ Sa	andv Muckv Mineral (S1)			П	Vernal Pools (F9)				³ Indicators of hydroph	ytic vege	tation a	ind	
Sa	andy Gleyed Matrix (S	54)			_					unless disturbed	or proble	matic.		
Restrict	tive Layer (if presen	t):												
Туре:														
Depth (Ir	nches):						Hydric So	oils Pres	ent?	Yes		No	\boxtimes	
Remarks	s:													
HYDRO	DLOGY													
Wetland	Hydrology Indicate	ors:												
Primary	Indicators (minimum	of one r	equired	; check	all that	t apply)			Secon	ndary Indicators (2 or mo	re require	ed)		
SI SI	urface Water (A1)					Salt Crust (B11)				Water Marks (B1) (River	ine)			
🗆 ні	igh Water Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2)	(Riverin	e)		
🗆 Sa	aturation (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Rive	rine)			
	/ater Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
🗆 se	ediment Deposits (B2	2) (Nonr	iverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table	e (C2)			
D	rift Deposits (B3) (No	onriverin	ne)			Presence of Reduced Iron (C4	+)			Crayfish Burrows (C8)				
🗆 Si	urface Soil Cracks (B	86)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aer	rial Image	ery (C9)	
🗆 In	undation Visible on A	Aerial Im	agery (I	37)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
ωw	/ater-Stained Leaves	(B9)				Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Ob	oservations:													
Surface	Water Present?	Yes		No	\boxtimes	Depth (inches):								
Water Ta	able Present?	Yes		No	\boxtimes	Depth (inches):								
Saturatio	on Present?	Yes		No	\boxtimes	Depth (inches):		Wetlar	nd Hydr	ology Present?	Yes		No	\boxtimes
Describe	e Recorded Data (stre	eam gau	ige, moi	nitoring	well, a	erial photos, previous inspectior	ns), if availa	ble:						
	,			5	-	· · ·								

Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/12/16</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	TP-86 Wet L	<u>L</u>
Investigator(s): <u>Sam Payne, Widener and Assoc</u>	iates		Section, T	ownship, Range: <u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): hillslope		Loc	cal relief (cor	ncave, convex, none): <u>concave</u>	Slop	oe (%): <u>40</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	14108		Long: <u>-120.486355</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classi	fication: <u>PSS1C</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Re	marks.)		
Are Vegetation □, Soil □, or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes	No C	נ
Are Vegetation □, Soil ⊠, or Hydrology	naturall	y problematic?) (If ne	eded, explain any answers in Remarl	ks.)		
			,		,		
SUMMARY OF FINDINGS – Attach site map sh	iowing sam	npling point	locations,	transects, important features,	etc.		
	Yes 🖂				¥		-
Hydric Soll Present?	Yes ∐	NO 🖾	is the San	ipled Area within a wetland?	Yes	NOL	l
Wetland Hydrology Present?	Yes 🛛	No 📋					
Remarks: Due to naturally problematic soils, wetlan	nd determina	ation was bas	ed on veget	ation and hydrology.			
VEGETATION – Use scientific names of plants	S.	Dominant	Indicator				
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	<u>% Cover</u>	Species?	Status	Dominance Test Worksheet:			
1. <u>Populus balsamifera</u>	<u>15</u>	ves	FAC	Number of Dominant Species	4	(•	`
2				That Are OBL, FACW, or FAC:	<u>4</u>	(A))
3				Total Number of Dominant	4	(D	
4				Species Across All Strata:	<u>4</u>	(D)
50% = <u>7.5,</u> 20% = <u>3</u>	<u>15</u>	= Total Cover		Percent of Dominant Species	100	()	(D)
Sapling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	100	(A)	/В)
1. <u>Salix exigua</u>	<u>15</u>	yes	FACW	Prevalence Index worksheet:			
2. <u>Populus balsamifera</u>	<u>20</u>	yes	FAC	<u>Total % Cover of :</u>	Multiply	<u>v by:</u>	
3. <u>unknown</u>	<u>2</u>	no	-	OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>18.5,</u> 20% = <u>7.4</u>	<u>37</u>	= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:2m)				UPL species	x5 =		
1 Phalaris arundinacea	35	ves	FACW	Column Totals: (A)		(B)	
2 Hypericum perforatum	3	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	FACU		$x = B/\Delta =$	(D)	
2. <u>Trypencum perioratum</u> 3. Poscoso spp	1	<u>no</u>	1400	Hydrophytic Vogetation Indicator	<u>x - b/x</u>		
3. <u>Foaceae spp.</u>	1	<u>110</u>			3.		
4. <u>Lythium Sailcana</u>	4	<u>110</u>	UBL		70		
5				\square Prevalence Index is ≤ 3 .	01		
6			<u> </u>	Morphological Adaptatio	ons ¹ (Provide suppo	orting	
<i>I</i>					i separate sheet)		
8				Problematic Hydrophytic	c Vegetation ¹ (Expl	ain)	
50% = <u>21.5</u> , 20% = <u>8.6</u>	<u>43</u>	= Total Cover		¹ Indicators of hydric soil and wetlan	d bydrology must		
Woody Vine Stratum (Plot size: <u>4m</u>)				be present, unless disturbed or prol	blematic.		
1							
2				Hydrophytic	v 5	–	_
50% =, 20% =	<u>0</u>	= Total Cover		Vegetation Present2	Yes 🖾	No	J
% Bare Ground in Herb Stratum 57	% Cover of	of Biotic Crust		רוכסטווני			
Remarks:							

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c	2	
	U	

SOIL				Sampling Point: <u>TP-86 Wet L</u>	<u> </u>
Profile Description: (Describe to the depth ne	eeded to doc	ument the indicator or confi	rm the absence o	of indicators.)	
Depth Matrix		Redox Features			
(inches) Color (moist) <u>%</u>	Color (Moist)	<u>% Түре¹</u>	Loc ²	Texture Remarks	
<u>0-14</u> <u>2.5Y 3/2</u> <u>100</u>				loamy sand abundant coarse gravel	
¹ Type: C= Concentration, D=Depletion, RM=Red	duced Matrix,	CS=Covered or Coated Sand	Grains. ² Locatio	on: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all LRR	Rs, unless oth	nerwise noted.)		Indicators for Problematic Hydric Soils ³ :	
Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)	
Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)	
Black Histic (A3)		₋oamy Mucky Mineral (F1)		Reduced Vertic (F18)	
Hydrogen Sulfide (A4)		oamy Gleyed Matrix (F2)		Red Parent Material (TF2)	
Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)	
□ 1 cm Muck (A9) (LRR D)	D F	Redox Dark Surface (F6)			
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)			
☐ Thick Dark Surface (A12)	D F	Redox Depressions (F8)			
Sandy Mucky Mineral (S1)		/ernal Pools (F9)		"Indicators of hydrophytic vegetation and wetland hydrology must be present	
Sandy Gleved Matrix (S4)				unless disturbed or problematic.	
Restrictive Layer (if present):					
Туре:					
Depth (Inches):			Hydric Soils Pre	esent? Yes 🗌 No 🖂	
Remarks: Naturally problematic. Containing	newly deposit	ted soils. Wetland determination	on based on other i	indicators.	
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required: ch	neck all that ar	(vlaa		Secondary Indicators (2 or more required)	
Surface Water (A1)	 	Salt Crust (B11)		Water Marks (B1) (Riverine)	
\square High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)	
$\Box \qquad \text{Saturation (A3)}$		Aquatic Invertebrates (B13)		\square Drift Deposits (B3) (Riverine)	
Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)	
Sediment Deposits (B2) (Nonriverine)		Vidized Rhizospheres along I	iving Roots (C3)	Dry-Season Water Table (C2)	
		Presence of Reduced Iron (CA)	$\Box \text{Crayfish Burrows (C8)}$	
		Recent Iron Reduction in Tiller) I Soile (C6)	Saturation Visible on Aerial Imagery (CQ)	
Inundation Visible on Aerial Imageny (BZ)					
Water Stained Leaves (B0)		Othor (Explain in Romarks)		$\square \text{Shanow Aquitard (D5)}$	
Eiold Observations:					
Surface Water Present? Vee		Dopth (inches):			
		Depth (inches):			
vvater lable Present? Yes		Deptn (Incnes):			
Saturation Present? Yes I (includes capillary fringe)	No 🛛	Depth (inches):	Wetla	and Hydrology Present? Yes 🛛 No	
Describe Recorded Data (stream gauge, monito	oring well, aeri	al pnotos, previous inspection	s), if available:		

Project Site:	East-West Co	<u>orridor</u>			City/Cou	nty: <u>Yakim</u>	na/Yaki	ima	Samplir	ig Date:	<u>10-24</u>	l-19	
Applicant/Owner:	Yakima Coun	ty						State: <u>WA</u>	Samplin	g Point:	<u>TP LI</u>	_ 1	
Investigator(s):	<u>Teddi McFall,</u>	Widener & Associ	ates		Section,	Township, I	Range	: <u>S17, T13, R19E</u>					
Landform (hillslope,	terrace, etc.):	high water channe	el bed e	dge	Local relief (c	oncave, cor	ivex, n	ione): <u>concave</u>		Slop	be (%):	<u>3</u>	
Subregion (LRR)	: <u>B</u>		Lat:	<u>46.6141946</u>		Long:	<u>-120</u>	.4865526	Da	atum: <u>N</u>	IAD83		
Soil Map Unit Name	: <u>Weirman sa</u>	ndy loam, channel	ed					NWI classi	fication: [PSS1C			
Are climatic / hyd	drologic conditi	ons on the site typi	cal for t	his time of year?	Yes	🛛 No		(If no, explain in Re	marks.)				
Are Vegetation D,	Soil □,	or Hydrology	🗆 s	ignificantly distur	oed? Are	"Normal Ci	rcums	tances" present?		Yes		No	\boxtimes
Are Vegetation D,	Soil 🛛,	or Hydrology	🗆 n	aturally problema	itic? (If r	needed, exp	lain ar	ny answers in Remar	ks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks: Using the NRCS method and data from the	NETS s	tation	at the	Yakim	a Airport, the prior period has been wetter than normal.		
Soils naturally problematic, as they are entis	ols loca	ted in	active	floodp	lain/riverine island with side channels		

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	<u>50</u>	ves	FAC	Number of Dominant Species	(A)
2				That Are OBL, FACW, or FAC:	(A)
3				Total Number of Dominant	(D)
4				Species Across All Strata: 4	(ם)
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cove	er	Percent of Dominant Species	(A/R)
Sapling/Shrub Stratum (Plot size: <u>15 ' r</u>)				That Are OBL, FACW, or FAC:	(AD)
1. <u>Populus balsamifera</u>	<u>5</u>	<u>no</u>	FAC	Prevalence Index worksheet:	
2. <u>Salix exigua</u>	<u>70</u>	yes	FACW	Total % Cover of : Multiply by:	
3. <u>Alnus rhombifolia</u>	<u>2</u>	no	FACW	OBL species x1 =	
4. <u>Acer saccharinum</u>	<u>5</u>	no	FAC	FACW species x2 =	
5. <u>Cornus sericea</u>	<u>2</u>	no	FACW	FAC species x3 =	
50% = <u>42</u> , 20% = <u>16.8</u>	<u>84</u>	= Total Cove	er	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>80</u>	<u>yes</u>	FACW	Column Totals: (A) (I	B)
2. Tanacetum vulgare	5	no	FACU	Prevalence Index = B/A =	
3. <u>Xanthium strumarium</u>	<u>60</u>	yes	FAC	Hydrophytic Vegetation Indicators:	
 <u>Xanthium strumarium</u> <u>Juncus articulatus</u> 	 60 2	<u>yes</u> no	<u>FAC</u> OBL	Hydrophytic Vegetation Indicators: Image: Dominance Test is >50%	
 <u>Xanthium strumarium</u> <u>Juncus articulatus</u> <u>Trifolium repens</u> 	<u>60</u> <u>2</u> <u>2</u>	<u>yes</u> no no	<u>FAC</u> OBL FACU	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01	
 <u>Xanthium strumarium</u> <u>Juncus articulatus</u> <u>Trifolium repens</u> <u>Carex stipata</u> 	- 60 2 2 5	<u>yes</u> no no no	<u>FAC</u> OBL FACU OBL	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting	
 <u>Xanthium strumarium</u> <u>Juncus articulatus</u> <u>Trifolium repens</u> <u>Carex stipata</u> <u>Lactuca serriola</u> 	- 60 2 2 5 1	yes no no no no	FAC OBL FACU OBL FACU	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)	
 Xanthium strumarium Juncus articulatus Trifolium repens <u>Carex stipata</u> <u>Lactuca serriola</u> <u>Hypericum scouleri</u> 	- 60 2 2 2 5 1 1	yes no no no no no	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain)	
 Xanthium strumarium Juncus articulatus Trifolium repens <u>Carex stipata</u> <u>Lactuca serriola</u> <u>Hypericum scouleri</u> 50% = <u>78</u>, 20% = <u>31.2</u> 	- 60 2 2 5 1 1 156	ro ro ro ro ro ro = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain)	
 3. <u>Xanthium strumarium</u> 4. <u>Juncus articulatus</u> 5. <u>Trifolium repens</u> 6. <u>Carex stipata</u> 7. <u>Lactuca serriola</u> 8. <u>Hypericum scouleri</u> 50% = <u>78</u>, 20% = <u>31.2</u> <u>Woody Vine Stratum</u> (Plot size:<u>5 ' r</u>) 	- 60 2 2 5 1 1 156	yes no no no no = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic	
 3. <u>Xanthium strumarium</u> 4. <u>Juncus articulatus</u> 5. <u>Trifolium repens</u> 6. <u>Carex stipata</u> 7. <u>Lactuca serriola</u> 8. <u>Hypericum scouleri</u> 50% = <u>78</u>, 20% = <u>31.2</u> <u>Woody Vine Stratum</u> (Plot size:<u>5 ' r</u>) 1 	- 60 2 2 5 1 1 156	yes no no no no = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3. Xanthium strumarium 4. Juncus articulatus 5. Trifolium repens 6. Carex stipata 7. Lactuca serriola 8. Hypericum scouleri 50% = 78, 20% = 31.2 Woody Vine Stratum (Plot size:5 ' r) 1 2	- 60 2 5 1 1 156	<u>yes</u> no no no = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ⊠ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3. Xanthium strumarium 4. Juncus articulatus 5. Trifolium repens 6. Carex stipata 7. Lactuca serriola 8. Hypericum scouleri 50% = 78, 20% = 31.2 Woody Vine Stratum (Plot size:5 ' r) 1 2 50% =, 20% =	- 60 2 5 1 1 156	yes no no no = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: Image: Dominance Test is >50% Image: Prevalence Index is ≤3.01 Image: Dominance Test is >50% Image: Prevalence Index is ≤3.01 Image: Dominance Test is >50% Image: Dominance Tes	
3. Xanthium strumarium 4. Juncus articulatus 5. Trifolium repens 6. Carex stipata 7. Lactuca serriola 8. Hypericum scouleri 50% = 78, 20% = 31.2 Woody Vine Stratum (Plot size:5 ' r) 1 2 50% =, 20% = % Bare Ground in Herb Stratum 5	- <u>60</u> <u>2</u> <u>5</u> <u>1</u> <u>1</u> <u>156</u> <u>%</u> Cover	ves no no no = Total Cove = Total Cove	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	
3. Xanthium strumarium 4. Juncus articulatus 5. Trifolium repens 6. Carex stipata 7. Lactuca serriola 8. Hypericum scouleri 50% = 78, 20% = 31.2 Woody Vine Stratum (Plot size:5 ' r) 1 2 50% =, 20% = % Bare Ground in Herb Stratum 5 Remarks:	- 60 2 5 1 1 156 	ves no no no = Total Cove = Total Cove of Biotic Crust	FAC OBL FACU OBL FACU FACW	Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% □ Prevalence Index is ≤3.01 □ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	

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SOIL											ę	Samplii	ng Point	: <u>TP LL</u>	<u>1</u>	
Prof	ile Descri	iption: (Describe to	the depth	needed to d	ocument t	he indic	cator or conf	irm the absence	e of indic	ators.)						
D	epth	Matrix			I	Redox F	eatures									
<u>(in</u>	<u>ches)</u>	Color (moist)	%	Color (Mo	ist)	<u>%</u>	Type ¹	Loc ²	Tex	ure	Rem	<u>arks</u>				
	<u>0-1</u>	<u>10 YR 3/2</u>	<u>100</u>		-				<u>sa cl</u>	loam	organic/cla	ay on s	urface, l	arge cob	bles	
	<u>1-9</u>	<u>10 YR 3/2</u>	<u>100</u>		-				sand,	gravel	coarse gra	ains				
_					-											
_					-											
_					-					_						
_					-											
1Тур	e: C= Cor	ncentration, D=Deple	etion, RM=F	Reduced Matr	ix, CS=Co	vered or	Coated Sand	d Grains. ² Loca	tion: PL=	Pore Lir	ning, M=Mat	rix.				
Hydi	ric Soil In	dicators: (Applicat	ole to all LF	RRs, unless	otherwise	noted.)			In	dicator	s for Proble	ematic	Hydric	Soils ³ :		
	Histosol	(A1)			Sandy R	edox (St	5)			10	m Muck (As	9) (LRF	R C)			
	Histic Epipedon (A2)						S6)			2 0	m Muck (A	10) (LR	RB)			
	Black Histic (A3)						neral (F1)			Reduced Vertic (F18)						
	Hydroge	en Sulfide (A4)			Loamy G	Bleyed M	latrix (F2)			Re	d Parent Ma	aterial	(TF2)			
	Stratifie	d Layers (A5) (LRR	C)		Depleted	I Matrix ((F3)		\boxtimes	Ot	her (Explain	in Rer	narks)			
	1 cm Mu	uck (A9) (LRR D)			Redox D	ark Surfa	ace (F6)									
	Deplete	d Below Dark Surfac	e (A11)		Depleted	I Dark Si	urface (F7)									
	Thick Da	ark Surface (A12)			Redox D	epressio	ons (F8)			³ In	dicators of h	vdropł	nvtic vea	etation a	nd	
	Sandy N	/lucky Mineral (S1)			Vernal P	ools (F9)			1	wetland hyd	rology	must be	present,		
	Sandy G	Gleyed Matrix (S4)									unless dist	turbed	or proble	ematic.		
Rest	rictive La	ayer (if present):														
Туре	:															
Dept	h (Inches):						Hydric Soils F	Present?			Yes		No	\boxtimes	
Rem	arks:	Entisol located in ac	tive floodpla	ain/riverine isl	and side c	hannel										
HYDF	ROLOGY	(
Wetl	and Hydi	rology Indicators:														
Prim	ary Indica	ators (minimum of on	e required;	check all that	t apply)				Sec	ondary	Indicators (2	2 or mo	ore requi	red)		
	Surface	e Water (A1)			Salt Crus	st (B11)				Water	Marks (B1)	(Rive	rine)			
	High W	ater Table (A2)			Biotic Cr	ust (B12)	Sediment Deposits (B2) (Riverine)				ine)				
	Saturati	ion (A3)			Aquatic I	nvertebr	ates (B13)			Drift D	Deposits (B3) (Rive	erine)			
	Water N	/larks (B1) (Nonrive	s (B1) (Nonriverine)							Drain	age Pattern	s (B10))			
	Sedime	nt Deposits (B2) (No	onriverine)		Oxidized	Rhizosp	oheres along	Living Roots (C3)	Dry-S	eason Wate	er Table	e (C2)			
	Drift De	posits (B3) (Nonrive	erine)		Presence	e of Red	uced Iron (C4	+)		Crayfi	ish Burrows	(C8)				
	Surface	e Soil Cracks (B6)			Recent I	ron Redu	uction in Tilled	d Soils (C6)		Saturation Visible on Aerial Imagery (C9)						

Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? \boxtimes Yes Depth (inches): No 8 Saturation Present? Wetland Hydrology Present? \boxtimes Depth (inches): Yes No Yes \boxtimes No <u>0</u> (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: standing water pooled 10 feet to the south. pool has large (4-8 in diameter), algae-covered cobbles as bottom substrate

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Arid West - Version 2.0

Project Site:	East-West Corric	<u>dor</u>		City/County:	Yakima/Yak	<u>kima</u>	Sampling I	Date:	<u>10-24</u>	<u>1-19</u>	
Applicant/Owner:	Yakima County					State: <u>WA</u>	Sampling F	oint:	TP L	L <u>G</u>	
Investigator(s):	<u>Teddi McFall, Wi</u>	idener & Associates		Section, Tow	nship, Range	e: <u>S17, T13, R19E</u>					
Landform (hillslope,	terrace, etc.): hig	gh water channel be	d edge	Local relief (conca	ave, convex, i	none): <u>concave</u>		Slop	pe (%)	: <u>1</u>	
Subregion (LRR)	: <u>B</u>	L	at: <u>46.6141946</u>		Long: <u>-120</u>).486552 <u>6</u>	Datu	m: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Weirman sandy</u>	/ loam, channeled				NWI class	ification: <u>PS</u>	51C			
Are climatic / hyd	trologic conditions	s on the site typical f	or this time of year?	Yes 🛛	No 🗌	(If no, explain in Re	emarks.)				
Are Vegetation D,	Soil □,	or Hydrology	significantly distur	bed? Are "No	rmal Circums	stances" present?		Yes		No	\boxtimes
Are Vegetation	Soil 🛛,	or Hydrology	naturally problema	atic? (If need	ed, explain a	ny answers in Rema	rks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	\boxtimes	No								
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖂				
Wetland Hydrology Present?	Yes		No	\boxtimes							
Remarks: Using the NRCS method and data from the WETS station at the Yakima Airport, the prior period has been wetter than normal.											
Soils are entisols located in active floodplain on riverine island with seasonal high water channels.											

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <u>Populus balsamifera</u> 2	80	<u>yes</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
3 4				Total Number of Dominant Species Across All Strata: <u>4</u>	(B)
$50\% = \frac{40}{20}, 20\% = \frac{16}{10}$	<u>80</u>	= Total Cove	r	Percent of Dominant Species That Are OBL_EACW_or EAC: 100	(A/B)
Sapling/Shrub Stratum (Plot size: <u>15 ' r</u>)					
1. <u>Populus balsamifera</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index worksheet:	
2. <u>Salix exigua</u>	<u>50</u>	<u>yes</u>	FACW	Total % Cover of : Multiply by:	
3				OBL species x1 =	
4	<u> </u>			FACW species x2 =	
5				FAC species x3 =	
50% = <u>35</u> , 20% = <u>14</u>	<u>70</u>	= Total Cove	r	FACU species x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species x5 =	
1. <u>Phalaris arundinacea</u>	<u>15</u>	<u>yes</u>	FACW	Column Totals: (A)	(B)
2. <u>Rumex crispus</u>	<u>2</u>	no	FAC	Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>8.5</u> , 20% = <u>3.4</u>	<u>17</u>	= Total Cove	r		
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1					
2.				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes No	
% Bare Ground in Herb Stratum 80	% Cover	of Biotic Crust		Present?	
Remarks: particular section of channel has	ack of vegeta	ation along bar	ıks, less thar	5% veg cover	

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SOIL	SOIL Sampling Point: <u>TP LL 2</u>																		
Profile Desci	ription: (Describ	e to th	ie depth	n neede	ed to d	ocument	the indica	tor or conf	irm the abs	sence o	of indica	tors.)							
Depth	Matri	x					Redox Fea	atures											
(inches)	<u>Color (moist)</u>		<u>%</u>	Co	lor (Mo	i <u>st)</u>	<u>%</u>	Type ¹	Loc	2	Textu	ure		Remark	<u>KS</u>				
<u>0-12</u>	<u>10YR 3/2</u>		<u>100</u>							_	<u>sand/ g</u>	ravel	large	cobble	s thro	ughout			
		-								_				_					
		-								_				_					
		-								_				_					
		-								_				_					
										_		_		_					
¹ Type: C= Co	Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.																		
Hydric Soil I	ndicators: (App	licable	to all L	RRs, u	inless o	otherwise	e noted.)				Ind	licators	s for P	roblem	atic H	lydric S	ioils ³ :		
	I (A1)					Sandy F	Redox (S5)					1 c	m Muo	:k (A9) ((LRR	C)			
Histic E	pipedon (A2)					Stripped	d Matrix (Se	5)				2 c	m Muo	k (A10)) (LRF	₹В)			
Black H	listic (A3)					Loamy I	Mucky Mine	eral (F1)				Re	duced	Vertic ((F18)				
Hydrog	en Sulfide (A4)					Loamy (Gleyed Mat	rix (F2)				Re	d Pare	nt Mate	erial (T	F2)			
Stratifie	d Layers (A5) (L	RR C)				Deplete	d Matrix (F	3)			\boxtimes	Oth	ner (Ex	plain in	Rema	arks)			
□ 1 cm M	uck (A9) (LRR D)				Redox [Dark Surfac	e (F6)											
Deplete	Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)																		
Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and																			
Sandy Sandy	Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present,																		
Sandy	Gleyed Matrix (S	4)											unles	s distur	bed o	r proble	matic.		
Restrictive L	ayer (if present)):																	
Туре:																			
Depth (Inches	s):								Hydric Se	oils Pr	esent?			Ye	es		No	\boxtimes]
Remarks:	Entisol located in	n active	e floodpl	lain/rive	erine isl	and with s	seasonal si	de channels	6										
	v																		
Wetland Hvd	rology Indicato	rs:																	
Primary Indic	ators (minimum o	of one r	eauired	: check	all that	(vlage					Seco	ondarv	Indicat	ors (2 o	or more	e reauir	ed)		
, Surface	e Water (A1)			,		Salt Cru	ist (B11)					Water	Marks	(B1) (F	Riveri	ne)	,		
☐ High W	/ater Table (A2)					Biotic C	rust (B12)				П	Sedim	nent De	eposits	(B2) (I	Riverin	e)		
□ Satura	tion (A3)					Aquatic	Invertebrat	es (B13)				Drift D)eposit	s (B3) (River	ine)	- /		
☐ Water	Marks (B1) (Non	riverin	e)		П	Hydroge	en Sulfide ()dor (C1)				Draina	age Pa	tterns (B10)	,			
	ent Deposits (B2)) (Nonr	'''' 'iverine'	`	П	Oxidized	d Rhizosph	eres along	Living Root	s (C3)	П	Drv-S	eason	Water 1	Table	(C2)			
	enosits (B3) (No	riverii	ne)	,		Presenc	e of Reduc	ed Iron (C4	L)			Cravfi	sh Rur	rows (C	28)	(02)			
	e Soil Cracks (Bf	3)	,			Recent	Iron Reduc	tion in Tille	, d Soils (C6)			Satura	ation V	isihle o	n Aeri:	al Imaq	erv (C9)	
	tion Visible on A	-, erial Im	agery (l	B7)		Thin Mu	ick Surface	(C7)				Shallo		itard (D	3)	arinag	51y (00	,	
□ Water-	Stained Leaves ((B9)		.,		Other (F	- - xplain in R	(emarks)				FAC-	Veutral	Test (F)))				
Field Observ	ations:	(20)				01.101 (1	-stpream min	ionnanito)					lound						
Surface Wate	r Present?	Yes		No	\boxtimes	Der	oth (inches)	:											
Water Table I	Present?	Yes		No		Der	oth (inches)												
Saturation Pr	esent?				2 _	-				100.00			D			V	_	NI -	
(includes cap	illary fringe)	Yes		NO	\bowtie	Dep	oin (inches)	i:		wet	ano Hyd	iroiogy	Prese	ent <i>r</i>		res		NO	۲

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Stream Gauge at USGA 12500450 Yakima River Above Ahtanum Creek at Union Gap - approximately 2500cfs, 40.30ft gauge height. 10-24-2019

 Remarks:
 no evidence of recent inundation, although aerials indicate nearby lower areas as a high water channel. Standing water observed to south approx 25 feet

 US Army Corps of Engineers
 Arid West – Version 2.0

Project Site: East-West Corridor				City/Coun	ity: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/13/1</u>	16
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	TP-88	Wet MM
Investigator(s): Sam Payne, Widener and Assoc	<u>ciates</u>			Section, T	ownship, Range: <u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): channel			L	ocal relief (co	ncave, convex, none): <u>convex</u>	Slop	pe (%):	<u>2</u>
Subregion (LRR): <u>B</u>	Lat: <u>46</u>	5.61031	16		Long: <u>-120.483382</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>					NWI classif	ication: <u>PFO1A</u>		
Are climatic / hydrologic conditions on the site type	ical for this	time of	f year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation □, Soil □, or Hydrology	🔲 signi	ificantly	/ disturbe	ed? Are '	"Normal Circumstances" present?	Yes		No 🗌
Are Vegetation □, Soil □, or Hydrology	🗌 natu	rally pr	oblemat	ic? (If ne	eeded, explain any answers in Remark	(S.)		
SUMMARY OF EINDINGS - Attach site man s	howing s	amnli	na noir	at locations	transacts important features	oto		
Hydrophytic Vegetation Present?	Ves	ampi M N			, transects, important leatures,	elc.		
Hydric Soil Prosont?	Voc			le the Sar	nnlod Aroa within a Wotland?	Vos		
Wetland Hydrology Brocont?	Vee			is the oal	npieu Area within a Welland:	163		
Pomarke:	165							
VEGETATION – Use scientific names of plant	S. Absolute	Do	minant	Indicator	I			
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	% Cover	Spe	ecies?	Status	Dominance Test Worksheet:			
1. <u>Populus balsamifera</u>	<u>60</u>	yes	3	<u>FAC</u>	Number of Dominant Species	5		(A)
2			_		That Are OBL, FACW, or FAC:	-		()
3			_		Total Number of Dominant	5		(B)
4			_		Species Across All Strata:	<u>-</u>		(2)
50% = <u>30</u> , 20% = <u>12</u>	<u>60</u>	= T	otal Cov	ver	Percent of Dominant Species	100		(A/B)
Sapling/Shrub Stratum (Plot size: <u>4m</u>)					That Are OBL, FACW, or FAC:	100		(,,,,,)
1. <u>Populus balsamifera</u>	<u>10</u>	yes	<u> </u>	FAC	Prevalence Index worksheet:			
2. <u>Salix fragilis</u>	<u>7</u>	yes	6	FAC	<u>Total % Cover of :</u>	Multiply	y by:	
3. <u>Alnus viridis</u>	<u>5</u>	yes	<u> </u>	FACW	OBL species	x1 =		
4. <u>Prunus virginiana</u>	<u>3</u>	no		FAC	FACW species	x2 =		
5	. <u></u>		_		FAC species	x3 =		
50% = <u>12.5</u> , 20% = <u>5</u>	<u>25</u>	= T	otal Cov	ver	FACU species	x4 =		
Herb Stratum (Plot size:2m)					UPL species	x5 =		
1. Phalaris arundinacea	<u>25</u>	yes	6	FACW	Column Totals: (A)			(B)
2. Tanacetum vulgare	3	no		FACU	Prevalence Index	x = B/A =		. ,
3. Hypericum perforatum	5	no		FACU	Hydrophytic Vegetation Indicator			
4 unknown	2	no		-	Dominance Test is >50%	6		
5.	-			-		- 1		
6			_			, 	t ¹	
7			_		data in Remarks or on a	separate sheet)	orting	
8			_			Vegetation ¹ (Eve	lain)	
50% = 17.5, 20% = 7	35	- T	- otal Cov	/or		vegetation (Exp	iaiii)	
$\frac{11.3}{100}$, $\frac{11.3}{100}$	<u>55</u>	- 1			¹ Indicators of hydric soil and wetland	d hydrology must		
1					be present, unless disturbed or prob	lematic.		
2			_					
<u> </u>	0	_ T	- otal Co		Hydrophytic Vegetation	Yes 🖂	No	
90 /0, 20 /0	<u>v</u> % Corr	- I	otio Cruz	·CI	Present?			_
	70 COVE			<u> </u>				
Remarks:								

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SOIL				Sampling Point: <u>TP-88 W</u>	et MM							
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth Matrix		Redox Features										
(inches) Color (moist) %	Color (Moi	<u>st) % Type¹</u>	Loc ²	Texture Remarks								
<u>0-4 10YR 3/1 100</u>				loam								
<u>4-9 10YR 3/2 100</u>				<u>loam</u>								
<u>9-14 10YR 3/2 80</u>	<u>7.5YR 4/</u>	<u>6 20 C</u>	M	<u>loam</u>								
¹ Type: C= Concentration, D=Depletion, RM=Red	uced Matr	ix, CS=Covered or Coated San	d Grains. ² Loc	cation: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs	s, unless o	otherwise noted.)		Indicators for Problematic Hydric Soils ³ :								
Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)								
Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)								
Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)								
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)								
Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)								
1 cm Muck (A9) (LRR D)	\boxtimes	Redox Dark Surface (F6)										
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)										
Thick Dark Surface (A12)		Redox Depressions (F8)		2								
Sandy Mucky Mineral (S1)		Vernal Pools (F9)		"Indicators of hydrophytic vegetation and wetland hydrology must be present	1							
Sandy Gleved Matrix (S4)				unless disturbed or problematic.								
Restrictive Layer (if present):												
Type:												
Depth (Inches):			Hydric Soils	s Present? Yes 🛛 No								
Remarks:				_								
Wetland Hydrology Indicators:												
Primary Indicators (minimum of one required: cho	eck all that	apply)		Secondary Indicators (2 or more required)								
Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)								
High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)								
\square Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)								
Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		 Drainage Patterns (B10) 								
Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along	Living Roots (C	$\Box \text{Dry-Season Water Table (C2)}$								
		Presence of Reduced Iron (C	4)	$\Box Cravfish Burrows (C8)$								
Surface Soil Cracks (B6)		Recent Iron Reduction in Tille	d Soils (C6)	Saturation Visible on Aerial Imagery (C9)								
Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)	u cono (00)	Shallow Aquitard (D3)								
Water-Stained Leaves (B9)		Other (Explain in Remarks)		EAC-Neutral Test (D5)								
Field Observations:												
Surface Water Present? Ves		Depth (inches):										
Water Table Present? Ves	.~ ⊠ Io ⊠	Depth (inches):										
Saturation Present?					_							
(includes capillary fringe) Yes N		Depth (inches):		Vetland Hydrology Present? Yes 🛛 N	lo 🗌							
Describe Recorded Data (stream gauge, monitor	ing well, a	enai priotos, previous inspectio	ns), ii avalladie:									

Project Site: East-West Corridor			City/Cour	ity: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/13/16</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-87 Up I</u>	MM
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, T	ownship, Range: <u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): Terrace			Local relief (co	ncave, convex, none): <u>convex</u>	Slope	e (%): <u>2</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	<u>10373</u>		Long: <u>-120.483316</u>	Datum: <u>N/</u>	AD83	
Soil Map Unit Name: Weirman sandy loam, channele	ed			NWI classif	ication: <u>none</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tin	ne of year?	Yes 🗵	No 🔲 (If no, explain in Ren	marks.)		
Are Vegetation D, Soil D, or Hydrology	signific	antly disturl	bed? Are	"Normal Circumstances" present?	Yes	🛛 No	
Are Vegetation D, Soil D, or Hydrology	natural	ly problema	atic? (If n	eeded, explain any answers in Remark	(s.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing san	npling po	int locations	, transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌]				
Hydric Soil Present?	Yes 🛛	No 🗌	Is the Sar	npled Area within a Wetland?	Yes	🛛 No	
Wetland Hydrology Present?	Yes 🛛	No 🗌]				
Remarks:							
VEGETATION – Use scientific names of plants	5.						
Tree Stratum (Plot size:10m)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1.		<u>opecies:</u>	Status	Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:	<u>0</u>	((A)
3.				Total Number of Dominant			
4.				Species Across All Strata:	<u>3</u>	((B)
50% = , 20% =	0	= Total Co	over	Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:4m)	_			That Are OBL, FACW, or FAC:	<u>0</u>	((A/B)
1.				Prevalence Index worksheet:			
2.				Total % Cover of :	Multiply	by:	
3.				OBL species 0	x1 =	0	
4.				FACW species 1	x2 =	2	
5.				FAC species 0	x3 =	0	
50% =	0	= Total Co	over	FACU species 3	x4 =	12	
Herb Stratum (Plot size:2m)	_			UPL species 18	x5 =	90	
1 Phalaris arundinacea	1	no	FACW	$\frac{1}{2} = \frac{1}{2} $		104 (B)	
2 Tanaastum vulgara	<u>-</u> 2	<u>no</u>	EACU		$P_{\rm N} = P/\Lambda = 4.72$	<u>104</u> (D)	
2. <u>Tanacetum vuigare</u>	<u> </u>	<u>110</u>		Hydrophytic Vogetation Indicator	$\frac{3X - D/A - 4.73}{2}$		
Agropyron spicatum	<u>o</u> 5	<u>yes</u>			5.		
4. <u>Diomas tectorum</u>	<u>5</u> E	<u>yes</u>			0		
5. <u>Centaurea dinusa</u>	<u>5</u>	<u>yes</u>	<u>INL (UPL)</u>	\square Prevalence Index is ≤ 3.0) ¹		
o				Morphological Adaptatio	ns ¹ (Provide suppo separate sheet)	orting	
۲ ۹					· · · · · · · · · · · · · · · · · · ·		
5.		- Total Ca		Problematic Hydrophytic	: Vegetation' (Expla	ain)	
50% = 11, 20% = 4.4	<u> 22</u>		over	¹ Indicators of hydric soil and wetland	d hydrology must		
				be present, unless disturbed or prob	plematic.		
1							
2				Hydrophytic	Yes 🗆	No	
20% =, 20% =	<u>v</u>		over	Present?			لالت
⁷⁰ bare Ground in Herb Stratum <u>78</u>	% Cover (DI BIOTIC CRU	ust				
Remarks:							

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SOIL Sampling Point: TP-87 Up MM															
Profile Des	cription: (Descri	be to th	e depth	neede	d to d	ocument the indicator or co	nfirm the abs	sence of indi	cators	5.)					
Depth	Mati	rix				Redox Features									
(inches)	Color (moist	<u>;)</u>	%	Col	or (Moi	st) <u>%</u> <u>Type</u> ¹	Loc	2 <u>Te</u>	xture	<u>R</u>	emarks				
<u>0-6</u>	<u>2.5YR 3/2</u>		100	-				silt	loam						
<u>6-12</u>	<u>2.5YR 3/2</u>		<u>100</u>	-		<u> </u>		san	dy silt						
<u>12+</u>		_		-		<u> </u>				<u>Abund</u>	ant cobble	: and grav	vel with		
		_		-								~			
		_		-											
		_		-											
¹ Type: C= 0	Concentration, D=	Depletio	n, RM=I	Reduce	d Matri	ix, CS=Covered or Coated Sa	nd Grains.	² Location: PL	=Pore	Lining, M=	Matrix.				
Hydric Soil	I Indicators: (App	olicable	to all L	RRs, u	nless o	otherwise noted.)		I	ndicat	ors for Pro	oblematic	Hydric S	ioils ³ :		
Histor	sol (A1)					Sandy Redox (S5)	Sandy Redox (S5) 1 cm Muck								
Histic	Epipedon (A2)					Stripped Matrix (S6)		l		2 cm Muck	(A10) (LR	(RB)			
Black	Histic (A3)					Loamy Mucky Mineral (F1)		(Reduced V	ertic (F18))			
Hydro	ogen Sulfide (A4)					Loamy Gleyed Matrix (F2)		(Red Paren	t Material	(TF2)			
□ Strati	Stratified Layers (A5) (LRR C)					Depleted Matrix (F3)		(Other (Exp	lain in Rer	narks)			
1 cm Muck (A9) (LRR D)						Redox Dark Surface (F6)									
Depleted Below Dark Surface (A11)						Depleted Dark Surface (F7)									
Thick Dark Surface (A12)						Redox Depressions (F8)				31	- f la la la		4 - 4!	I	
Sand	y Mucky Mineral (S1)				Vernal Pools (F9)				wetland	ot nyaropr hvdrology	must be i	itation a	and	
Sandy Gleyed Matrix (S4) unless disturbed or problematic.															
Restrictive Layer (if present):															
Depth (Inch	ies):						Hydric S	oils Present	?		Yes		No	\boxtimes	
Remarks:							-								
	OGY														
Wetland H	vdrology Indicate	ors:													
Primary Ind	icators (minimum	of one r	equired;	check	all that	apply)		Se	conda	ry Indicator	rs (2 or mo	ore requir	ed)		
Surfa	ace Water (A1)					Salt Crust (B11)			Wa	ater Marks (B1) (Rive	rine)			
High	Water Table (A2)					Biotic Crust (B12)			Se	diment Dep	osits (B2)	(Riverin	e)		
 □ Satu	ration (A3)					Aquatic Invertebrates (B13)			Dri	ft Deposits	(B3) (Rive	erine)	,		
	er Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Odor (C1)			Dra	ainage Patt	erns (B10))			
 □ Sedii	ment Deposits (B2	2) (Nonr	viverine)			Oxidized Rhizospheres alon	a Livina Root	s (C3)	Dr	/-Season W	/ater Table	e (C2)			
 □ Drift	Deposits (B3) (No	onriverir	ne)		Π	Presence of Reduced Iron (, J (4)		Cra	, avfish Burro	ows (C8)	(-)			
□ Surfa	ace Soil Cracks (E	6)	,		Π	Recent Iron Reduction in Till	ed Soils (C6)		Sa	turation Vis	ible on Ae	rial Imag	erv (CS)	
	dation Visible on A	Aerial Im	aderv (E	37)		Thin Muck Surface (C7)	()		Sh	allow Aquit	ard (D3)	5	, (,	
□ Wate	er-Stained Leaves	(B9)	ago.) (1	.,	П	Other (Explain in Remarks)			FA	C-Neutral 1	Test (D5)				
Field Observations:															
Surface Wa	ter Present?	Yes		No	\bowtie	Depth (inches):									
Water Table	e Present?	Yes		No		Depth (inches):	-								
Saturation F	Present?				2	D (1 (1))	-	M-41				V	_	N .	
(includes ca	apillary fringe)	Yes		No		Depth (inches):	-	vvetland H	yarolo	ogy Presen	17	Yes		NO	M
Describe Re	ecorded Data (str	eam gau	ige, mor	nitoring	well, a	erial photos, previous inspecti	ons), it availa	ible:							

Project Site: East-West Corridor		City/County: <u>Yakima/Yakima</u>	Sampling Date: <u>10/12/16</u>
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: <u>TP-90 Wet MM</u>
Investigator(s): Sam Payne, Widener and Assoc	iates	Section, Township, Range: <u>17, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): Depression	Loc	al relief (concave, convex, none): <u>concave</u>	Slope (%): <u>0</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.610028</u>	Long: <u>-120.483480</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: <u>Water</u>		NWI classif	ication: PSS1/USA
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes 🖾 No 🔲 (If no, explain in Rer	narks.)
Are Vegetation \Box , Soil \Box , or Hydrology	significantly disturbed?	Are "Normal Circumstances" present?	Yes 🛛 No 🗌
Are Vegetation \Box , Soil $oxtimes$, or Hydrology	naturally problematic?	(If needed, explain any answers in Remark	(s.)
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling point	ocations, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes 🖾 No 📋		
Hydric Soil Present?	Yes 🗌 No 🛛	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌
Wetland Hydrology Present?	Yes 🛛 No 🗌		
Remarks: Soils naturally problematic, wetland dete	ermination based on vegeta	ition and hydrology.	
VEGETATION – Use scientific names of plants	5.		
Tree Stratum (Plot size:10m)	Absolute Dominant <u>% Cover</u> <u>Species?</u>	Indicator Dominance Test Worksheet:	
1. <u>Populus balsamifera</u>	<u>70 yes</u>	FAC Number of Dominant Species	2 (4)
2		That Are OBL, FACW, or FAC:	<u>3</u> (A)
3		Total Number of Dominant	2 (P)
4		Species Across All Strata:	<u>3</u> (B)
50% = <u>35</u> , 20% = <u>14</u>	<u>70</u> = Total Cover	Percent of Dominant Species	100 (A/P)
Sapling/Shrub Stratum (Plot size:4m)		That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
1. <u>Populus balsamifera</u>	<u>10 yes</u>	FAC Prevalence Index worksheet:	
2		Total % Cover of :	Multiply by:
3	<u> </u>	OBL species	x1 =
4	<u> </u>	FACW species	x2 =
5	<u> </u>	FAC species	x3 =
50% = <u>5</u> , 20% = <u>2</u>	10 = Total Cover	FACU species	x4 =
Herb Stratum (Plot size:2m)		UPL species	x5 =
1. <u>Lepidium latifolium</u>	<u>20 yes</u>	FAC Column Totals: (A)	(B)
2		Prevalence Index	x = B/A =
3.		Hydrophytic Vegetation Indicator	 s:
4.		Dominance Test is >50%	6
5.		Prevalence Index is <3 (1ر
6.		Merphelegical Adeptatio	,
7.		data in Remarks or on a	separate sheet)
8.			$V_{equation}^{1}$ (Explain)
50% = 10, 20% = 4	20 = Total Cover		
Woody Vine Stratum (Plot size:4m)		¹ Indicators of hydric soil and wetland	d hydrology must
1.		be present, unless disturbed or prob	lematic.
2			
50% = 20% =	0 = Total Cover	Hydrophytic	Yes 🛛 No 🗌
% Bare Ground in Herb Stratum 80	Cover of Biotic Crust	Present?	
Remarks:			

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SOIL											Sampli	ng Point:	<u>TP-90</u>	Wet	MM
Profile Descr	iption: (Describe	e to the	e depth	neede	d to d	ocument the indicato	r or confi	rm the abs	ence o	f indica	tors.)				
Depth	Matrix					Redox Feat	ures								
(inches)	Color (moist)		%	Cole	or (Moi	<u>st) %</u>	Type ¹	Loc ²		Textu	ire <u>Remarks</u>				
<u>0-12</u>	<u>10YR 3/2</u>	<u>1</u>	00	-					_	sandy l	oam				
				_					_						
				_					_						
				_					_						
				-											
¹ Type: C= Co	ncentration, D=De	epletion	n, RM=F	Reduce	d Matri	ix, CS=Covered or Co	ated Sand	Grains. 2	Locatio	n: PL=P	ore Lining, M=Matrix.				
Hydric Soil I	ndicators: (Appli	cable t	o all LF	RRs, u	nless d	otherwise noted.)				Ind	icators for Problemation	Hydric S	Soils ³ :		
Histoso	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (LR	R C)			
☐ Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (L	RR B)			
 □ Black H	istic (A3)				Π	Loamv Mucky Miner	al (F1)				Reduced Vertic (F18	3)			
	en Sulfide (A4)					Loamy Gleved Matri	x (F2)				Red Parent Material	(TF2)			
	d Lavers (A5) (LF	R C)			П	Depleted Matrix (F3)	- ()				Other (Explain in Re	(marks)			
	uck (A9) (I RR D)					Redox Dark Surface	(F6)					mantoj			
	d Below Dark Su	face (A	(11)			Depleted Dark Surfa	(F7)								
	ark Surface (A12)		(11)			Redox Depressions	(E8)								
	Mucky Mineral (S	, 1)				Vernal Pools (F9)	(10)				³ Indicators of hydrop	hytic vege	etation	and	
	Cleved Matrix (S4	') \									wetland hydrology	must be	presen	t,	
	aver (if present):)											mauc.		
	ayer (il present).														
Type.	.). 							Hydric Sc	vile Dro	sont?	Vee		No		1
Bemarks:	soils are naturally	vnroble	amatic	due to r	ivorino	deposition Entisols n	av not de		footur		163		NO		لا الا
Remarks.		y proble			IVCIIIIC		ay not de		reature						
HYDROLO	GY														
Wetland Hyd	rology Indicator	s:													
Primary Indica	ators (minimum of	f one re	quired;	check	all that	apply)				Seco	ndary Indicators (2 or m	ore requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)					Water Marks (B1) (Rive	erine)			
🔲 High W	ater Table (A2)					Biotic Crust (B12)				\boxtimes	Sediment Deposits (B2) (Riverin	e)		
Saturat	tion (A3)					Aquatic Invertebrate	s (B13)			\boxtimes	Drift Deposits (B3) (Riv	erine)			
U Water	Marks (B1) (Nonr	iverine)			Hydrogen Sulfide Oc	lor (C1)			\boxtimes	Drainage Patterns (B10))			
Sedime	ent Deposits (B2)	(Nonriv	verine)			Oxidized Rhizospher	es along L	iving Roots	s (C3)		Dry-Season Water Tab	le (C2)			
Drift De	eposits (B3) (Non	riverine	e)			Presence of Reduce	d Iron (C4)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B6))				Recent Iron Reduction	on in Tilled	Soils (C6)			Saturation Visible on A	erial Imag	ery (CS	9)	
🔲 Inunda	tion Visible on Ae	rial Ima	igery (B	87)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves (E	39)		,		Other (Explain in Re	marks)				FAC-Neutral Test (D5)				
Field Observ	ations:														
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table F	Present?	Yes		No		Depth (inches):									
Saturation Pre	esent?		_	-	-	,			14/-4/			¥	N7	N	
(includes cap	llary fringe)	Yes		No	\bowtie	Depth (inches):			vvetla	ma Hyd	rology Present?	res	ß	NO	
	ordod Data (stroa	m dauc	ne mon	itorina	well, a	erial photos, previous	inspection	s), if availat	ole:						

Project Site: East-West Corridor			City/Count	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/12/16</u>	
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	<u>TP-89 U</u>	o MM
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, T	ownship, Range: <u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): hillslope		Loc	cal relief (cor	ncave, convex, none): <u>convex</u>	Slop	be (%): <u>4</u>	
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	09960		Long: <u>-120.483481</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>				NWI classif	ication: <u>PSS1/US</u>	A	
Are climatic / hydrologic conditions on the site typic	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation \Box , Soil \Box , or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	No No	
Are Vegetation . Soil . or Hydrology	□ natural	v problematic?) (If ne	eded. explain any answers in Remark	(s.)		
<u> </u>	_	51	(, i , j	,		
SUMMARY OF FINDINGS – Attach site map sh	lowing san	npling point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌					
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	npled Area within a Wetland?	Yes	No No	
Wetland Hydrology Present?	Yes 🛛	No 🗆					
Remarks: Soils naturally problematic, wetland dete	rmination b	ased on veget	ation and h	ydrology.			
VEGETATION – Use scientific names of plants	6.						
Tree Stratum (Plot size: <u>10m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
1				Number of Dominant Species	0		<i></i>
2				That Are OBL, FACW, or FAC:	<u>0</u>		(A)
3				Total Number of Dominant			(5)
4				Species Across All Strata:	<u>1</u>		(B)
50% =, 20% =	<u>0</u>	= Total Cover		Percent of Dominant Species	0		
Sapling/Shrub Stratum (Plot size:4m)				That Are OBL, FACW, or FAC:	<u>u</u>		(A/B)
1. <u>Artemisia tridenata</u>	<u>3</u>	no	NL (UPL)	Prevalence Index worksheet:			
2				Total % Cover of :	Multiply	<u>vby:</u>	
3				OBL species <u>0</u>	x1 =	<u>0</u>	
4				FACW species 0	x2 =	<u>0</u>	
5				FAC species 0	x3 =	<u>0</u>	
50% = <u>1.5,</u> 20% = <u>0.6</u>	<u>3</u>	= Total Cover		FACU species <u>10</u>	x4 =	<u>40</u>	
Herb Stratum (Plot size:2m)				UPL species 53	x5 =	265	
1. Bromus tectorum	50	ves	NL (UPL)	Column Totals: 63 (A)		305 (B)	
2. Verbascum thapsus	10	no	FACU	Prevalence Inde	ex = B/A = 4.84	()	
3	<u></u>		<u></u>	Hydrophytic Vegetation Indicator	<u></u>		
4				Dominance Test is >50%	6		
5					1		
6				Prevalence index is <3.0	,. 		
7				Morphological Adaptatio data in Remarks or on a	ns ¹ (Provide suppo separate sheet)	orting	
8.				Problematic Hydrophytic	Vegetation ¹ (Expl	ain)	
50% = 30, 20% = 12	60	= Total Cover				anny	
Woody Vine Stratum (Plot size:4m)	<u></u>	i olui ooroi		¹ Indicators of hydric soil and wetland	hydrology must		
1				be present, unless disturbed or prob	lematic.		
2							
 50% =20% =	0	= Total Covor		Hydrophytic Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum 40	≚ % Cover	of Biotic Cruet		Present?	_		-
Pomorke:							
1.011a1/13.							

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Sampling Point:	TP-89 Up MM

SOIL										S	Sampling F	oint:	<u>TP-8</u>	9 Up I	MM
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)															
Depth	Matr	rix				Redox Features									
(inches)	Color (moist	t)	<u>%</u>	Co	lor (Mo	ist) <u>%</u> Typ	be ¹ Lo	bc^2	Texture	Rema	arks				
<u>0-12</u>	<u>10YR 3/2</u>		<u>100</u>						sandy loan	n <u>Abundant</u>	gravel				
		_													
		_													
		_													
		_													
		_													
¹ Type: C= Cor	centration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated	Sand Grains.	² Locatio	n: PL=Pore	Lining, M=Mat	rix.				
Hydric Soil In	dicators: (App	olicable	to all L	RRs, u	nless	otherwise noted.)			Indica	tors for Proble	matic Hyd	dric S	oils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (AS	9) (LRR C))			
Histic Ep	oipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A1	10) (LRR E	3)			
Black Hi	stic (A3)					Loamy Mucky Mineral (F	1)			Reduced Verti	c (F18)				
☐ Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2	.)			Red Parent Ma	aterial (TF2	2)			
□ Stratified	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain	in Remark	(s)			
	uck (A9) (LRR [D)				Redox Dark Surface (F6)						,			
Depleted	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F	7)								
Thick Da	ark Surface (A1	2)	· ·			Redox Depressions (F8)	,			0					
□ Sandv M	lucky Mineral (S1)			П	Vernal Pools (F9)				³ Indicators of h	ydrophytic	vege	etation a	and •	
□ Sandy G	Gleved Matrix (S	54)								unless dist	turbed or p	proble	matic.	ι,	
Restrictive La	aver (if presen	t):													
Type:		-,-													
Depth (Inches)).						Hydric	Soils Pre	sent?		Yes 🛛	٦	No		3
Remarks:	Soils are natura	ally prob	lematic	due to	riverine	e deposition Entisols may n	not develop red	lox feature	es						-
HYDROLOG	θY														
Wetland Hydr	ology Indicate	ors:													
Primary Indica	tors (minimum	of one r	required	; check	all tha	t apply)			Seconda	ary Indicators (2	2 or more r	equir	ed)		
Surface	Water (A1)					Salt Crust (B11)				ater Marks (B1)	(Riverine)			
High Wa	ater Table (A2)					Biotic Crust (B12)			🗌 Se	diment Deposit	ts (B2) (Ri	verin	e)		
Saturati	ion (A3)					Aquatic Invertebrates (B1	3)		🗆 Dr	ift Deposits (B3) (Riverin	e)			
□ Water N	/larks (B1) (No i	nriverin	ie)			Hydrogen Sulfide Odor (C	C1)		Dr.	ainage Patterns	s (B10)				
Sedime	nt Deposits (B2	2) (Nonr	riverine)		Oxidized Rhizospheres a	long Living Ro	ots (C3)	🗌 Dr	y-Season Wate	er Table (C	2)			
Drift De	posits (B3) (No	onriveriı	ne)			Presence of Reduced Iron	n (C4)		Cr.	ayfish Burrows	(C8)				
Surface	Soil Cracks (B	86)				Recent Iron Reduction in	Tilled Soils (C	6)	🗌 Sa	turation Visible	on Aerial	Imag	ery (CS	9)	
Inundat	ion Visible on A	Aerial Im	nagery (E	37)		Thin Muck Surface (C7)			🗌 Sh	allow Aquitard	(D3)				
□ Water-S	Stained Leaves	(B9)				Other (Explain in Remark	s)		🗆 FA	C-Neutral Test	: (D5)				
Field Observa	ations:														
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):									
Saturation Pre (includes capil	esent? lary fringe)	Yes		No		Depth (inches):		Wetla	and Hydrolo	ogy Present?	•	Yes		No	\boxtimes
Describe Reco	orded Data (stre	eam gau	uge, moi	nitoring	well, a	erial photos, previous inspe	ections), if avai	lable:							
Pomarka :															

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Project Site: East-West Corridor			City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/12/16</u>
Applicant/Owner: Yakima County				State: <u>WA</u>	Sampling Point:	TP-92 Wet MM
Investigator(s): Sam Payne, Widener and Assoc	iates		Section, T	ownship, Range: <u>17, 13N, 19E</u>		
Landform (hillslope, terrace, etc.): <u>Toe of slope, depr</u>	ession	Lo	cal relief (co	ncave, convex, none): <u>none</u>	Slope	e (%): <u>0</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.6</u>	06809		Long: <u>-120.478472</u>	Datum: <u>NA</u>	AD83
Soil Map Unit Name: <u>Water</u>				NWI classif	ication: <u>PFO1A</u>	
Are climatic / hydrologic conditions on the site typic	cal for this tim	ne of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)	
Are Vegetation □, Soil □, or Hydrology	signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	🛛 No 🗌
Are Vegetation 🔲, Soil 🖾, or Hydrology	natural	y problematic?	? (If ne	eded, explain any answers in Remark	:s.)	
SUMMARY OF FINDINGS – Attach site map sh	nowing san	npling point	locations,	, transects, important features,	etc.	
Hydrophylic Vegetation Present?	res 🖂		la 4h a 0 am	and a dama within a WetlandO	No.	
Hydric Soli Present?	res 🔟		is the San	npied Area within a wetland?	tes L	
Wetland Hydrology Present?	Yes 🛛	No 📋		4.4.		
Remarks: Soils naturally problematic, wetland dete	ermination b	ased on vege	ation and h	ydrology.		
VEGETATION – Use scientific names of plants	S.	Dominant	Indicator	1		
<u>Tree Stratum</u> (Plot size: <u>10m</u>)	<u>% Cover</u>	Species?	Status	Dominance Test Worksheet:		
1. <u>Salix spp.</u>	<u>10</u>	ves	FACW	Number of Dominant Species	4	
2. <u>Populus balsamifera</u>	<u>40</u>	yes	FAC	That Are OBL, FACW, or FAC:	<u>4</u>	(A)
3				Total Number of Dominant	-	
4				Species Across All Strata:	<u>5</u>	(В)
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cover		Percent of Dominant Species	80	(A/B)
Sapling/Shrub Stratum (Plot size: <u>4m)</u>				That Are OBL, FACW, or FAC:	<u></u>	(708)
1. <u>Salix spp.</u>	<u>5</u>	no	FACW	Prevalence Index worksheet:		
2. <u>Cornus sericea</u>	<u>40</u>	yes	FACW	Total % Cover of :	Multiply I	by:
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% = <u>22.5</u> , 20% = <u>9</u>	<u>45</u>	= Total Cover		FACU species	x4 =	
Herb Stratum (Plot size:2m)				UPL species	x5 =	
1. Lepidium latifolium	<u>15</u>	yes	FAC	Column Totals: (A)		(B)
2. Cirsium arvense	25	ves	FACU	Prevalence Index	x = B/A =	
3.		<u> </u>		Hydrophytic Vegetation Indicator		
4.				Dominance Test is >50%	6	
5.				Prevalence Index is <3 (1	
6				Membeleries Adentatio	' na ¹ (Dravida avena	utius au
7				data in Remarks or on a	separate sheet)	rung
8					· · · · · · · · · · · · · · · · · · ·	
5	40	- Total Cava			vegetation (Expla	airi <i>)</i>
$50\% - \underline{20}, 20\% - \underline{6}$	<u>40</u>			¹ Indicators of hydric soil and wetland	d hydrology must	
				be present, unless disturbed or prob	lematic.	
··						
2	0	- Total Carrie		Hydrophytic	Yes 🖂	No 🗆
20% - 20% = 20%	<u>v</u>	- Total Covel		Present?		··• L
% bare Ground in Herb Stratum 60	% Cover (DI BIOTIC Crust				
Remarks:						

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SOIL											Sampli	ng Point:	TP-92	Wet N	MM
Profile Descr	ription: (Descri	be to the	depth	neede	ed to d	ocument the indicator o	r confir	m the abs	ence of	indicat	ors.)				
Depth	Matr	rix				Redox Features	5								
(inches)	Color (moist	t)	%	Col	lor (Mo	<u>ist) % T</u>	ype ¹	Loc ²		Textu	re <u>Remarks</u>				
<u>0-2</u>	<u>10YR 3/2</u>	<u>1</u>	00						-	<u>silt loa</u>	<u>m</u>				
<u>2-12</u>	<u>10YR 3/1</u>	<u>1</u>	00						_	<u>silt loa</u>	<u>m</u>				
									_						
									_						
									_						
									_						
¹ Type: C= Co	ncentration, D=	Depletion	, RM=I	Reduce	ed Matr	ix, CS=Covered or Coate	d Sand	Grains. ²	Location	: PL=Po	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	olicable t	o all Ll	RRs, u	nless	otherwise noted.)				Indi	cators for Problemati	c Hydric S	Soils ³ :		
Histoso	l (A1)					Sandy Redox (S5)					1 cm Muck (A9) (LF	RC)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (L	RR B)			
Black H	listic (A3)					Loamy Mucky Mineral (I	F1)				Reduced Vertic (F1	3)			
Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix (F	2)				Red Parent Materia	(TF2)			
Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)					Other (Explain in Re	emarks)			
□ 1 cm M	uck (A9) (LRR I	D)				Redox Dark Surface (F6	6)								
Deplete	d Below Dark S	Surface (A	(11)			Depleted Dark Surface	(F7)								
Thick D	ark Surface (A1	2)				Redox Depressions (F8)				³ Indiantors of hydror	butio vog	tation	and	
Sandy I	Mucky Mineral (S1)				Vernal Pools (F9)					wetland hydrology	/ must be	presen	anu t.	
□ Sandy (Gleyed Matrix (S	54)									unless disturbed	l or proble	matic.	,	
Restrictive L	ayer (if presen	t):													
Туре:															
Depth (Inches	s):							Hydric So	ils Pres	ent?	Yes		No	\boxtimes]
Remarks:	Soils are natura	ally proble	ematic	due to	riverine	e deposition. Entisols may	not dev	elop redox	features	s.					
	37														
Wetland Hyd	rology Indicate	ors:													
Primary Indica	ators (minimum	of one re	quired;	; check	all tha	t apply)				Secor	ndary Indicators (2 or m	ore requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)			·		Water Marks (B1) (Riv	erine)			
🔲 High W	ater Table (A2)	1				Biotic Crust (B12)					Sediment Deposits (B2) (Riverin	e)		
□ Saturat	tion (A3)					Aquatic Invertebrates (E	313)				Drift Deposits (B3) (Riv	verine)	,		
 □ Water I	Marks (B1) (No i	nriverine)		Π	Hvdrogen Sulfide Odor	(C1)				Drainage Patterns (B1)))			
 □ Sedime	ent Deposits (B2	2) (Nonriv	, verine)			Oxidized Rhizospheres	along L	ivina Roots	(C3)		Drv-Season Water Tab	, le (C2)			
 □ Drift De	eposits (B3) (No	onriverine	e)		П	Presence of Reduced In	on (C4)	5	()		Cravfish Burrows (C8)	(-)			
	e Soil Cracks (B	6)	-,		П	Recent Iron Reduction i	n Tilled	Soils (C6)			Saturation Visible on A	erial Imao	erv (CS))	
	tion Visible on A	Aerial Ima	aerv (F	37)	П	Thin Muck Surface (C7)		()			Shallow Aguitard (D3)	3		,	
□ Water-	Stained Leaves	(B9)	.90.) (-	.,	П	Other (Explain in Remai	rks)				FAC-Neutral Test (D5)				
Field Observ	ations:	· ·/				(] · · · · · · · · · · · · · · · · · ·	,			-					
Surface Wate	r Present?	Yes		No	\bowtie	Depth (inches):									
Water Table P	Present?	Yes		No		Depth (inches):									
Saturation Pre	esent?				2							\-	5		_
(includes capi	illary fringe)	Yes		No	\bowtie	Depth (inches):			wetlan	ia Hydr	rology Present?	Yes	M	NO	
Describe Rec	orded Data (stre	eam gaug	ge, mor	nitoring	well, a	erial photos, previous insp	pections	s), if availab	ole:				<u>.</u>		<u>.</u>
D															

Remarks: US Army Corps of Engineers

Project Site: East-West Corridor				City/Coun	ty: <u>Yakima/Yakima</u>	Sampling Date:	<u>10/12/16</u>	<u>6</u>
Applicant/Owner: Yakima County					State: <u>WA</u>	Sampling Point:	<u>TP-91 U</u>	lp MM
Investigator(s): Sam Payne, Widener and Assoc	iates			Section, T	ownship, Range: <u>17, 13N, 19E</u>			
Landform (hillslope, terrace, etc.): <u>Terrace</u>			Lo	cal relief (coi	ncave, convex, none): <u>convex</u>	Slop	e (%): <u>(</u>	<u>)</u>
Subregion (LRR): <u>B</u>	Lat: <u>4</u>	6.606802	2		Long: <u>-120.478520</u>	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>					NWI classif	ication: <u>PFO1A</u>		
Are climatic / hydrologic conditions on the site typi	cal for this	time of y	/ear?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation □, Soil □, or Hydrology	🗌 sign	ificantly	disturbed	? Are "	Normal Circumstances" present?	Yes	⊠ N	•
Are Vegetation □, Soil □, or Hydrology	natu	rally pro	blematic	? (If ne	eded, explain any answers in Remark	(s.)		
SUMMARY OF FINDINGS – Attach site map sl	nowing s	amplin	g point	locations,	transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes	No No		-	· · ·			
Hydric Soil Present?	Yes			Is the San	npled Area within a Wetland?	Yes		• 🛛
Wetland Hydrology Present?	Yes							
Remarks:								
VEGETATION – Use scientific names of plants	S.							
Tree Stratum (Plot size:10m)	Absolute	Dom	inant	Indicator	Dominance Test Worksheet:			
	% Cover	Spec	cies?	Status				
1. <u>Ainus vinuis.</u>	<u>30</u> 20	<u>yes</u>		FACW	Number of Dominant Species That Are OBL_EACW_or FAC	<u>5</u>		(A)
2. <u>Populus baisanniera</u>	20	yes		<u>FAC</u>				
s			-		Total Number of Dominant Species Across All Strata	<u>5</u>		(B)
4			tal Cava					
$50\% = \frac{27.5}{20\%} = \frac{11}{11}$	<u>55</u>	= 10	tal Covel	ſ	Percent of Dominant Species	<u>100</u>		(A/B)
Sapling/Shrub Stratum (Plot size:4m)	_							
1. <u>Alnus viridis</u>	<u>5</u>	yes		FACW	Prevalence Index worksheet:			
2. <u>Cornus sericea</u>	<u>10</u>	yes		FACW	<u>Total % Cover of :</u>	Multiply	by:	
3	<u> </u>		-		OBL species	x1 =		
4	<u> </u>		-		FACW species	x2 =		
5			-		FAC species	x3 =		
50% = <u>7.5,</u> 20% = <u>3</u>	<u>15</u>	= To	tal Cove	r	FACU species	x4 =		
Herb Stratum (Plot size:2m)					UPL species	x5 =		
1. <u>Lepidium latifolium</u>	<u>30</u>	yes		FAC	Column Totals: (A)			(B)
2.					Prevalence Inde	x = B/A =		
3.			_		Hydrophytic Vegetation Indicator	s:		
4.			-		Dominance Test is >509	6		
5			-			1		
6			-			1 (5))		
7			-		Morphological Adaptatio data in Remarks or on a	ns' (Provide suppo separate sheet)	orting	
·			-			· · · · ·		
8. <u> </u>			-		Problematic Hydrophytic	; Vegetation ¹ (Expl	ain)	
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= To	tal Cove	r	¹ Indicators of hydric soil and wetland	d hydrology must		
<u>Woody Vine Stratum</u> (Plot size: <u>4m</u>)					be present, unless disturbed or prob	lematic.		
1			-	—				
2	·		-		Hydrophytic			_
50% =, 20% =	<u>0</u>	= To	tal Cove	r	Vegetation Present2	tes 🖾	NO	
% Bare Ground in Herb Stratum 70	% Cov	er of Bio	tic Crust		116361111			
Remarks:								

US Army Corps of Engineers

SOIL										Sampling Point: <u>TP WB6</u>
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matr	ix				Redox Features				
(inches)	Color (moist	<u>)</u>	<u>%</u>	Col	lor (Mo	ist) <u>%</u> Type ¹	Loc	-	Textu	ire <u>Remarks</u>
<u>0-5</u>	<u>10YR 3/2</u>		<u>25</u>					_	<u>silt loa</u>	am abundant decomposing wood, and colorful
<u>5-14</u>	<u>10YR 3/2</u>		<u>100</u>					_	<u>silt loa</u>	am abundant cobble and gravel
		_						_		
		_						_		
		_						_		
		_				<u> </u>		_		
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. 🧳	² Locatio	n: PL=P	ore Lining, M=Matrix.
Hydric Soil In	dicators: (App	olicable	to all L	.RRs, u	nless	otherwise noted.)			Indi	icators for Problematic Hydric Soils ³ :
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR C)
Histic Ep	oipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)
Black Hi	stic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (TF2)
Stratified	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Remarks)
🔲 1 cm Mu	ıck (A9) (LRR I	D)				Redox Dark Surface (F6)				
Depleted	d Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)				
Thick Da	ark Surface (A1	2)				Redox Depressions (F8)				³ Indicators of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)				Vernal Pools (F9)				wetland hydrology must be present,
Sandy G	Bleyed Matrix (S	S4)								unless disturbed or problematic.
Restrictive La	ayer (if presen	t):								
Туре:										
Depth (Inches)):						Hydric S	oils Pre	sent?	Yes 🗌 No 🛛
Remarks:										
HYDROLOG	θY									
Wetland Hydr	ology Indicate	ors:								
Primary Indica	tors (minimum	of one r	required	; check	all that	t apply)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverine)
High Wa	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (Riverine)
□ Saturati	on (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riverine)
□ Water M	/larks (B1) (No i	nriverin	ıe)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)
Sedime	nt Deposits (B2	2) (Non r	riverine)		Oxidized Rhizospheres along	Living Root	s (C3)		Dry-Season Water Table (C2)
Drift De	posits (B3) (No	onriveri	ne)			Presence of Reduced Iron (C	4)			Crayfish Burrows (C8)
Surface	Soil Cracks (B	6)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aerial Imagery (C9)
Inundation	ion Visible on A	Aerial Im	nagery (I	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)
□ Water-S	Stained Leaves	(B9)				Other (Explain in Remarks)			\boxtimes	FAC-Neutral Test (D5)
Field Observa	ations:									
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):				
Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):				
Saturation Pre	sent?	Yes	П	No		Depth (inches):		Wetla	nd Hydi	rology Present? Yes 🗌 No 🖂
(includes capil	lary tringe)	am nai		nitoring	well a	erial photos, previous inspectio	ns) if availa	ble [.]		
2000.1001.000		gut					,,			

Project Site: East-West Corridor		City/County: <u>Yakima/Yakima</u>	Sampling Date: <u>10/12/16</u>
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: TP-94 Wet MM
Investigator(s): Sam Payne, Widener and Assoc	iates	Section, Township, Range: <u>17, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): depression	Loc	al relief (concave, convex, none): <u>concave</u>	Slope (%): 0
Subregion (LRR): <u>B</u>	Lat: <u>46.607483</u>	Long: <u>-120.478860</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: <u>Water</u>		NWI classi	fication: <u>PFO1A</u>
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes 🛛 No 🔲 (If no, explain in Re	marks.)
Are Vegetation \Box , Soil \Box , or Hydrology	significantly disturbed	Are "Normal Circumstances" present?	Yes 🛛 No 🗖
Are Vegetation \square . Soil \square . or Hydrology	□ naturally problematic?	(If needed, explain any answers in Remark	
5 <u> </u>	_ ,		,
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling point	locations, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes X No	·····,	
Hvdric Soil Present?	Yes ⊠ No □	Is the Sampled Area within a Wetland?	Yes 🖂 No 🗆
Wetland Hydrology Present?	Yes 🖾 No 🗆	·····	
Remarks [.]			
VEGETATION - Use scientific names of plants	S. Absolute Dominant	Indicator	
Tree Stratum (Plot size: 10m)	<u>% Cover</u> <u>Species?</u>	Status	
1. <u>Salix spp.</u>	<u>10 no</u>	FACW Number of Dominant Species	3 (A)
2. <u>Populus balsamifera</u>	<u>45 yes</u>	FAC That Are OBL, FACW, or FAC:	_ ()
3		Total Number of Dominant	3 (B)
4		Species Across All Strata:	_ ()
50% = <u>27.5</u> , 20% = <u>11</u>	55 = Total Cover	Percent of Dominant Species	100 (A/B)
Sapling/Shrub Stratum (Plot size:4m)		That Are OBL, FACW, or FAC:	
1. <u>Ribes aureum</u>	<u>3 no</u>	FAC Prevalence Index worksheet:	
2. <u>Cornus sericea</u>	<u>40 yes</u>	FACW Total % Cover of :	Multiply by:
3		OBL species	x1 =
4		FACW species	x2 =
5		FAC species	x3 =
50% = <u>21.5</u> , 20% = <u>8.6</u>	43 = Total Cover	FACU species	x4 =
Herb Stratum (Plot size:2m)		UPL species	x5 =
1. Phalaris arundinacea	55 yes	FACW Column Totals: (A)	(B)
2. Carex obnupta	5 no	OBL Prevalence Inde	x = B/A =
3		Hydrophytic Vegetation Indicator	······································
4		Dominance Test is >50°	
5			01
5. <u> </u>		Prevalence Index is <3.	J.
0		Morphological Adaptatic data in Remarks or on a	ons' (Provide supporting a separate sheet)
·		—	
8		Problematic Hydrophytic	: Vegetation ¹ (Explain)
50% = <u>30</u> , 20% = <u>12</u>	60 = Total Cover	¹ Indicators of hydric soil and wetlan	d hydrology must
<u>Woody Vine Stratum</u> (Plot size: <u>4m</u>)		be present, unless disturbed or prob	olematic.
1	<u> </u>	— –	
2		Hydrophytic	
50% =, 20% =	0 = Total Cover	Vegetation Present?	res 🖾 No 🗋
% Bare Ground in Herb Stratum <u>40</u>	% Cover of Biotic Crust		
Remarks:			

US Army Corps of Engineers

Sampling Point: TP-94 Wet MM

SOIL														Sar	mpling I	Point:	<u>TP-94</u>	Wet N	<u>/M</u>
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)																			
Depth	Matr	ix					Redox	Featur	es										
(inches)	Color (moist	.)	%	Col	lor (Mo	<u>st)</u>	%		Type ¹	Lo	.oc ²		Textur	<u>e Remar</u>	rks				
<u>0-8</u>	<u>10YR 3/1</u>	-	100			-							<u>silt loar</u>	<u>n</u>					
<u>8-14</u>	<u>10YR 3/1</u>		<u>98</u>	<u>7.</u>	.5YR 4/	<u>6</u>	<u>2</u>		<u>C</u>	<u> </u>	M		<u>silt loar</u>	<u>n</u>					
														<u> </u>					
		_												<u> </u>					
		_												<u> </u>					
						-													
¹ Type: C= Cor	ncentration, D=	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Co	vered	or Coa	ted Sano	d Grains.	² Lo	cation	: PL=Po	re Lining, M=Matrix	x.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	nless	otherwise	noted	l.)					Indio	ators for Problem	natic H	ydric S	ioils ³ :		
Histosol	(A1)					Sandy R	edox (S5)						1 cm Muck (A9)	(LRR C	C)			
Histic Ep	pipedon (A2)					Stripped	Matrix	(S6)						2 cm Muck (A10)) (LRR	B)			
Black Hi	istic (A3)					Loamy N	/lucky	Mineral	(F1)					Reduced Vertic	(F18)				
Hydroge	en Sulfide (A4)					Loamy G	Bleyed	Matrix	(F2)					Red Parent Mate	erial (TI	=2)			
□ Stratified	d Layers (A5) (I	LRR C)				Depleted	d Matri	x (F3)						Other (Explain ir	n Rema	rks)			
🔲 1 cm Mu	uck (A9) (LRR [D)			\boxtimes	Redox D	ark Su	urface (F6)										
Depleted	d Below Dark S	Surface (A11)			Depleted	d Dark	Surfac	e (F7)										
Thick Da	ark Surface (A1	2)				Redox D	epres	sions (F	-8)					31 11 1 51					
□ Sandy M	/ucky Mineral (S1)				Vernal P	ools (f	-9)	,					vetland hydro	aropnyt ology mi	ic vege ust be i	resen	and F	
Sandy G	Gleyed Matrix (S	54)												unless distu	rbed or	proble	matic.	.,	
Restrictive La	ayer (if presen	t):																	
Restrictive Layer (if present): Type:																			
Depth (Inches):									Hydric	: Soils	s Pres	ent?	Y	'es	\boxtimes	No		
Remarks:	Soils are natura	ally probl	lematic	due de	positio	n and scou	ır from	the rive	er. Redo	x indicate	ors ar	e not a	always p	resent in entisols.					
HYDROLOG	jY rology Indicate																		
	toro (minimum	JS.	oquirod	· obook	all that	(apply)							Secon	dany Indiantora (2)	or moro	roquir	od)		
			equileu	, CHECK								— ·		Vatar Marka (D1) (nequil	eu)		
						Salt Cru:		1)						Valer Marks (BT) (ie)	-)		
	ater Table (A2)					Biotic Cr	ust (B	12)	(040)						(B2) (F	liverin	e)		
	ion (A3)					Aquatic	Inverte	brates	(B13)					Drift Deposits (B3)	(Riveri	ne)			
	Marks (B1) (Noi	nriverine	e) 			Hydroge	n Sulfi	de Odo	or (C1)					Drainage Patterns ((B10)				
	ent Deposits (B2	2) (Nonr i	iverine)		Oxidized	Rhizo	sphere	s along	Living Ro	oots (0	C3)		Dry-Season Water	Table (C2)			
Drift De	eposits (B3) (No	onriverin	ıe)			Presenc	e of Re	educed	Iron (C4	1)				Crayfish Burrows (0	C8)				
⊔ Surface	e Soil Cracks (B	6)				Recent I	ron Re	eductior	n in Tille	d Soils (C	C6)			Saturation Visible o	on Aeria	I Imag	ery (CS)	
Inundat	ion Visible on A	Aerial Ima	agery (I	37)		Thin Mu	ck Sur	face (C	7)					Shallow Aquitard (E	D3)				
□ Water-S	Stained Leaves	(B9)				Other (E	xplain	in Rem	ıarks)					FAC-Neutral Test (D5)				
Field Observa	ations:																		
Surface Water	r Present?	Yes		No	\boxtimes	Dep	th (inc	hes):											
Water Table P	Present?	Yes		No	\boxtimes	Dep	th (inc	hes):											
Saturation Pre (includes capil	esent? llary fringe)	Yes		No	\boxtimes	Dep	th (inc	hes):			v	Netlan	d Hydr	ology Present?		Yes		No	
Describe Reco	orded Data (stre	eam gau	ige, moi	nitoring	well, a	erial photo	os, pre	vious ir	spection	ns), if ava	ailable	:							
Remarks '																			

US Army Corps of Engineers

Project Site: East-West Corridor		City/County: <u>Yakima/Yakima</u>	Sampling Date: <u>10/12/16</u>
Applicant/Owner: Yakima County		State: <u>WA</u>	Sampling Point: <u>TP-93 Up MM</u>
Investigator(s): Sam Payne, Widener and Assoc	iates	Section, Township, Range: <u>17, 13N, 19E</u>	
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (concave, convex, none): <u>convex</u>	Slope (%): <u>5</u>
Subregion (LRR): <u>B</u>	Lat: <u>46.607462</u>	Long: <u>-120.478926</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: <u>Water</u>		NWI class	ification: <u>PFO1A</u>
Are climatic / hydrologic conditions on the site typic	cal for this time of year?	Yes 🛛 No 🗌 (If no, explain in Re	emarks.)
Are Vegetation \Box , Soil \Box , or Hydrology	significantly disturbe	d? Are "Normal Circumstances" present?	Yes 🛛 No 🗌
Are Vegetation \Box , Soil \Box , or Hydrology	naturally problemation	? (If needed, explain any answers in Remain	rks.)
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling poin	t locations, transects, important features	, etc.
Hydrophytic Vegetation Present?	Yes 🛛 No 🗌		
Hydric Soil Present?	Yes 🗌 No 🖾	Is the Sampled Area within a Wetland?	Yes 🗌 No 🖾
Wetland Hydrology Present?	Yes 🗌 No 🖾		
Remarks:			
VEGETATION – Use scientific names of plants	5.		
Tree Stratum (Plot size:10m)	Absolute Dominant	Indicator Dominance Test Worksheet:	
1 Populus halsamifera	<u>% Cover</u> <u>Species?</u>	Status FAC	
2	<u>55</u>	That Are OBL, FACW, or FAC:	<u>2</u> (A)
3			
4		Species Across All Strata:	<u>3</u> (B)
50% = 17.5, 20% = 7	35 = Total Cove		
Sapling/Shrub Stratum (Plot size:4m)	<u> </u>	That Are OBL, FACW, or FAC:	<u>66</u> (A/B)
1. Ribes aureum	45 yes	FAC Prevalence Index worksheet:	
2. <u>Rosa woodsii</u>	20 <u>yes</u>	FACU Total % Cover of :	Multiply by:
3		OBL species	x1 =
4		FACW species	x2 =
5		FAC species	x3 =
50% = <u>32.5</u> , 20% = <u>13</u>	65 = Total Cove	FACU species	x4 =
Herb Stratum (Plot size:2m)		UPL species	x5 =
1. Lepidium latifolium	<u>1 no</u>	FAC Column Totals: (A)	(B)
2		Prevalence Inde	ex = B/A =
3		Hydrophytic Vegetation Indicato	rs:

 \boxtimes Dominance Test is >50% 5. Prevalence Index is <3.01 6. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 7. 8. Problematic Hydrophytic Vegetation¹ (Explain) 50% = <u>0.5,</u> 20% = <u>0.2</u> = Total Cover 1 ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size:4m) be present, unless disturbed or problematic. 1. 2. Hydrophytic Yes \boxtimes 50% = ____, 20% = ____ 0 = Total Cover Vegetation Present? % Bare Ground in Herb Stratum % Cover of Biotic Crust <u>99</u> Remarks:

US Army Corps of Engineers

4.

Arid West - Version 2.0

No

Sampling	Point:	TP-93	Up	MN

SOIL											Samplin	g Point:	<u>TP-9</u>	3 Up N	<u>/M</u>
Profile Desc	ription: (Descri	ibe to th	ne depth	neede	d to d	ocument the indicator or conf	irm the abs	ence of ind	dicato	ors.)					
Depth	Mat	rix				Redox Features									
(inches)	Color (moist	<u>t)</u>	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type</u> ¹	Loc ²	<u>T</u>	exture	<u>e Re</u>	<u>marks</u>				
<u>0-12</u>	<u>10YR 3/1</u>		<u>100</u>					_	loam						
		-													
		-													
		-													
		-													
		_				<u> </u>									
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.															
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :															
Histoso	ol (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
Histic E	Epipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LR I	R B)			
Black H	Histic (A3)					Loamy Mucky Mineral (F1)				Reduced Ve	rtic (F18)				
Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent I	Material (TF2)			
Stratifie	ed Layers (A5) (LRR C)				Depleted Matrix (F3)				Other (Expla	in in Rem	iarks)			
□ 1 cm M	luck (A9) (LRR I	D)				Redox Dark Surface (F6)									
Deplete	ed Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)									
Thick D	Dark Surface (A	12)				Redox Depressions (F8)				³ Indicators of	f hydroph	ytic vege	tation	and	
□ Sandy	Mucky Mineral (S1)				Vernal Pools (F9)			wetland hy	drology n	nust be p	oresent	t,		
□ Sandy	Gleyed Matrix (S4)					r			unless d	isturbed o	or proble	matic.		
Restrictive L	ayer (if presen.	t):													
Туре:															
Depth (Inches	s):						Hydric So	oils Presen	t?		Yes		No	\boxtimes	
Remarks:															
HYDROLO	GY														
Wetland Hyd	Irology Indicate	ors:													
Primary Indic	ators (minimum	of one r	required;	; check	all that	t apply)			Secon	dary Indicators	(2 or mor	e requir	ed)		
Surfac	e Water (A1)					Salt Crust (B11)		[<u>۱</u>	Water Marks (B	1) (River	ine)			
🔲 High W	Vater Table (A2))				Biotic Crust (B12)		[Sediment Depo	sits (B2)	Riverin	e)		
Satura Satura	tion (A3)					Aquatic Invertebrates (B13)			⊠ [Drift Deposits (B	33) (Rive	rine)			
□ Water	Marks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)		C		Drainage Patter	rns (B10)				
Sedim	ent Deposits (B	2) (Non i	riverine))		Oxidized Rhizospheres along	Living Roots	s (C3) [Dry-Season Wa	ater Table	(C2)			
Drift D	eposits (B3) (No	onriveri	ne)			Presence of Reduced Iron (C4	4)	[Crayfish Burrow	vs (C8)				
Surface Soil Cracks (B6)				Recent Iron Reduction in Tille	d Soils (C6)	(C6) Saturation Visible on Aerial Imagery (C9)									
Inundation Visible on Aerial Imagery (B7)					Thin Muck Surface (C7)		Shallow Aquitard (D3)								
□ Water-Stained Leaves (B9)					Other (Explain in Remarks)		FAC-Neutral Test (D5)								
Field Observ	vations:														
Surface Wate	er Present?	Yes		No	\boxtimes	Depth (inches):									
Water Table	Present?	Yes		No	\boxtimes	Depth (inches):									
Saturation Pr (includes cap	esent? illary fringe)	Yes		No	\boxtimes	Depth (inches):		Wetland	Hydro	ology Present	?	Yes		No	
Describe Rec	corded Data (str	eam gau	uge, mor	nitoring	well, a	erial photos, previous inspectior	ns), if availal	ble:							

Remarks: Drift deposits likely from extremely high flood events, not indiciative of usual hydrology. US Army Corps of Engineers

Project Site:	East-West Corri	<u>dor</u>		City/County:	<u>Yakima/Yaki</u>	<u>ma</u>	Sampling	g Date:	<u>3/3/1</u>	<u>6</u>	
Applicant/Owner:	Yakima County					State: <u>WA</u>	Sampling	Point:	<u>TP-67</u> NN)	7 <u>(</u> We	<u>et</u>
Investigator(s):	Jason Cade, Wi	dener & Associates		Section, Tow	nship, Range:	<u>S17 &S20, T13N,</u>	R19E				
Landform (hillslope,	terrace, etc.): flo	oodplain vegetated sa	<u>nd/rock bar</u> Loo	cal relief (conca	ave, convex, n	one): <u>none</u>		Slop	be (%):	<u>0</u>	
Subregion (LRR)	: <u>B</u>	La	t:		Long:	_	Dat	tum: <u>N</u>	AD83		
Soil Map Unit Name	: <u>Water</u>					NWI class	sification: P	EM1C			
Are climatic / hyd	drologic conditions	s on the site typical fo	r this time of year?	Yes 🛛	No 🗌	(If no, explain in R	emarks.)				
Are Vegetation	Soil □,	or Hydrology	significantly disturbed	? Are "No	ormal Circumst	ances" present?		Yes	\boxtimes	No	
Are Vegetation	Soil 🛛,	or Hydrology	naturally problematic?	? (If need	led, explain an	y answers in Rema	rks.)				

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?		\boxtimes	No				
Hydric Soil Present?			No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?		\boxtimes	No				

Remarks: Naturally problematic soils- located in main river stem. cobble to surface

VEGETATION -	معلا	scientific	names of	nlante
VEGETATION -	USE	Scientific	names or	piants.

<u>Tree Stratum</u> (Plot size: <u>30 ' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u>	(A)
3 4				Total Number of Dominant Species Across All Strata:	<u>2</u>	(B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)		= Total Cove	er	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(A/B)
1. <u>Salix exigua</u>	<u>15</u>	<u>ves</u>	FACW	Prevalence Index worksheet:		
2				Total % Cover of :	Multiply by:	
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% =, 20% =		= Total Cove	er	FACU species	x4 =	
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)				UPL species	x5 =	
1. <u>Phalaris arundinacea</u>	<u>1</u>	<u>yes</u>	FACW	Column Totals: (A)		(B)
2				Prevalence Index = B/A =		
3				Hydrophytic Vegetation Indicators:		
4				Dominance Test is >50%		
5				Prevalence Index is $\leq 3.0^1$		
6				Morphological Adaptations ¹ (Prov	ide supporting	
7				data in Remarks or on a separate	sheet)	
8				Problematic Hydrophytic Vegetati	on ¹ (Explain)	
50% =, 20% =		= Total Cove	er			
<u>Woody Vine Stratum</u> (Plot size: <u>5 ' r</u>)				¹ Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic.	gy must	
1						
2				Hydrophytic		
50% =, 20% =		= Total Cove	er	Vegetation Yes 🛛 No		
% Bare Ground in Herb Stratum % Cover of Biotic Crust			Present?			
Remarks:						

US Army Corps of Engineers
SOIL									Sampling Poi	nt: <u>TP-6</u>	7 (N	/et NM	<u>(</u> /	
Profile Description: (Describe to the	e depth	need	ed to d	ocument the indicator o	r confi	rm the abs	ence of	indicat	tors.)					_
Depth Matrix				Redox Features	s									
(inches) Color (moist)	<u>%</u>	Co	lor (Mo	<u>ist) % T</u>	<u>ype¹</u>	Loc ²		<u>Textu</u>	re <u>Remarks</u>					
<u>0+</u>							-	<u>Cobb</u>	<u>le</u>					
							-							
							-							
							-							
							-							
<u></u>				<u> </u>			-							
¹ Type: C= Concentration, D=Depletion	n, RM=I	Reduce	ed Matr	ix, CS=Covered or Coate	d Sand	Grains. 2	Location	: PL=P	ore Lining, M=Matrix.					
Hydric Soil Indicators: (Applicable t	to all L	RRs, u	nless	otherwise noted.)				Indi	icators for Problemat	ic Hydric	: Soi	ls³:		
Histosol (A1)				Sandy Redox (S5)					1 cm Muck (A9) (L	RR C)				
Histic Epipedon (A2)				Stripped Matrix (S6)					2 cm Muck (A10) (I	.RR B)				
Black Histic (A3)				Loamy Mucky Mineral (I	F1)				Reduced Vertic (F1	8)				
Hydrogen Sulfide (A4)				Loamy Gleyed Matrix (F	2)				Red Parent Materia	al (TF2)				
Stratified Layers (A5) (LRR C)				Depleted Matrix (F3)				\boxtimes	Other (Explain in R	emarks)				
1 cm Muck (A9) (LRR D)				Redox Dark Surface (F6	5)									
Depleted Below Dark Surface (A	A11)			Depleted Dark Surface	(F7)									
Thick Dark Surface (A12)				Redox Depressions (F8)				³ Indicators of hydro	phytic ve	geta	tion a	nd	
Sandy Mucky Mineral (S1)				Vernal Pools (F9)					wetland hydrolog	y must be	e pre	esent,		
Sandy Gleyed Matrix (S4)									unless disturbe	d or prob	lema	atic.		
Restrictive Layer (if present):														
Туре:														
Depth (Inches):						Hydric So	ils Pres	ent?	Yes			No	\boxtimes	
Remarks: Cobble rock to surface														
IYDROLOGY														
Wetland Hydrology Indicators:														
Primary Indicators (minimum of one re	equired	; check	all tha	t apply)				Seco	ndary Indicators (2 or r	nore requ	iired)		
Surface Water (A1)				Salt Crust (B11)					Water Marks (B1) (Riv	verine)				
High Water Table (A2)				Biotic Crust (B12)				\boxtimes	Sediment Deposits (B	2) (River i	ine)			
Saturation (A3)				Aquatic Invertebrates (E	313)				Drift Deposits (B3) (Ri	verine)				
Water Marks (B1) (Nonriverine))			Hydrogen Sulfide Odor	(C1)				Drainage Patterns (B1	0)				
Sediment Deposits (B2) (Nonri	verine))		Oxidized Rhizospheres	along L	iving Roots	(C3)		Dry-Season Water Ta	ole (C2)				
Drift Deposits (B3) (Nonriverine	e)			Presence of Reduced Ir	on (C4)			Crayfish Burrows (C8)					
Surface Soil Cracks (B6)				Recent Iron Reduction i	n Tilled	Soils (C6)			Saturation Visible on A	erial Ima	igery	(C9)		
Inundation Visible on Aerial Ima	agery (E	37)		Thin Muck Surface (C7))				Shallow Aquitard (D3)					
Water-Stained Leaves (B9)				Other (Explain in Rema	rks)				FAC-Neutral Test (D5)				
Field Observations:														
Surface Water Present? Yes	\boxtimes	No		Depth (inches):	<u>2</u>									
Water Table Present? Yes		No		Depth (inches):										
Saturation Present? Yes (includes capillary fringe)		No		Depth (inches):			Wetlan	d Hyd	rology Present?	Yes	. (\boxtimes	No	
Describe Recorded Data (stream gaug	ge, mor	nitoring	well, a	erial photos, previous ins	pection	s), if availab	ole:							

Remarks: US Army Corps of Engineers

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: East-West Corridor			City/Count	y: <u>Yakima/Yakima</u> Sampli	ng Date:	<u>3/3/16</u>	
Applicant/Owner: Yakima County	4		0 tion T	State: <u>WA</u> Sampli	ng Point:	<u>1P-69 (v</u>	vet PP)
Investigator(s): <u>Teddi MicFail, Widener & Associa</u>	ites		Section, IC	winship, Range: <u>517 & 520, 113N, 119E</u>	Olan	- (0/).	
Landform (hillslope, terrace, etc.): <u>floodplain</u>	Lati	Loc	al relief (con	cave, convex, none): <u>none</u>	Siop	e (%): _	
	Lat:	_				<u>4D83</u>	
Soli Map Unit Name: <u>water</u>			V 54		<u>PF01A.</u>		
Are climatic / hydrologic conditions on the site typic	al for this tim	e of year?	Yes 🖂	No (If no, explain in Remarks.)		N	_
Are Vegetation [], Soil [], or Hydrology		antly disturbed'	Are "I	Normal Circumstances" present?	Yes		
Are Vegetation \square , Soil \boxtimes , or Hydrology	naturall	y problematic?	(If nee	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point	locations,	transects, important features, etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆					
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	pled Area within a Wetland?	Yes	🛛 No	•
Wetland Hydrology Present?	Yes 🛛	No 🗆					
Remarks: Naturally problematic entisols in active flood	plain.						
VEGETATION – Use scientific names of plants.							
Tree Stratum (Plot size:30 ' r)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1 Populus halsamifera	<u>% Cover</u> 10	<u>Species /</u> ves	<u>Status</u> FAC	Number of Dominant Species			
2 Acer saccharinum	5	ves	FAC	That Are OBL, FACW, or FAC:	<u>4</u>		(A)
3	<u>.</u>	<u>,00</u>	<u>1710</u>	Total Number of Deminerat			
4				Species Across All Strata:	<u>4</u>		(B)
50% = 7.5, 20% = 3	15	= Total Cover	r	Deveent of Deminent Creation			
Sapling/Shrub Stratum (Plot size:15 ' r)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. Alnus rhombifolia	20	ves	FACW	Prevalence Index worksheet:			
2. Ribes aureum	40	ves	FAC	Total % Cover of :	Multiply	/ by:	
3. Cornus sericea	10	no	FACW	OBL species	x1 =		
4.		_		FACW species	x2 =		
5.				FAC species	x3 =		
50% = 35, 20% = 14	70	= Total Cove	r	FACU species	x4 =		
Herb Stratum (Plot size:5 ' r)	<u></u>				x5 =		
1					X0 -		(B)
·					_		(D)
2			—	Prevalence Index = B/A	=		
3				Hydrophytic vegetation indicators:			
4				Dominance Test is >50%			
5				\square Prevalence Index is $\leq 3.0^1$			
6				Morphological Adaptations ¹ (Pro	vide supp	orting	
<i>1.</i>			—		e sheet)		
8				Problematic Hydrophytic Vegeta	ition ¹ (Exp	lain)	
50% =, 20% =		= Total Cover	r	¹ Indicators of hydric soil and wetland hydrol	oav must		
Woody Vine Stratum (Plot size: <u>5 ' r</u>)				be present, unless disturbed or problematic.	- 3,7		
1							
2				Hydrophytic		No	
50% =, 20% =		= Total Cover	r	Vegetation res Present?		NO	
% Bare Ground in Herb Stratum	% Cover	ot Biotic Crust					
Remarks:							

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SOIL												Sampli	ng Poin	t: <u>TP-6</u>) (wet PF	<u>P)</u>
Profile	e Descri	iption: (Describe to	the depth n	needed to d	ocumer	t the indic	ator or confir	m the abs	ence of	f indica	tors.)					
De	pth	Matrix				Redox Fe	eatures									
<u>(inc</u>	<u>hes)</u>	Color (moist)	<u>%</u>	<u>Color (Mo</u>	<u>ist)</u>	<u>%</u>	Type ¹	Loc ²		Textu	re	Rer	<u>narks</u>			
<u>0</u>	<u>-6</u>	<u>10 YR 2/2</u>	<u>100</u>						_	fine sa	ind					
<u>6-</u>	20	<u>10 YR 2/2</u>	<u>100</u>						_	<u>si sa</u>	<u>nd</u>					
_									_							
_									_							
_									_							
_									_							
¹ Type	: C= Cor	ncentration, D=Depl	etion, RM=Re	educed Matr	ix, CS=0	Covered or	Coated Sand	Grains. ²	Locatio	n: PL=P	ore Lining	g, M=Ma	atrix.			
Hydri	c Soil In	dicators: (Applical	ble to all LRF	Rs, unless	otherwis	se noted.)				Ind	icators fo	or Prob	lematic	Hydric	Soils ³ :	
	Histosol	(A1)			Sandy	Redox (S5	5)				1 cm	Muck (A	49) (LRF	R C)		
	Histic Ep	pipedon (A2)			Strippe	ed Matrix (S	66)				2 cm	Muck (A	410) (LR	RB)		
	Black Hi	istic (A3)			Loamy	/ Mucky Mir	neral (F1)				Redu	ced Ver	tic (F18)		
	Hydroge	en Sulfide (A4)			Loamy	Gleyed Ma	atrix (F2)				Red F	Parent N	/laterial	(TF2)		
	Stratified	d Layers (A5) (LRR	C)		Deplet	ed Matrix (F3)			\boxtimes	Other	(Explai	n in Rer	narks)		
	1 cm Mu	uck (A9) (LRR D)			Redox	Dark Surfa	ace (F6)									
	Deplete	d Below Dark Surfac	ce (A11)		Deplet	ed Dark Su	urface (F7)									
	Thick Da	ark Surface (A12)			Redox	Depressio	ns (F8)				³ Indic:	ators of	hydropł	nvtic vea	etation a	ind
	Sandy N	/lucky Mineral (S1)			Vernal	Pools (F9))				wet	land hy	drology	must be	present,	
	Sandy G	Gleyed Matrix (S4)									u	nless di	sturbed	or proble	ematic.	
Restri	ictive La	ayer (if present):														
Туре:																
Depth	(Inches):						Hydric So	oils Pre	sent?			Yes		No	\boxtimes
Rema	rks:	Soils naturally probl	ematic entiso	ls located w	ithin an	active flood	lplain.									
		,														
Wotla		rology Indicators:														
Prima	nu nyui rv Indica	tore (minimum of or	ne required: c	heck all tha	t annly)					Seco	ndary Ind	icators	(2 or mo	ro roqui	(hor	
	Surface	Water (A1)	ie required, o		Salt C	rust (B11)					Water M	arke (B	1) (Pivo	rino)	cu)	
	High W	ater Table ($\Delta 2$)			Biotic	Cruet (B12))				Sedimen		te (B2)	(Rivorir	<u>ام</u> ا	
	Soturoti	ion (A3)			Aqueti	o Invortebr	/ atos (B13)						(DZ)	(itivefil vrino)	ie/	
		Aarka (P1) (Namina	rino)		Ayuali		$\frac{\operatorname{ales}\left(D\left(S\right)\right)}{\operatorname{Oder}\left(C\right)}$				Drainger	Dottor		inne)		
	Valer N	naiks (B1) (Nonrive	rine)			ed Dhimoe		iuina Dooto	(02)		Drainage		iis (D IU) tar Tabl			
			orino)		Dream			iving Roots	s (US)		Crouffich	Durrow		= (02)		
			erine)		Prese	ICE OF REAL	uced from (C4)				Crayrish		S (UØ)			
	Surface				Recen	i iron Kedu		30115 (C6)			Saturatio		e on Ae	nai imag	jery (C9)	
	Income de C			\ II												
	Inundat	ion visible on Aeria	Imagery (B7			luck Surfac	xe (C7)				Shallow	Aquitan	a (D3)			

Water Table Present? Depth (inches): Yes No Saturation Present? Wetland Hydrology Present? Depth (inches): Yes No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Depth (inches):

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Surface Water Present?

Yes

No

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Yes

 \boxtimes

No 🗌

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: East-West Corridor				City/Count	y: <u>Yakima/Yakima</u>	Sampling Date:	<u>3/3/16</u>	
Applicant/Owner: <u>Yakima County</u>					State: WA	Sampling Point:	<u>TP 68 (ι</u>	upl PP)
Investigator(s): Jason Cade, Widener & Associat	es			Section, To	ownship, Range: <u>S 17 & S20, T13N</u>	I, R19E		
Landform (hillslope, terrace, etc.): floodplain			L	.ocal relief (con	ncave, convex, none): <u>none</u>	Slop	be (%): <u>(</u>	<u>)</u>
Subregion (LRR): <u>B</u>	Lat:				Long:	Datum: <u>N</u>	AD83	
Soil Map Unit Name: <u>Water</u>					NWI class	ification: PFO1A.		
Are climatic / hydrologic conditions on the site typic	al for this	time of	year?	Yes 🛛	No 🔲 (If no, explain in Re	emarks.)		
Are Vegetation □, Soil □, or Hydrology	signit	ficantly	/ disturbe	ed? Are "I	Normal Circumstances" present?	Yes	⊠ N	o 🗌
Are Vegetation □, Soil ⊠, or Hydrology	natur	ally pr	oblemati	c? (If ne	eded, explain any answers in Remai	rks.)		
				,				
SUMMARY OF FINDINGS – Attach site map sh	owing sa	ampli	ng poir	nt locations,	transects, important features	, etc.		
Hydrophytic Vegetation Present?	Yes		lo 🗆		•	<u>.</u>		
Hydric Soil Present?	Yes		lo 🛛	Is the Sam	pled Area within a Wetland?	Yes		• 🛛
Wetland Hydrology Present?	Yes		lo 🛛					
Remarks: Problematic soils - cobble to surface								
VECETATION Line acientific names of plants								
Tree Stratum (Dist size:20 / s)	Absolute	Do	ominant	Indicator	Deminence Test Workshest			
<u>Thee Stratum</u> (Plot size. <u>30 T</u>)	% Cover	<u>S</u> p	becies?	<u>Status</u>	Dominance Test worksheet:			
1. <u>Populus balsamifera</u>	<u>20</u>	ye	S	<u>FAC</u>	Number of Dominant Species	<u>2</u>		(A)
2			_		That Are OBL, FACW, of FAC.			
3			_		Total Number of Dominant	4		(B)
4					Species Across All Strata.			
50% =, 20% =	<u>20</u>	=	Total Co	ver	Percent of Dominant Species	<u>50</u>		(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ' r</u>)					That Are OBL, FACW, of FAC.			
1. <u>Ribes aureum</u>	<u>20</u>	ye	S	<u>FAC</u>	Prevalence Index worksheet:			
2					<u>Total % Cover of :</u>	Multiply	y by:	
3					OBL species	x1 =		
4			_		FACW species	x2 =		
5			_		FAC species	x3 =		
50% =, 20% =	<u>20</u>	=	Total Co	ver	FACU species	x4 =		
<u>Herb Stratum</u> (Plot size: <u>5 ' r</u>)					UPL species	x5 =		
1. <u>Verbascum thapsus</u>	<u>2</u>	ye	S	FACU	Column Totals: (A)	1		(B)
2. <u>Centaurea diffusa</u>	<u>1</u>	ye	S	NL (UPL)	Prevalence Inc	iex = B/A =		
3					Hydrophytic Vegetation Indicate	ors:		
4					Dominance Test is >5	0%		
5					Prevalence Index is <	3.0 ¹		
6					Morphological Adaptat	tions ¹ (Provide supr	orting	
7					data in Remarks or on	a separate sheet)	Jorang	
8.					Problematic Hydrophy	rtic Vegetation ¹ (Exr	olain)	
50% = 1.5, 20% = 0.6	3	=	Total Co	ver		tio vogotation (Exp	, any	
Woody Vine Stratum (Plot size:5 ' r)	<u>.</u>				¹ Indicators of hydric soil and wetla	and hydrology must		
<u> </u>					be present, unless disturbed or pr	oblematic.		
2			_					
50% = 20% =		=	Total Co	ver	Hydrophytic Vegetation	Yes 🛛	No	
% Bare Ground in Herb Stratum	% Cov	er of P	liotic Cru	ist	Present?			
Pomerko:	,,, OOV				I			

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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) % Type1 Loc2 Texture Remarks 0+					
Depth Matrix Redox Features (inches) Color (moist) % Type1 Loc2 Texture Remarks 0+					
(inches) Color (moist) % Type1 Loc2 Texture Remarks 0+					
<u>0+</u> cobble cobble					
<u> </u>					
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators for Problematic Hydric Hydri Hydric Hydric Hydric Hydric Hydric Hydric Hy	dric S	Soils ³ :			
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C))				
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR E	В)				
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)					
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)	2)				
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remark	ks)				
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)					
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)					
Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic	c vege	etation	and	d	
Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must	st be p	preser	nt,		
Sandy Gleyed Matrix (S4) unless disturbed or p	proble	matic.			
Restrictive Layer (if present):					
Туре:					
Depth (Inches): Yes [No		\boxtimes	
Remarks: Large cobble to surface.					
IYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more r	require	ed)			
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)	e)				
High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (River Crust (B12))	iverine	e)			
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Rivering)	ie)				
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)					
Sediment Deposits (B2) (Nonriverine)	22)				
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)					
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial	Image	ery (C	9)		
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)					
Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)					
Field Observations:				_	
Surface Water Present? Yes No Depth (inches):					
Water Table Present? Yes No Depth (inches):					
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present?	Yes		N	lo	C

Remarks: No evidence of wetland hydrology US Army Corps of Engineers

Arid West – Version 2.0

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WETS Station: YAKIMA AIRPORT, WA Requested years: 1988 - 2019

•	•									
	Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0. 10 or more	Avg Snowfall	
	Jan	39.3	23.9	31.6	1.15	0.62	1.41	4	5.9	
	Feb	46.6	25.7	36.1	0.80	0.38	0.96	3	3.2	
	Mar	56.3	30.2	43.2	0.65	0.35	0.80	2	0.7	
	Apr	64.5	35.5	50.0	0.59	0.35	0.71	2	0.0	
	Мау	73.6	43.2	58.4	0.72	0.29	0.88	2	0.0	
	Jun	80.3	49.3	64.8	0.51	0.18	0.59	2	0.0	
	Jul	89.5	54.8	72.1	0.19	0.06	0.20	1	0.0	
	Aug	88.0	53.0	70.5	0.27	0.07	0.25	1	0.0	
	Sep	79.2	44.7	62.0	0.22	0.09	0.26	1	0.0	
	Oct	64.2	35.3	49.7	0.63	0.32	0.77	2	0.1	
	Nov	48.9	27.5	38.2	0.85	0.49	1.02	3	2.6	
	Dec	37.6	22.5	30.0	1.38	0.65	1.69	4	7.4	
	Annual:					6.65	8.87			
	Average	64.0	37.1	50.6	-	-	-	-	-	
	Total	-	-	-	7.97			26	19.8	

GROWING SEASON DATES

Years with missing data:	24 deg = 0	28 deg = 0	32 deg = 0
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0
Data years used:	24 deg = 32	28 deg = 32	32 deg = 32
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	3/31 to 10/28: 211 days	4/21 to 10/16: 178 days	5/9 to 10/4: 148 days
70 percent *	3/25 to 11/3: 223 days	4/16 to 10/21: 188 days	5/5 to 10/8: 156 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1946									M0. 15	0. 70	1. 18	0. 11	2.14
1947	0.41	0.35	0.42	0.23	0.03	1.74	0.53	0.13	0. 86	1. 83	0. 73	0. 22	7.48
1948	1.52	0.86	0.29	0.46	2.76	2.10	0.07	0.44	0. 64	0. 27	1. 12	1. 34	11. 87
1949	0.13	0.88	1.06	0.04	0.14	0.02	Т	0.42	0. 16	0. 13	1. 50	0. 15	4.63
1950	2.45	1.16	0.72	0.40	0.08	1.60	0.33	Т	0. 18	2. 22	1. 21	1. 34	11. 69
1951	1.87	0.40	0.89	0.14	0.81	2.03	0.13	0.38	0. 19	1. 08	1. 47	0. 85	10. 24
1952	1.12	0.71	0.13	0.04	0.50	1.48	Т	0.38	0. 03	0. 01	0. 52	1. 18	6.10
1953	2.67	0.25	0.24	1.09	0.92	0.38	Т	0.59	Т	0. 13	1. 18	0. 94	8.39
1954	1.98	0.49	0.51	0.03	0.36	0.39	0.03	0.20	0.	0.	1.	0.	6.55

									83	27	13	33	
1955	0.58	0.25	0.69	1.41	0.41	0.41	0.43	0.00	0. 48	1. 24	2. 57	3. 22	11. 69
1956	3.25	0.81	0.21	Т	0.48	1.81	0.02	0.10	0. 54	0. 35	0. 09	0. 55	8.21
1957	0.56	0.87	2.63	0.93	1.19	1.26	0.01	0.20	0. 98	1. 40	0. 10	0. 83	10. 96
1958	1.37	1.84	0.81	0.81	0.59	0.21	0.22	0.16	0. 05	0. 29	1. 14	0. 82	8.31
1959	2.03	1.12	0.80	0.05	0.14	0.20	т	0.04	0. 52	0. 42	0. 40	0. 35	6.07
1960	0.89	1.43	0.65	0.54	0.87	0.19	0.05	0.25	0. 11	0. 16	1. 55	0. 90	7.59
1961	0.55	2.46	2.04	0.86	0.96	0.52	0.25	0.22	Т	0. 31	0. 51	1. 27	9.95
1962	0.16	1.48	0.65	0.62	1.09	0.07	0.01	0.33	0. 30	1. 49	0. 79	0. 47	7.46
1963	1.42	0.52	0.84	1.62	0.43	0.26	0.69	0.13	0. 08	0. 05	1. 13	1. 00	8.17
1964	0.60	Т	0.14	0.25	0.03	1.18	0.08	0.20	0. 03	0. 15	0. 70	4. 19	7.55
1965	1.33	0.08	0.10	0.48	0.05	0.51	0.27	0.21	0. 04	0. 06	1. 43	1. 39	5.95
1966	1.73	0.11	0.81	Т	0.10	0.17	0.71	Т	0. 87	0. 41	2. 14	0. 95	8.00
1967	0.60	Т	0.45	1.03	0.16	1.12	Т	0.01	0. 09	0. 21	0. 30	0. 55	4.52
1968	1.76	0.88	0.11	Т	0.47	0.02	0.02	1.71	0. 32	0. 94	1. 32	1. 91	9.46
1969	1.52	0.91	0.16	0.27	0.54	0.61	Т	0.01	0. 32	0. 24	0. 08	2. 28	6.94
1970	3.66	0.49	0.22	0.16	0.06	0.01	0.13	Т	0. 07	0. 54	1. 25	1. 41	8.00
1971	1.48	Т	1.56	0.47	0.54	0.20	0.04	0.14	0. 73	0. 27	0. 97	1. 45	7.85
1972	0.88	0.31	1.05	0.09	0.60	1.50	0.04	0.65	0. 06	0. 12	0. 72	1. 31	7.33
1973	1.19	0.24	0.01	0.04	0.08	0.02	Т	0.01	0. 81	1. 52	2. 83	2. 22	8.97
1974	1.67	0.85	1.21	1.46	0.80	0.12	0.18	Т	0. 02	0. 45	0. 30	1. 14	8.20
1975	2.28	1.16	0.49	0.40	0.23	0.22	0.18	2.10	Т	0. 79	0. 43	0. 55	8.83
1976	0.56	0.78	0.70	0.33	0.09	0.69	0.26	0.50	0. 13	0. 07	т	0. 07	4.18
1977	0.13	0.69	0.23	0.01	0.68	0.46	Т	1.16	0. 89	0. 17	0. 70	2. 80	7.92
1978	2.30	1.30	0.52	0.91	0.28	0.32	0.29	0.38	0. 64	0. 00	0. 94	0. 14	8.02
1979	0.91	0.54	0.23	0.14	0.04	0.57	0.04	0.42	0. 36	0. 74	1. 53	1. 33	6.85
1980	2.23	1.30	0.29	0.80	0.84	1.12	т	0.29	0. 48	0. 23	1. 00	2. 69	11. 27
1981	0.95	0.65	0.10	0.01	0.68	0.39	0.29	0.09	0. 59	1. 16	1. 36	2. 38	8.65
1982	0.58	1.48	0.34	0.30	0.37	1.70	0.12	0.39	1. 08	1. 46	0. 90	2. 15	10. 87
1983	1.97	1.59	1.95	0.66	0.30	0.77	0.29	0.44	0. 33	0. 23	2. 77	1. 92	13. 22
1984	0.13	0.92	1.04	1.05	0.51	1.45	0.13	0.04	0. 46	0. 16	2. 62	0. 51	9.02
1985	0.09	0.68	0.62	Т	0.46	0.37	0.12	0.03	0. 84	0. 75	0. 92	1. 02	5.90
1986	1.82	1.26	0.54	0.05	0.94	0.08	0.25	0.11	2. 07	0. 38	0. 64	0. 89	9.03
1987	1.46	0.25	1.44	0.57	0.10	0.05	0.40	Т	0. 00	0. 02	0. 68	3. 30	8.27
1988	0.68	Т	0.21	1.41	0.18	1.00	Т	Т	0.	0.	1.	0.	5.45

									13	05	12	67	
1989	0.19	1.29	1.71	0.85	0.63	0.05	0.07	0.41	0. 09	0. 67	0. 72	0. 21	6.89
1990	1.47	0.11	0.21	0.18	1.13	0.31	0.02	2.00	0. 04	0. 45	Т	0. 24	6.16
1991	0.34	0.23	1.16	0.61	0.17	2.53	0.18	0.06	0. 08	0. 73	1. 24	0. 28	7.61
1992	0.27	0.62	0.41	0.96	0.04	1.25	0.44	0.25	0. 28	0. 68	0. 98	2. 33	8.51
1993	0.91	0.66	0.62	0.50	0.43	0.72	0.58	0.17	0. 03	0. 07	0. 21	1. 02	5.92
1994	0.36	1.05	0.04	0.90	1.22	0.66	0.05	0.06	0. 09	1. 36	0. 69	1. 27	7.75
1995	3.68	0.32	1.28	1.83	0.62	0.62	0.69	0.14	0. 74	0. 27	1. 54	2. 15	13. 88
1996	1.31	1.81	0.57	0.22	1.24	0.04	0.48	0.02	0. 36	0. 55	2. 59	5. 59	14. 78
1997	1.15	0.19	0.60	0.29	0.22	0.89	0.04	0.22	0. 24	1. 72	1. 13	0. 19	6.88
1998	1.96	1.43	1.09	0.21	1.20	0.10	0.64	0.03	0. 06	0. 19	0. 83	0. 69	8.43
1999	1.37	1.32	0.15	0.14	0.26	0.17	0.64	0.75	Т	0. 40	0. 53	0. 27	6.00
2000	1.65	1.01	0.60	0.53	0.54	0.13	0.05	Т	0. 18	0. 32	0. 70	0. 70	6.41
2001	0.54	0.26	0.47	0.51	0.01	1.03	0.03	0.30	0. 14	0. 36	1. 96	1. 12	6.73
2002	0.33	0.84	0.21	0.80	0.69	0.71	0.12	Т	0. 10	0. 09	0. 46	3. 49	7.84
2003	2.21	0.28	0.36	1.28	0.16	Т	Т	0.44	0. 05	0. 20	0. 10	2. 05	7.13
2004	1.55	1.39	0.44	0.25	0.43	0.57	0.46	1.19	0. 15	0. 62	0. 08	1. 12	8.25
2005	1.07	0.15	0.56	0.72	1.17	0.09	0.12	0.09	0. 37	0. 23	1. 60	2. 38	8.55
2006	1.81	0.64	0.44	0.59	0.82	0.69	0.06	Т	0. 55	0. 26	1. 14	2. 56	9.56
2007	0.30	0.84	0.12	0.25	0.32	0.21	0.01	0.12	0. 19	0. 56	1. 50	1. 25	5.67
2008	0.81	0.51	0.27	0.13	0.21	0.29	0.05	0.32	0. 19	0. 44	0. 98	0. 83	5.03
2009	0.97	0.67	0.84	0.25	0.76	0.52	0.03	0.09	0. 43	0. 89	0. 55	0. 97	6.97
2010	1.97	1.01	0.14	0.53	1.46	1.07	0.08	0.05	0. 88	0. 74	0. 83	2. 38	11. 14
2011	0.61	0.29	1.11	0.32	2.55	0.21	0.46	Т	0. 07	0. 90	0. 48	0. 34	7.34
2012	1.50	0.78	1.44	0.81	0.16	0.85	0.26	Т	0. 04	1. 01	0. 66	2. 13	9.64
2013	0.10	0.03	0.77	0.40	2.48	0.39	Т	0.19	0. 30	0. 13	0. 38	0. 32	5.49
2014	0.30	1.43	0.60	0.46	0.13	0.08	0.06	0.90	0. 46	0. 86	0. 32	0. 92	6.52
2015	0.70	0.99	0.73	Т	1.80	0.01	0.06	0.01	0. 01	0. 54	0. 64	3. 47	8.96
2016	2.31	0.41	1.82	0.27	0.64	0.22	0.22	Т	0. 17	2. 43	0. 62	0. 87	9.98
2017	2.16	2.40	0.98	1.29	0.55	0.19	0.00	0.22	0. 16	0. 79	1. 25	0. 36	10. 35
2018	0.90	0.19	0.38	0.75	0.13	0.53	0.00	Т	0. 01	1. 07	0. 42	0. 68	5.06
2019	1.42	2.41	0.61	0.68	0.77	0.04	0.11	0.75	0. 52	M0. 51			7.82

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22

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Plants Observed in Wetlands

Wetland A

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Brassica rapa	Field mustard	Н	FACU
Iris pseudacorus	Yellow flag iris	Н	OBL
Typha latifolia	Broadleaf cattail	Н	OBL
Cirsum arvense	Canada thistle	Н	FACU
Rosa woodsii	Woods' rose	S	FACU
Rumex crispus	Curly dock	Н	FAC
Populus balsamifera	Black cottonwood	S	FAC
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Salix fragilis	Crack willow	S	FAC
Solanum dulcamara	Bittersweet nightshade	н	FAC
Wetland B			
Scientific name	Common name	Stratum	Indicator
Robinia pseudoacacia	Black locust	Т	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Wetland C			
Scientific name	Common name	Stratum	Indicator
Rosa woodsii	Woods' rose	S	FACU
Phalaris arundinacea	Reed canary grass	н	FACW
Lythrum salicaria	Purple loostrife	н	OBL
Iris pseudacorus	Yellow flag iris	н	OBL
Salix fragilis	Crack willow	S	FAC
Typha latifolia	Broadleaf cattail	н	OBL
Cirsum arvense	Canada thistle	Н	FACU
Salix exigua	Coyote willow	S	FACW
Rumex crispus	Curly dock	Н	FAC
Populus balsamifera	Black cottonwood	S	FAC
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Euthamia occidentalis	Western goldentop	Н	FACW
Arctium minus	Common burdock	Н	FACU
Lythrum salicaria	Purple loosestrife	Н	OBL
Sonchus arvensis	Perennial sowthistle	Н	FACU
Cornus sericea	Redosier Dogwood	S	FACW
Plantago lanceolata	Narrowleaf plantain	Н	FAC
Juncus effusus	Soft rush	Н	FACW
Schoenoplectus americanus	Chairmaker's bulrush	Н	OBL
Ribes aureum	Golden currant	S	FAC
Tanacetum vulgare	Common tansy	Н	FACU

Verbascum thapsus	Common mullien	Н	FACU
•			

Wetland D			
Scientific name	Common name	Stratum	Indicator
Salix fragilis	Crack willow	S	FAC
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Iris pseudacorus	Yellow flag iris	Н	OBL
Lythrum salicaria	Purple loostrife	Н	OBL
Solanum dulcamara	Bittersweet nightshade	Н	FAC
Rumex crispus	Curly dock	Н	FAC

Wetland E

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Lythrum salicaria	Purple loostrife	Н	OBL
Solidago lepida	Canada goldenrod	Н	FAC
Equisetum arvense	Field horsetail	Н	FAC
Carex spp.	Sedge	Н	NI
Populus balsamifera	Black cottonwood	S	FAC
Typha latifolia	Broadleaf cattail	Н	OBL
Clematis ligusticifolia	Western white clematis	Н	FAC

Wetland F

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Ulmus pumila	Siberian elm	S	UPL
Phalaris arundinacea	Reed canary grass	Н	FACW
Euthamia occidentalis	Western goldentop	Н	FACW

Wetland G

Scientific name Salix exigua Phalaris arundinacea

Wetland H

Scientific name	C
Cirsum arvense	C
Equisetum arvense	Fi
Carex obnupta	SI
Typha latifolia	В
Iris pseudacorus	Y
Schoenoplectus americanus	С
Solidago lepida	C
Phalaris arundinacea	R

ommon name	Stratum	Indicator
oyote willow	S	FACW
iberian elm	S	UPL
eed canary grass	Н	FACW
Vestern goldentop	Н	FACW

Common name	Stratum	Indicator
Coyote willow	S	FACW
Reed canary grass	Н	FACW

Common name	Stratum	Indicator
Canada thistle	Н	FACU
Field horsetail	Н	FAC
Slough sedge	Н	OBL
Broadleaf cattail	Н	OBL
Yellow flag iris	Н	OBL
Chairmaker's bulrush	Н	OBL
Canada goldenrod	Н	FAC
Reed canary grass	Н	FACW

Juncus effusus	Soft rush	Н	FACW
Scirpus spp.		Н	NI
Euthamia occidentalis	Western goldentop	Н	FACW
Rumex crispus	Curly dock	Н	FAC
Polygonum spp.	Smartweed	S	NI
Lythrum salicaria	Purple loostrife	Н	OBL
Salix fragilis	Crack willow	S	FAC
Equisetum hyemale	Scouringrush horsetail	Н	FACW
Oenothera spp.	Evening primrose	Н	NI

Wetland I

Scientific name	Common name	Stratum	Indicator
Typha latifolia	Broadleaf cattail	Н	OBL
Cirsum arvense	Canada thistle	Н	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Rumex crispus	Curly dock	Н	FAC
Euthamia occidentalis	Western goldentop	Н	FACW
Iris pseudacorus	Yellow flag iris	Н	OBL
Lythrum salicaria	Purple loostrife	Н	OBL
Bidens spp.	Spanish needles	Н	NI
Scirpus spp.	Bulrush	Н	NI

Wetland J

Scientific name Indicator Common name Stratum Salix fragilis Crack willow Т FAC Robinia pseudoacacia Black locust Т FACU Phalaris arundinacea FACW Reed canary grass Н

Wetland K

Scientific name	Common name	Stratum	Indicator
Robinia pseudoacacia	Black locust	Т	FACU
Acer saccharinum	Silver maple	Т	FAC
Rosa woodsii	Woods' rose	S	FACU
Salix exigua	Coyote willow	S	FACW
Conium maculatum	Poison hemlock	Н	FACW
Symphoricarpos albus	Snowberry	S	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Rumex crispus	Curly dock	Н	FAC
Tanacetum vulgare	Common tansy	Н	FACU

Wetland L

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Ailanthus altissima	Tree of heaven	Т	FACU
Salix exigua	Coyote willow	S	FACW

Cornus sericea	Redosier dogwood	S	FACW
Rosa woodsii	Woods' rose	S	FACU
Populus balsamifera	Black cottonwood	S	FAC
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Bassia scoparia	Burning bush	Н	FAC

Wetland M

FAC
FACU
17,000
FAC
FAC
OBL
OBL
FACW
FAC

Wetland N

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Cornus sericea	Redosier Dogwood	S	FACW
Populus balsamifera	Black cottonwood	S	FAC
Rosa woodsii	Woods' rose	S	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Ribes aureum	Golden currant	S	FAC
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Salix exigua	Coyote willow	S	FACW
Euthamia occidentalis	Western goldentop	Н	FACW

Wetland O

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Cornus sericea	Redosier Dogwood	S	FACW
Populus balsamifera	Black cottonwood	S	FAC
Rosa woodsii	Woods' rose	S	FACU
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Hypericum perforatum	Common St. Johnswort	Н	FACU
Ribes aureum	Golden currant	S	FAC
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Euthamia occidentalis	Western goldentop	Н	FACW
Iris pseudacorus	Yellow flag iris	Н	OBL
Typha latifolia	Broadleaf cattail	Н	OBL
Lythrum salicaria	Purple loostrife	Н	OBL
Dipsacus fullonum	Fuller's teasel	Н	FAC
Juncus effusus	Soft rush	Н	FACW

Rumex crispus	Curly dock	Н	FAC
Conium maculatum	Poison hemlock	Н	FACW
Scirpus spp.	Bulrush	Н	NI
Carex spp.	Sedge	Н	NI

Wetland P

Scientific name Populus balsamifera Salix exigua Populus balsamifera Phalaris arundinacea Hypericum perforatum Capsella bursa-patoris Ribes aureum Lepidium latifolium Rosa woodsii Cornus sericea Euthamia occidentalis Iris pseudacorus Typha latifolia Lythrum salicaria Dipsacus fullonum Juncus effusus Rumex crispus Conium maculatum Scirpus spp. Carex spp.

Wetland Q

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Populus balsamifera	Black cottonwood	S	FAC
Rosa woodsii	Woods' rose	S	FACU
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Carex obnupta	Slough sedge	Н	OBL
Alnus rubra	Red alder	S	FACW
Robinia pseudoacacia	Black locust	Т	FACU
Ribes aureum	Golden currant	S	FAC
Lepidium latlifolium	Broadleaved pepperweed	Н	FAC
Cornus sericea	Redosier Dogwood	S	FACW
Elaeagnus angustifolia	Russian olive	Т	FAC
Juncus effusus	Soft rush	Н	FACW
Euthamia occidentalis	Western goldentop	Н	FACW
Scirpus spp.	Bulrush	Н	NI
Carex spp.	Sedge	Н	NI

Bulrush	Н	NI
Sedge	Н	NI
Common name	Stratum	Indicator
Black cottonwood	т	FAC

Black cottonwood	Т	FAC
Coyote willow	S	FACW
Black cottonwood	S	FAC
Reed canary grass	Н	FACW
Common St. Johnswort	Н	FACU
Shepherd's purse	Н	FACU
Golden currant	S	FAC
Broadleaved pepperweed	Н	FAC
Woods' rose	S	FACU
Redosier Dogwood	S	FACW
Western goldentop	Н	FACW
Yellow flag iris	Н	OBL
Broadleaf cattail	Н	OBL
Purple loostrife	Н	OBL
Fuller's teasel	Н	FAC
Soft rush	Н	FACW
Curly dock	Н	FAC
Poison hemlock	Н	FACW
Bulrush	Н	NI
Sedge	Н	NI

Wetland R

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Elaeagnus angustifolia	Russian olive	Т	FAC
Rhus glabra	Smooth sumac	S	FACU
Carex obnupta	Slough sedge	Н	OBL
Lepidium latlifolium	Broadleaved pepperweed	Н	FAC
Euthamia occidentalis	Western goldentop	Н	FACW
Cornus sericea	Redosier Dogwood	S	FACW
Rosa woodsii	Woods' rose	S	FACU
Ribes aureum	Golden currant	S	FAC
Phalaris arundinacea	Reed canary grass	Н	FACW
Lepidium latlifolium	Broadleaved pepperweed	Н	FAC
Euthamia occidentalis	Western goldentop	Н	FACW
Salix exigua	Coyote willow	S	FACW

Wetland S

Scientific name	Common name	Stratum	Indicator
Elaeagnus angustifolia	Russian olive	Т	FAC
Cornus sericea	Redosier dogwood	S	FACW
Rosa woodsii	Woods' rose	S	FACU
Euthamia occidentalis	Western goldentop	Н	FACW
Salix exigua	Coyote willow	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Lepidium latlifolium	Broadleaved pepperweed	Н	FAC

Wetland T

Scientific name	Common name	Stratum	Indicator
Rosa woodsii	Woods' rose	S	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Cirsium arvense	Canada thistle	Н	FAC
Populus balsamifera	Black cottonwood	Т	FAC
Salix exigua	Coyote willow	S	FACW
Lythrum salicaria	Purple loosestrife	Н	OBL

Wetland U

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Populus balsamifera	Black cottonwood	S	FAC
Rosa woodsii	Woods' rose	S	FACU
Cornus sericea	Redosier Dogwood	S	FACW
Salix exigua	Coyote willow	S	FACW
Ribes aureum	Golden currant	S	FAC

Indicator

Stratum

Common name

Wetland V

Scientific name

Polygonum cuspidatum	Japanese knotweed	Н	FACU
Salix exigua	Coyote willow	S	FACW
Salix fragilis	Crack willow	S	FAC
Rumex crispus	Curly dock	Н	FAC
Centaurea sp.	Knapweed	Н	UPL
Linaria dalmatica	Dalmatian toadflax	Н	UPL

Wetland W

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Salix exigua	Coyote willow	S	FACW
Rosa woodsii	Woods' rose	S	FACU
Phalaris arundinacea	Reed canary grass	Н	FACW
Euthamia occidentalis	Western goldentop	Н	FACW

Wetland X

Indicator
FAC
FAC
NL
FAC
FAC
FACU
UPL
FAC
FACU
FACU
FACW
FACW
FAC

Wetland Y

Scientific name
Populus balsamifera
Phalaris arundinacea
Rosa woodsii
Centaurea sp.

Wetland Z

Scientific name	Common name
Prunus virginiana	Chokecherry
Salix exigua	Coyote willow
Populus balsamifera	Black cottonwood
Rosa woodsii	Woods' rose
Phalaris arundinacea	Reed canary grass
Tanacetum vulgare	Common tansy

Common name	Stratum	Indicator
Black cottonwood	Т	FAC
Reed canary grass	Н	FACW
Woods' rose	S	FACU
Knapweed	Н	UPL

Common name	Stratum	Indicator
Chokecherry	Т	FAC
Coyote willow	S	FACW
Black cottonwood	S	FAC
Woods' rose	S	FACU
Reed canary grass	Н	FACW
Common tansy	Н	FACU

Hypericum perforatum	Common St. Johnswort	Н	FACU
Xanthium strumarium	Rough cocklebur	Н	FAC
Betula occidentalis	Water birch	Т	FACW
Salix fragilis	Crack willow	S	FAC
Alnus rhombifolia	White alder	Т	FACW
Acer saccharinum	Silver maple	Т	FAC
Lythrum salicaria	Purple loosestrife	Н	OBL
Bromus tectorum	Cheatgrass	Н	NL
Lactuca serriola	Prickly lettuce	Н	FACU

Common name

Woods' rose

Quackgrass

Sedge

Black cottonwood

Black cottonwood

Wetland AA

Scientific name			
Populus balsamifera			
Populus balsamifera			
Rosa woodsii			
Agropyron repens			
Carex spp.			

Wetland BB

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Salix lucida	Pacific willow	S	FACW
Clematis ligusticifolia	Western white clematis	Н	FAC
Betula occidentalis	Water birch	Т	FACW
Salix fragilis	Crack willow	S	FAC
Alnus rhombifolia	White alder	Т	FACW
Acer saccharinum	Silver maple	Т	FAC
Phalaris arundinacea	Reed canary grass	Н	FACW
Tanacetum vulgare	Common tansy	н	FACU

Wetland CC

Scientific name Salix exigua Cornus sericea Betula pumila

Wetland DD

Scientific name Populus balsamifera Salix exigua Phalaris arundinacea

Wetland FF

Scientific name
Salix exigua
Cornus sericea

Common name	Stratum	Indicator
Coyote willow	S	FACW
Redosier dogwood	S	FACW
Bog birch	S	OBL

Stratum

Т

S

S

Н

н

Indicator

FAC

FAC

FACU

FAC

NI

Common name	Stratum	Indicator
Black cottonwood	Т	FAC
Coyote willow	S	FACW
Reed canary grass	Н	FACW

Common name	Stratum	Indicator
Coyote willow	S	FACW
Redosier dogwood	S	FACW

Robinia pseudoacacia	Black locust	S	FACU
Wetland HH			
Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Populus balsamifera	Black cottonwood	S	FAC

Wetland II

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Populus balsamifera	Black cottonwood	S	FAC
Linaria dalmatica	Dalmatian toadflax	Н	UPL
Centaurea sp.	Knapweed	Н	UPL

Wetland JJ

Scientific name	Common name	Stratum	Indicator
Populus balsamifera	Black cottonwood	Т	FAC
Salix exigua	Coyote willow	S	FACW
Populus balsamifera	Black cottonwood	S	FAC
Alnus rhombifolia	White alder	S	FACW
Rosa woodsii	Woods' rose	S	FACU

Wetland KK

Scientific name	Common name	Stratum	Indicator
Salix fragilis	Crack willow	Т	FAC
Salix exigua	Coyote willow	S	FACW
Centaurea sp.	Knapweed	Н	UPL
Rumex crispus	Curly dock	Н	FAC
Tanacetum vulgare	Common tansy	Н	FACU
Bassia scoparia	Burning bush	Н	FAC
Lythrum salicaria	Purple loosestrife	Н	OBL

Wetland LL Scientific name

Scientific name	Common name	Stratum	Indicator
Acer saccharinum	Silver maple	Т	FAC
Populus balsamifera	Black cottonwood	Т	FAC
Salix exigua	Coyote willow	S	FACW
Populus balsamifera	Black cottonwood	S	FAC
Phalaris arundinacea	Reed canary grass	Н	FACW
Hypericum perforatum	Common St. Johnswort	Н	FACU
Poaceae spp.	Grass	Н	NI
Centaurea sp.	Knapweed	Н	UPL
Lythrum salicaria	Purple loosestrife	Н	OBL
Cirsium arvense	Canada thistle	Н	FACU
Lepidium latifolium	Broadleaved pepperweed	Н	FAC
Linaria dalmatica	Dalmatian toadflax	Н	NL

Ribes aureum
Salix fragilis
Alnus viridis
Prunus virginiana
Cornus sericea
Rosa woodsii
Alnus rhombifolia
Tanacetum vulgare
Carex obnupta
Verbascum thapsus
Bromus tectorum
Xanthium strumarium
Euthamia occidentalis
Schoenoplectus americanus
Juncus mertensianus
Carex stipata
Dipsacus fullonum
Juncus articulatus
Trifolium repens
Latuca serriola
Hypericum scouleri
Schoenoplectus acutus

Wetland MM

Scientific name Populus balsamifera Populus balsamifera Salix fragilis Alnus viridis Prunus virginiana Cornus sericea Ribes aureum Rosa woodsii Phalaris arundinacea Tanacetum vulgare Hypericum perforatum Lepidium latifolium Cirsium arvense Carex obnupta Linaria dalmatica Bromus tectorum Centaurea sp. Salix exigua Prunus virginiana Lythrum salicaria Xanthium strumarium Euthamia occidentalis

Golden currant	S	FAC
Crack willow	S	FAC
Green alder	S	FACW
Chokecherry	S	FAC
Redosier dogwood	S	FACW
Woods' rose	S	FACU
White alder	S	FACW
Common tansy	Н	FACU
Slough sedge	Н	OBL
Common mullien	Н	FACU
Cheatgrass	Н	NL
Rough cocklebur	Н	FAC
Western goldentop	Н	FACW
Chairmaker's bulrush	Н	OBL
Mertens' rush	Н	OBL
Awlfruit sedge	Н	OBL
Fuller's teasel	Н	FAC
Jointleaf rush	Н	OBL
White clover	Н	FACU
Prickly lettuce	Н	FACU
Scouler's St. Johnswort	Н	FACW
Hardstem bulrush	Н	OBL

Common name	Stratum	Indicator
Black cottonwood	Т	FAC
Black cottonwood	S	FAC
Crack willow	S	FAC
Green alder	S	FACW
Chokecherry	S	FAC
Redosier dogwood	S	FACW
Golden currant	S	FAC
Woods' rose	S	FACU
Reed canary grass	Н	FACW
Common tansy	Н	FACU
Common St. Johnswort	Н	FACU
Broadleaved pepperweed	Н	FAC
Canada thistle	Н	FACU
Slough sedge	Н	OBL
Dalmatian toadflax	Н	NL
Cheatgrass	Н	NL
Knapweed	Н	UPL
Coyote willow	S	FACW
Chokecherry	Т	FAC
Purple loosestrife	Н	OBL
Rough cocklebur	Н	FAC
Western goldentop	Н	FACW

Schoenoplectus americanus	Chairmaker's bulrush	Н	OBL
Juncus mertensianus	Mertens' rush	Н	OBL
Carex stipata	Awlfruit sedge	Н	OBL
Dipsacus fullonum	Fuller's teasel	Н	FAC

Wetland NN

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Cornus sericea	Redosier dogwood	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Lepidium latifolium	Broadleaved pepperweed	Н	FAC

Wetland PP

Scientific name	Common name	Stratum	Indicator
Salix exigua	Coyote willow	S	FACW
Acer saccharinum	Silver maple	Т	FAC
Populus balsamifera	Black cottonwood	Т	FAC
Cornus sericea	Redosier dogwood	S	FACW
Phalaris arundinacea	Reed canary grass	Н	FACW
Alnus rhombifolia	White alder	S	FACW
Ribes aureum	Golden currant	S	FAC

V@ãrÁj,æ≛^Á§j,c^}cāj,}æ¢|^Á^-aAáa|æaj∖Á

V@ãrÁj,æ≛^Á§j,c^}cāj,}æ¢|^Á^-aAáa|æaj∖Á





Conservation Service

Web Soil Survey National Cooperative Soil Survey



USDA

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2	Ashue loam	10	3.5	0.6%
69	Logy silt loam, 0 to 2 percent slopes	5	0.5	0.1%
86	Naches loam	0	5.1	0.9%
165	Track loam	95	0.7	0.1%
181	Weirman sandy loam, channeled	100	255.9	47.0%
182	Weirman fine sandy Ioam	5	48.8	9.0%
183	Weirman gravelly fine sandy loam	5	97.8	18.0%
184	Weirman fine sandy loam, wet	5	15.3	2.8%
190	Yakima silt loam	0	3.2	0.6%
192	Zillah silt loam	0	4.0	0.7%
197	Water	0	109.8	20.2%
Totals for Area of Interest			544.5	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. September 18, 2002. Hydric soils of the United States. Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present Component Percent Cutoff: None Specified Tie-break Rule: Lower



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APPENDIX E – NATIONAL WETLANDS INVENTORY MAPS

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U.S. Fish and Wildlife Service National Wetlands Inventory

EW Corridor Wetland Survey Area



November 5, 2019

Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

- d 🔲 Ere
 - Freshwater Pond

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Lake Other Riverine This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.
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Appendix A4-Land Use Report

Land Use Discipline Report

East-West Corridor Project Yakima County, Washington

Prepared by:

Widener & Associates

1902 120th Pl SE, Ste 202 Everett, WA 98208

July 2022

Acronyms

ADA	Americans with Disabilities Act
BA	Biological Assessment
DPS	Distinct Population Segment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
I-82	Interstate-82
M-1	Light Industrial
M/RTP	Metropolitan and Regional Transportation Plan
NEPA	National Environmental Policy Act
NHS	National Highway System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
R-1	Single-Family Residential
R-2	Two-Family Residential
R-3	Multi-Family Residential
R-10/5	Rural-10/5
RD	Regional Development
RM	River Mile
ROW	Right of Way
SAO	Sensitive Area Ordinance
SEPA	State Environmental Policy Act
SCC	Small Convenience Center
SR	Suburban Residential
UGA	Urban Growth Area
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation
YCC	Yakima County Code
YMC	Yakima Municipal Code
YVCOG	Yakima Valley Conference of Governments

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Executive Summary

Yakima County is proposing to construct an East-West Corridor in the City of Yakima and unincorporated Yakima County, Washington from North 1st Street and East H Street on the west side of Interstate 82 (I-82) in the City of Yakima to the eastern terminus on the east side of the Roza Canal Wasteway #2 in the community of Terrace Heights. This report includes an analysis of how the Proposed Project compared to the No Build Alternative would affect current and planned land uses and an evaluation of consistency with existing city and regional land use plans and development regulations. The East-West Corridor Project is consistent with, and would assist in implementing, goals and objectives found in the applicable land use plans and regulations. Construction and operation of this project would be compatible with planned development in the study area. The Proposed Project is designed to improve mobility within the City of Yakima and the Terrace Heights Neighborhood, as well as improve emergency vehicle response times, and mobility for non-motorized uses.

Currently, there is only one route connecting the City of Yakima to the growing Terrace Heights neighborhood. The Yakima Ave/Terrace Heights Drive route across the Yakima River has been experiencing increased congested because of the growing population in the City of Yakima and Terrace Heights, as well as increased developments in the Terrace Heights neighborhood such as the Pacific Northwest University of Health Sciences. The Yakima Ave/Terrace Heights Drive route consists of a 4-lane bridge with 2 sidewalks. It has limited space for bicycles and no direct connection to the Yakima Greenway trail which runs underneath the bridge on the western bank.

Upon project completion, the new section of the East-West corridor (Cascade Mill Parkway) will consist of a 5-lane roadway with two vehicular travel lanes in each direction, a center turn lane or median as appropriate, sidewalks and shared use path, curbing, gutters, and illumination. An extension of Bravo Company Boulevard will be constructed north from its current terminus to connect to Cascade Mill Parkway. The section of East H Street from North 1st Street east to North 7th Street will be widened to include an 11-foot wide travel lane in each direction, buffered bike lanes, and an 11-foot wide center turn lane. A new signal will be installed at the intersection with North 1st Street and remaining stop signs along H Street will be removed and placed to stop cross street traffic. The East-West Corridor project will involve the construction of new bridge crossings over the Yakima River and the Roza Canal Wastewater #2, as well as an undercrossing of I-82. The project area is located within the legal geographic area of Sections 17 and 18 of Township 13 North and Range 19 East as well as Section 13 of Township 13 North and Range 18 East.

The East-West Corridor is study area is located on either side of the Yakima River in the City of Yakima and the Terrace Heights neighborhood. The study area includes mostly residential uses, with some business, recreational, and industrial uses. Both the City of Yakima and the Terrace Heights neighborhood have experienced significant growth. Because of this growth, the single crossing between the City and Terrace Heights is experiencing increased congestion. A major purpose of the Proposed Project is to increase mobility for the residents and businesses in the area.

This project also will improve river crossing access for non-motorized users. The multi-use pathway, with a connection to the existing Yakima Greenway trail will allow cyclists and pedestrians top have easier access to either side of the river. Currently, there is no public transportation serving the Terrace Heights neighborhood. The proposed project will provide another roadway across the river where Yakima Transit could potentially establish future routes to service the Terrace Heights community.

The guidance in Chapter 455 of the Washington State Department of Transportation *Environmental Procedures Manual* was used to evaluate the potential land use effects in the study area. The project team compared the existing land uses with the Proposed Project to determine if there would be any changes to land use. The Proposed Project was also compared with the plans and regulations to determine if the Proposed Project would be compatible.

The project team collected and reviewed regional and local plans, regulations, and maps from the City of Yakima and Yakima County to identify the existing and potential future land uses within the study area and evaluate the Proposed Project's relationship to existing plans and regulations and any impacts on existing and future land uses. Plans and regulations reviewed include:

- Yakima Valley Metropolitan and Regional Transportation Plan 2020-2045
- Horizon 2040 Yakima County Comprehensive Plan, June 27, 2017
- Yakima Comprehensive Plan 2040, June 2017

Two alternatives were analyzed, the No Build and the Build condition. The No Build was essentially used as a baseline to compare the project effects to, as under the No Build no activities would be taking place, and the status quo is assumed to be maintained.

This study shows that temporary disruptions may occur during construction, such as traffic delays and increased noise levels. Construction and operation of the Proposed Project would not result in any adverse effects on land use, except of minimal property acquisitions within the Terrace Heights Neighborhood. The Proposed Project is consistent with, and would assist in implementing, goals and objectives found in the applicable land use plans and regulations. The Proposed Project is designed to improve mobility within the City of Yakima and the surrounding urban area by creating an additional crossing of the Yakima River. The long-term benefits to the project include reduced congestion, an additional emergency response route, improved pedestrian facilities, and more efficient travel from the city center to outlying residential areas. Approximately 33.5 acres are being converted to a transportation land use.

Recommended mitigation measures to avoid or minimize adverse effects during construction could include: bringing the existing East H Street corridor up to the current standard before the rest of the corridor can be connected, preparing and implementing a Transportation Management Plan, requiring the contractor to post signs during any lane closures, maintaining local access on all existing roads, and additional plantings along the shoreline to mitigate for any natural vegetation altered or removed. Where possible, disturbed areas will be re-vegetated and or planted according to an approved planting plan.

As no substantial indirect effects are anticipated to occur due to the Proposed Project no mitigation/minimization measures will be necessary to reduce potential indirect effects.

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1.0 Introduction

1.1 Purpose of Report

The purpose of this Land Use Discipline Report is to evaluate the East-West Corridor Project for impacts on land use within the study area. The analysis includes a comparison of how the Proposed Project and No Build Alternative would affect current and planned land uses and an evaluation of consistency with existing city and regional land use plans and development regulations. The report also suggests a range of mitigation measures to relieve negative impacts on land use during project construction. Analysis of land use impacts is required under the National Environmental Policy Act (NEPA) for actions sponsored, funded, permitted, or approved by federal agencies. The State Environmental Policy Act (SEPA) requires analysis of a project's impact on the natural and built environment.

1.2 Methods and Data

The guidance in Chapter 455 of the Washington State Department of Transportation (WSDOT) *Environmental Procedures Manual* (WSDOT 2021) was used to evaluate the potential land use effects in the study area. The project team compared the existing land uses with the Proposed Project to determine if there would be any changes to land use. The Proposed Project was also compared with the plans and regulations to determine if the Proposed Project would be compatible.

The study area is defined as roughly the areas surrounding the proposed project. The study area is roughly defined by 1st Avenue to the west, the existing BNSF railway and the project limits to the north, East K Street to the north, Butterfield Road to the east, and between Industrial Rd and the end of Horgan Rd west of Roza Canal to the south. This area was selected as the study area because direct and indirect effects of the Proposed Project, during construction and operation, could occur there.

The project team collected and reviewed regional and local plans, regulations, and maps from the City of Yakima to identify the existing and potential future land uses within the study area, and to evaluate the Proposed Project's relationship to existing plans and regulations and any impacts on existing and future land uses. Plans and regulations reviewed include:

- Yakima Valley Metropolitan and Regional Transportation Plan 2020-2045
- Horizon 2040 Yakima County Comprehensive Plan, June 27, 2017
- Yakima Comprehensive Plan 2040, June 2017

Coordination with the Federal Emergency Management Agency (FEMA), the United States Bureau of Reclamation (BOR), the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation), and the Washington State Department of Fish and Wildlife (WDFW) has been ongoing.

2.0 **Project Description**

2.1 Purpose and Need

The purpose of the proposed project is to reduce congestion and connect the growing neighborhood of Terrace Heights to the City of Yakima (as stated in the Purpose & Need for this project, dated March 22, 2022):

- Provide an alternative Yakima River crossing for east-west travel between the City of Yakima and Terrace Heights.
- Increase mobility, by decreasing travel delay, and relieving traffic congestion at the I-82/Yakima Avenue Interchange and on Terrace Heights Drive and Yakima Avenue.
- Construct the local road corridor which would allow for the consideration of construction of the recommended alternative for an interchange with I-82 identified in the WSDOT I-82/Yakima Avenue/Terrace Heights Drive IJR.
- Provide bicycle and pedestrian facilities including a connection to the Yakima Greenway Trail.
- Serve the existing approved transportation and land use planning along the roadway corridor as documented in the Yakima Valley Conference of Governments (YVCOG) 2020-2045 Metropolitan and Regional Transportation Plan.

The needs for the project include the following (as stated in the Purpose & Need for this project, dated March 22, 2022):

• Congested Corridor – The current road network cannot support the growth anticipated in the area under the current comprehensive plan. The Terrace Heights neighborhood lies just to the east of the City of Yakima. The neighborhood, an unincorporated part of Yakima County, has grown considerably over the last five decades, with its population increasing fivefold in the 30 years between 1970 and 2000, to a 2019 total of 8,507. Redevelopment of the Boise Cascade Mill Site consistent with the planned land use in the current City of Yakima Comprehensive Plan is also anticipated to increase traffic demand within the City of Yakima.

The level of service (LOS) on the Yakima Avenue/Terrace Heights Drive corridor has been getting steadily worse and by 2035 it is expected to have multiple turning movements operating at LOS E or F. LOS is a letter grade corresponding to the amount of congestion a road has when completed to a standard. LOS A is the best or the least congested grade. LOS F indicates failure because the demand for a road is more than its capacity.

The current LOS along the Yakima Avenue/Terrace Heights Drive corridor has triggered Yakima County's concurrency requirements, which limits new development permits along the corridor. In order to relax the restrictions, the County must either increase the capacity of the existing corridor or divert sufficient traffic volume onto another route. Right-of-way constraints along the existing Yakima Avenue/Terrace Heights Drive route prevent widening of the existing roadway. The future LOS at the Yakima Avenue interchange is also anticipated to cause back-ups onto the I-82 mainline.

- *Emergency Response* The Yakima River poses a natural barrier to travel between Yakima and Terrace Heights. Historically, east-west traffic in the project vicinity has had only one option to travel between these two locations: the Yakima Avenue/Terrace Heights Drive corridor. A new corridor is needed to provide an alternative redundant route to Terrace Heights during any future closures of the Terrace Heights Bridge as well as an additional route for emergency services.
- Lack of pedestrian and bicycle connectivity Access to the Greenway Trail is limited as it travels between I-82 and the Yakima River. The existing East H Street corridor does not include sidewalks or bike lanes and there is no access for pedestrians to the Greenway Trail from the surrounding residential neighborhood.

2.2 Project/Alternatives

Proposed Project

Yakima County is proposing to construct an East-West Corridor in the City of Yakima and unincorporated Yakima County, Washington from North 1st Street and East H Street on the west side of Interstate 82 (I-82) in the City of Yakima to the eastern terminus on the east side of the Roza Canal Wasteway #2 in the community of Terrace Heights. This corridor will connect with Yakima County's Phase 1 of Cascade Mill Parkway (currently under construction) which will continue to Butterfield Road and North Keys Road. The project would include construction of three separate streets:

- East H Street –The existing road would be extended to the east from the current terminus at North 7th Street where it would connect to Bravo Company Boulevard as the road turns to the south. The existing portion from North 1st Street to North 7th Street would be widened. A new signal would be installed at the intersection with North 1st Street.
- **Bravo Company Boulevard** An extension of Bravo Company Boulevard connecting to East H Street would be constructed which would turn south and connect to the current terminus near Fair Avenue. A roundabout intersection with Cascade Mill Parkway would be constructed along with one additional roundabout intersection to connect to an existing access road to the adjacent properties.
- **Cascade Mill Parkway** –Cascade Mill Parkway would connect to Bravo Company Boulevard at a roundabout intersection and then continue east beneath I-82 and across the Yakima River and Roza Canal Wasteway #2.

The East-West Corridor project will involve improvements to existing roadways, including transforming East H Street from a residential street to a free-flowing arterial between North 1st Street and North 7th Street; the building of new connections and roundabouts; non-motorized facilities including bike lanes, sidewalks, Americans with Disabilities Act (ADA) ramps, crosswalks, and a shared-use path that will connect to the Yakima Greenway Trail; and construction of four bridges: two to carry I-82 over the proposed roadway, one over the Yakima River, and one over the Roza Canal Wasteway #2. This project will also involve restoration and

levee work along the Yakima River floodplain including removal and/or setback of levees and floodplain habitat restoration.

No Build

NEPA requires that the No Build alternative be included and evaluated in this discipline report. This approach is used to establish an existing and future baseline for comparing the effects associated with the Build Alternative.

Under the No Build Alternative, no new corridor would be provided between the City of Yakima and Terrace Heights and access to the Cascade Mill Site would not be provided. WSDOT, the City of Yakima, and Yakima County would continue to perform routine maintenance to keep existing roadways in good operating condition. If repairs or maintenance of the Terrace Heights bridge which require bridge closure become necessary, Terrace Heights residents would have to detour south to the next river crossing at Nob Hill Boulevard, approximately 5 miles. In addition, no floodplain improvements or habitat improvements would be completed.






3.0 Existing Conditions

3.1 Study Area

The study area is defined as the areas surrounding the proposed project and portions of Terrace Heights to the east. The study area is roughly defined by 1st Avenue to the west, the limits of the Cascade Mill Site and base of the ridge to the north, the Terrace Heights landfill to the east, and E Martin Luther King Jr Boulevard, Terrace Heights Drive, or Roza Hill Drive to the south. This area was selected as the study area because direct and indirect effects of the Proposed Project, during construction and operation, could occur there.

3.2 Zoning

The section of the study area on the west side of the Yakima River is within the city limits of Yakima, therefore Yakima Urban Area Zoning Ordinance (UAZO) zoning regulations apply for this area. The section of the study area on the east side of the river is in unincorporated Yakima County and are subject to the Yakima County Unified Land Development Code (ULDC). Current zoning in the study area consists of the following zones (City of Yakima 2022; Yakima County 2022):

Rural 10/5 (R-10/5)

The rural districts are intended to serve as a buffer between urban lands and resource lands, provide non-resource areas for future urban expansion, limit the costs of providing services to remote or underdeveloped areas, and retain the rural/agrarian character of the County while offering a variety of lifestyle choices for the residents of Yakima County. The Rural-10/5 (R-10/5) zoning district is intended to maintain rural character and provide density incentives to encourage development where fire protection services and access to roads with a paved or other hard surface are available.

Regional Development (RD)

Areas designated for regional development (RD) provide high visibility from the interstate and state highways of the city of Yakima to provide regional commerce, office campus, recreation, large-scale retail, culture, and large multiple mixed uses. Regional development districts have very intensive development and a variety of land uses including retail sales and service establishments, high-density residential development, financial institutions, professional office buildings, hotels, condominiums, and corporation headquarters.

Light Industrial (M-1)

Areas designated as light industrial (M-1) zones are intended to:

- Establish and preserve areas near designated truck routes, freeways, and the railroad for light industrial uses;
- Direct truck traffic onto designated truck routes and away from residential streets; and
- Minimize conflicts between uses in the light industrial district and surrounding land uses.

Light industrial districts provide areas for light manufacturing, processing, research, wholesale trade, storage, and distribution facilities. Uses permitted in this district should not generate noise levels, light, odor, or fumes that would constitute a nuisance or hazard.

Suburban Residential (SR)

Areas designated as suburban residential (SR) provide a variety of residential lifestyles with densities generally ranging from one unit per five net residential acres to seven units per net residential acre. The higher density is reviewed and considered to be permitted when a public water system and the regional sewer system are available, or if these utilities are not available, community water and sewer systems may be allowed after review by Yakima County health district and the City of Yakima. This district is intended to:

- Limit residential density to one unit per five net residential acres in areas where flooding, airport noise, or other environmental constraints make the land unsuitable for residential use at higher densities. Development at a lower density will be reviewed to allow conversion to higher densities once utilities are available or other limiting issues are mitigated;
- Maintain surface and groundwater quality along with the avoidance of potential health hazards, by limiting residential density to one unit per five net residential acres, in areas where public services will not be provided, and the dwelling units have individual wells and septic tanks. Development at a lower density will be reviewed to allow conversion to higher densities once utilities are available or other limiting issues are mitigated;
- Provide the opportunity for suburban residential development, up to three dwelling units per net residential acre, in areas with either public water service or a community sewer system; and
- Allow residential development to seven dwelling units per net residential acre in areas with both public water service and sewer system.

Single-Family Residential (R-1)

Areas designated as a single-family residential district (R-1) are intended to:

- Establish new residential neighborhoods for detached single-family dwellings free from other uses except those which are compatible with, and serve the residents of, this district, which may include duplexes and zero lot lines if established during the subdivision process;
- Preserve existing residential neighborhoods for detached single-family dwellings free from other uses to ensure the preservation of the existing residential character, and serve the residents of this district; and
- Locate moderate-density residential development, up to seven dwelling units per net residential acre, in areas served by public water and sewer system.

Detached single-family dwellings are the primary use in this district. The district is characterized by up to sixty percent lot coverage; access to individual lots by local access streets; required front, rear and side yard setbacks; and one and two-story structures. The density in the district is generally seven dwelling units per net residential acre or less.

This zone is intended to afford single-family neighborhoods the highest level of protection from encroachment by potentially incompatible nonresidential land uses or impacts. Nonresidential uses within these zones are not allowed; except for public or quasi-public uses, which will be

required to undergo extensive public review and will have all necessary performance or design standards assigned to them as necessary to mitigate potential impacts to adjacent residences.

Development exceeding seven dwelling units per net residential acre may be allowed.

Two-Family Residential (R-2)

Areas designated as a two-family residential district (R-2) are intended to:

- Establish and preserve residential neighborhoods for detached single-family dwellings, duplexes and other uses compatible with the intent of this district; and
- Locate residential development with densities up to twelve dwelling units per net residential acre in areas receiving a full range of public services including public water and sewer service, and police and fire protection.

The district is characterized by up to sixty percent lot coverage, access via local access streets and collectors, one- and two-story buildings, some clustering of units, and required front, rear and side yard setbacks. Typical uses in this district are single-family dwellings and duplexes. The density in this district generally ranges from seven to twelve dwelling units per net residential acre. However, development up to eighteen dwelling units per net residential acre may be allowed.

Multi-Family Residential (R-3)

Areas designated as multi-family residential districts (R-3) are intended to:

- Establish and preserve high-density residential districts by excluding activities not compatible with residential uses;
- Locate high-density residential development more than twelve dwelling units per net residential acre in areas receiving the full range of urban services;
- Locate high-density residential development near neighborhood shopping facilities; and
- Locate high-density residential development so that traffic generated by the development does not pass through lower-density residential areas.

This district contains a variety of attached or clustered multi-family dwellings.

Small Convenience Center (SCC)

Areas designated as Small Convenience Center (SCC) are intended to:

- Serve the day-to-day convenience shopping and service needs of the surrounding neighborhood and minimize undesirable impacts of the center on the neighborhood it serves;
- Provide areas for commercial activities that meet the direct retail shopping and service needs of the consumer community, such as supermarkets, fast food restaurants and drug stores; and
- Accommodate small commercial centers, generally two to five acres in size, where most commercial uses have located in a coordinated manner around a common parking lot and one major commercial approach driveway.

Professional Business District (B-1)

Areas designated as professional business district (B-1) are intended to:

- Establish and preserve areas for professional offices;
- Provide a buffer between commercial clusters and residential neighborhoods; and
- Locate professional offices in areas presently receiving a full range of urban services.

Professional offices and, in some areas, a mix of professional offices and multifamily dwellings are the primary uses in the district.

Generally, the professional business district contains smaller lot or parcel sizes. Residential densities are generally greater than twelve dwelling units per net residential acre. Building coverage may be as high as eighty percent of the site. Sitescreening requirements have been established to soften the visual impact of large buildings and parking lots and to minimize potential nuisances from light, noise and glare. Development standards are intended to accommodate a mixture of high-density residential development and office uses.

General Commercial District (GC)

Areas designated as general commercial district are intended to accommodate wholesale and retail activities with some high-density residential development. This district is primarily located near and along the major arterials as designated in the Yakima urban area comprehensive plan. Like the central business district (CBD), a variety of land uses are permitted. However, the intensity of development is intended to be less than in the CBD district.

Historical Business District (HB)

Areas designated as the historical business district is to recognize existing isolated commercial structures in otherwise residential areas, to allow those structures to be occupied by traditional neighborhood business uses, and to allow these structures to be replaced if destroyed. This district is not intended to allow structural expansion, or expansion of the use onto adjoining lots. It is further intended that this district is not to serve as a small convenience center (SCC). Examples of HB uses are: taverns, small grocery stores, laundromats, and other businesses serving the immediate residential neighborhood around this district. This zoning district is not intended to be further expanded or formed.





3.3 Current Land Use, Shoreline, Critical Area, and Transportation Plans

Land use in the study area is regulated through regional and local land use and transportation plans and development regulations for implementing local plans. The project's consistency with regional and City of Yakima land use and transportation plans was determined by evaluating the Proposed Project and by assessing whether these changes support the type of growth and meet the needs of the community, as outlined in the overall land use and transportation plans.

Parks/Recreational Resources and Section 4(f)

The Greenway Trail is travels north-south through the project area between the Yakima River and I-82 and is considered a Section 4(f) resource. The bridge over the Yakima River would cross above the Greenway Trail. The project would provide a new connection to the Greenway Trail for bicycles and pedestrians via a shared use path from Cascade Mill Parkway. Construction would result in temporary closure of the Greenway Trail.

Shorelines

As the proposed project involves a bridge spanning the Yakima River, there are regulated shorelines within the project area. Shorelines are regulated in the City of Yakima by Title 17 of the Yakima Municipal Code (YMC). According to the City of Yakima Shoreline Jurisdiction and Environmental Designations Map, the adjacent shorelines of the Yakima River where the proposed bridge will be built is designated as urban conservancy and floodway/CMZ (Channel Migration Zone) within either the jurisdiction of the City of Yakima or the Urban Growth Area (UGA) (City of Yakima 2021). The proposed bridge over the Yakima River is located at river mile RM 4.2.

Chapter 17.03.020 of the YMC states: "The 'urban conservancy' environment is intended to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. Specific criteria for designation of the urban conservancy environment include areas or properties that:

- 1. Lie in the city limits and urban growth areas;
- 2. Are planned for development that is compatible with the principles of maintaining or restoring the ecological functions of the area;
- 3. Are suitable for water-enjoyment uses;
- 4. Are open space or floodplains; or
- 5. Are areas that retain important ecological functions which should not be more intensively developed.

Allowed uses for the urban conservancy environment generally include uses which preserve the natural character of the area, and promote the preservation of open space, floodplains or sensitive lands. Uses allowed under this designation should focus on recreation. Commercial, industrial and residential uses should be limited, and when allowed, result in restoration of ecological functions. Public access and recreation objectives should be implemented whenever feasible and significant ecological impacts can be mitigated" (City of Yakima 2021).

The "floodway/CMZ" is intended to protect the water areas, islands, associated overflow channels, and channel migration areas. This environment provides for the movement of the river

within its floodplain, and emphasizes preservation of the natural hydraulic, geologic and biological functions of the city's shorelines that are constrained by biophysical limitations.

The floodway/CMZ designation is assigned to shoreline areas that are within a mapped channel migration zone and/or within a designated FEMA floodway. Commercial, industrial, mining, nonwater-oriented recreation, roads, utilities, parking areas, and residences should generally not be located in the floodway/CMZ environment. Other uses (recreation, resource, etc.) should be carefully limited to protect shoreline functions. Activities that may degrade the value of the floodway/CMZ environment should be limited, and development in hazardous areas should be restricted. Modifications that harden or fix stream banks and channels should be discouraged.

The project will not have substantial adverse modification of the shoreline character and will be enhancing recreational opportunities with improved access to the Yakima Greenway trail along the western bank of the river. Because the bridge crossing is in an area designated as urban conservancy and floodway/CMZ, this project will require a Shoreline Conditional Use Permit. Title 17 contains special use circumstances applicable to this project (City of Yakima 2021):

- C. New or expanded roads and railroads shall not be located within a designated stream corridor except where it is necessary to cross the corridor, or where existing development, topography, and other conditions preclude locations outside the stream corridor. Applications for new or expanded roads and railroads shall demonstrate through engineering studies that a shoreline location is the most feasible of the available options.
 - 1. Construction of roadways or railroads across stream corridors shall be by the most direct route possible having the least impact to the stream corridor.
 - 2. Roadways or railroads that must run parallel to stream or wetland edges shall be along routes having the greatest possible distance from stream or wetland and the least impact to the corridor.
 - 3. Roadways or railroads within the stream corridor shall not hydrologically obstruct, cut off or isolate stream corridor features.
- D. Material filled from the roadway area to achieve the design grade shall be used as fill where necessary to maintain grade or shall be transported outside the corridor if it contains material unsuited to the current construction project. Spoil, construction waste, and other debris shall not be used as road fill or buried within the stream corridor.
- E. Bridges, water-crossing structures, or necessary fill to elevate roadways shall not constrict the stream channel; impede the normal flow of floodwaters, sediment, and woody debris; or cause displacement that would increase the elevation of floodwaters such that it would cause properties not in the floodplain to be flood-prone.
- F. Natural stream channels and drainage ways shall be preserved through the use of bridges for crossings, unless the use of culverts is demonstrated to be the only technically feasible means for crossing. The use of bridges shall be the preferred means to preserve natural streams and drainageways. Where bridges are not feasible, large, natural bottom culverts; multi-plate pipes; and bottomless arches shall be used, and shall be designed consistent with the latest guidance from the Washington Department of Fish and Wildlife.

The shoreline along the Yakima River at the project site consists of riparian vegetation and some shrub-steppe vegetation.

Additionally, while the project proposed to alter natural vegetation along the shoreline all such vegetation removal will be mitigated for within currently degraded portions of the shoreline near the project site. Felled trees greater than 8 inches in diameter at breast height (DBH) will be used as large woody debris (LWD) within the wetted channel of the Yakima River where possible and all disturbed areas will be revegetated with appropriate native plant species. 6.9 acres planting within the riparian areas of the Yakima River will provide mitigation for any disturbed riparian vegetation.

The chosen path of the East-West Corridor was selected after careful consideration, based on the following criteria: Mobility / Feasibility / Development Impact/ Neighborhood impact. The East-West Corridor project is consistent Title 17 - Shoreline Master Program Regulations of the City of the YMC.

Transportation Plans

The Yakima Valley Metropolitan and Regional Transportation Plan (M/RTP) 2020-2045 was developed through the transportation planning process. The goals, policies, and strategies herein were subsequently adopted by the Yakima Valley Conference of Governments (YVCOG) Board. These goals and policies will guide and direct the regional transportation planning process for the next 23 years.

Specific regional priorities related to the Proposed Project identified in the Yakima Valley M/RTP 2020-2045 include:

- Optimizing mobility of people and goods on the transportation system supports economic development by reducing delays, improving operations, opening access to new areas of development, and addressing safety issues.
- Expanding the availability and types of transportation choices in and between communities throughout the Yakima Valley is a priority for the region to meet the travel demands and provide access to basic services.

Development of a new east-west arterial in the Proposed Project location is also considered to be a Key Corridor in the Yakima Valley M/RTP 2020-2045.

The Yakima County Horizon 2040 Transportation Element identifies projects and programs needed to support the County's vision and to serve planned growth over the next eighteen years. This document presents the recommended investments and priorities for the pedestrian, bicycle, transit, and motor vehicle systems along with new transportation programs to correct existing shortfalls and enhance critical services.

Specific goals and policies related to the Proposed Project included in the Yakima County Comprehensive Plan include:

Yakima Urban Growth Area Transportation Goals and Policies

Goal (YKT 1): Develop streets that encourage neighborhood safety and livability

Policy YKT 1.2 — Encourage sidewalks on the local streets associated with all new developments.

Goal (YKT 2): Develop and improve the pedestrian network in the Yakima urban areas

- Policy YKT 2.2 Encourage sidewalk or pathway construction on existing streets using public and private funding sources.
- Policy YKT 2.6 Improve pathway linkages to the Yakima Greenway, Canal Pathway, and other off-street trail systems.

Goal (YKT 3): Create a street network that encourages safe bicycle connections and routes

- Policy YKT 3.2 Improve connections between city streets and the Yakima Greenway and other pathways systems.
- Policy YKT 3.5 New or rebuilt Arterial Street projects require either dedicated bike lanes or shared lanes.

Goal (YKT 5): Promote bicycle use for recreation, health, and economic development benefit

 Policy YKT 5.1 — Integrate bicycle facilities into the Yakima County Project and other special design projects when possible.

Goal (YKT 6): Address street segments that are projected to have future capacity constraints

 Policy YKT 6.1 — Maximize existing infrastructure investment by reducing travel demand through increased use of the transit system and other Commute Reduction strategies.

Goal (YKT 14): Support regionally important transportation projects

- Policy YKT 14.1 Plan and support the Arterial Street System in collaboration with Washington State Department of Transportation and other neighboring jurisdictions.
- Policy YKT 14.2 Support projects that benefit the entire region and do not have negative impacts on the State Highway System.

Goal (YKT 15): Consider impacts of development upon state and regional facilities

 Policy YKT 15.1 — Coordinate with WSDOT and neighboring jurisdictions regarding level of service definitions, concurrency requirements, and other impacts.

Goal (YKT 19): Provide for broad public participation in the development and implementation of the tasks identified in the Transportation Plan Update

- Policy YKT 19.1 Conduct information meetings and workshops to receive comments and educate the public on the implementation measures of the Transportation Plan.
- Policy YKT 19.2 Coordinate with Washington State Department of Transportation, Yakima Valley Conference of Governments, towns and cities within Yakima County in achieving the goals programs of the Transportation Plan Update and broad regional goals.

Terrace Heights Transportation Goals and Policies

Goal (THT 1): Ensure that convenient access continues to downtown Yakima and the freeways, and minimize traffic congestion.

- Policy THT 1.1 Identify future north/south and east/west arterials.
- Goal (THT 4): Ensure residents' safety and "defensible space"
 - Policy THT 4.1 Provide street lighting along designated arterials.

Environmentally Critical Areas

Chapter 15.27 of the YMC contains standards, guidelines, criteria, and requirements to identify, analyze, and mitigate probable impacts on the city's sensitive areas and to enhance and restore when possible. The City of Yakima's GIS data (City of Yakima 2022) show wildlife priority habitat areas, aquifer high vulnerability areas, and underlying geology. The Cascade Mill site and portions of the residential neighborhood around H Street are mapped as high vulnerability areas for groundwater contamination and the Yakima River and its riparian area are mapped as wildlife priority habitat. Additionally, the Yakima River, within the project area has been designated as critical habitat for both Columbia River distinct population segment (DPS) bull trout and Middle Columbia River DPS steelhead trout (NMFS 2005, USFWS 2010). The critical habitat is designated as a sensitive fish and wildlife habitat area. The project's impacts on these sensitive areas are being addressed in separate discipline reports, the Biological Assessment (BA) (Widener & Associates 2022) and the Wetland Delineation Report (Widener & Associates 2019). No other areas designated as sensitive fish and wildlife habitat areas are present within the study area. Should there be any impacts from the proposed project on sensitive areas, within the study area, minimization measures and/or compensation will be consistent with the requirements of Chapter 15.27 of the YMC.

3.4 Development Trends

Historically, the City of Yakima's economy has been largely dependent on agriculture. Currently the City of Yakima is working to redevelop the downtown area as a community hub for the entire Yakima Valley, as well as redevelopment of currently unused lands like the Boise Cascade Mill site. Much of the population growth in the Yakima Urban Area has occurred in the Terrace Heights Neighborhood. In the last fifteen years, medical students have moved to the area to study at the Pacific Northwest University of Sciences. The proposed project aims to improve multi-modal travel between the City of Yakima and the Terrace Heights.

4.0 Impacts

Impacts may result from many types of effects both during the construction or operation of a Proposed Project. A Proposed Project may result in substantial impacts on land use if the Proposed Project could prevent or severely limit the ability of multiple property owners to use their property for an existing or allowed land use, if the Proposed Project is not consistent with relevant plans and regulations, or if the Proposed Project could induce land use not compatible with existing plans.

4.1 Direct Effects

Direct effects are impacts resulting from the Proposed Project, usually during construction.

Property acquisition in the form of full ROW (right-of-way) acquisitions, partial ROW acquisitions, utility easements, and permanent easements would be required. A total of 44 properties would be impacted by at least one of these acquisitions. A total of 12 parcels would require a full ROW acquisition, half of which are vacant with no developments. Five acquisitions of single-family residences have been competed by Yakima County and structures have been demolished. One additional relocation would be necessary. A portion of the proposed road alignment will occur on federal lands managed by the Bureau of Reclamation. The project will acquire permanent easements on required parcels. Approximately 33.5 acres are being converted to a transportation land use in the form of ROW acquisition or permanent easement. An additional 2.5 acres of utility easements will be necessary. See Figure 6 and Tables 1 and 2 for more details on property acquisitions. Additional acquisitions may be necessary for the completion of floodplain mitigation.

Impacts to Section 4(f) resources will require temporary occupancy. In order to prevent a longerterm closure of the Greenway Trail and ensure the safety of trail users, detours will be provided and overhead protection would be installed to prevent any debris from bridge construction from landing on the trail. Two closures of up to one week in duration will be allowed. All documentation will be prepared in order to ensure Section 4(f) compliance.

Temporary construction effects on users of adjacent properties and the local street system may be caused by noise, dust, glare, traffic delays, and visual disturbance. The severity of these effects depends on the duration and intensity of construction. Traffic disruptions that affect land use may be caused by temporary construction easements and changes in access. Some of the project lies on existing streets, so construction in these areas will experience greater traffic impacts. East H Street, Hartford Rd and Butterfield Rd will experience the greatest traffic impacts during construction. East H Street is currently a narrow local access road with no lane markings which is not adequate for additional traffic. No marked detours would be required, local access would be maintained on all existing roadways throughout construction. Lane closures may be necessary during I-82 bridge construction.

The proposed new roadway will cut through the Cascade Mill site and could potentially eliminate access to some parcels to public roads, particularly remaining areas between the BNSF tracks and Cascade Mill Parkway. Access will be maintained following project completion through the planned roundabouts on Bravo Company Boulevard. One of these roundabouts is designed to connect to an existing access road.

This project will have unavoidable short-term effects on surrounding land uses from construction and construction staging. The project may limit business or enjoyment of outdoor activities or events due to increased noise levels from construction equipment, changes in access to individual properties, increased dust from vegetation removal/grading, and work zone traffic control measures. Staging areas would be located within private property and rights-of-way.

The project proposes to alter natural vegetation along the banks of the Yakima River. However, all vegetation removal will be mitigated to reduce the extent of vegetation alterations and restore degraded parts of the riparian zone. Floodplain mitigation and side channel construction will occur on properties owned by the Department of Transportation and Bureau of Reclamation. This is consistent with the current land use.

No Build Alternative

The No Build Alternative would not produce construction related effects on the study area.

Parcel	Site Address	Lot Size (SF)	Acquisition Area (SF)	TCE Area (SF)	Utility Easement Area (SF)
19131841001	E St/8 th St N Yakima, WA 98901	1,640,470	371,746	178,605	55,858
19131842001	611 N 8 th St Yakima, WA 98901	517,493	47,590	43,664	8,940
19131824001	E I St Yakima, WA 98901	50,529	4,177	7,373	1,475
19131831539	Unassigned Address Yakima, WA 98901	165,528	93	4,195	376
19131821003	N 4 th St Yakima, WA 98901	3,288,780	77,796	70,201	14,567
19131812001	7 th St N/H St E Yakima, WA 98901	2,445,023	203,121	92,404	17,001
N/A	N/A	N/A	0	13,138	10,045

Table 1. Property acquisitions for Phase 4 of the Proposed Project

 Table 2. Property acquisitions for Phases 2 and 3 of the Proposed Project

Parcel	Site Address	Lot Size	Acquisition	TCE Area	Permanent Easement
		(Acres)	Area (Acres)	(SF)	Area (SF)
19131841002	E St/8 th St N	7.64	1.96	0	0
	Yakima, WA 98901				
19131811002	7 th St N/H St E	45.85	0.01	0	0
	Yakima, WA 98901				
19131731009	Hartford/15th St N	5.76	0	0	52,900
	Yakima, WA 98901				
19131723005	I St E/15 th St N	5.58	0	0	7,550
	Yakima, WA 98901				
19131732404	1406 Hartford Rd	0.21	0.21	0	0
	Yakima, WA 98901				
19131732421	1406 Hartford Rd	0.41	0.41	0	0
	Yakima, WA 98901				
19131732408	716 N 15 th St	0.19	0.19	0	0
	Yakima, WA 98901				
19131732409	716 N 15 th St	0.22	0.22	0	0
	Yakima, WA 98901				
19131732420	1412 Hartford Rd	0.41	0.41	0	0
	Yakima, WA 98901				
19131731008	1510 Hartford Rd	5.04	0.89	9,562	0
	Yakima, WA 98901				
19131731409	Hartford/16th St N	0.20	0.20	0	0
	Yakima, WA 98901				
19131731408	Hartford/16th St N	0.20	0.20	0	0
	Yakima, WA 98901				
19131731407	1606 Hartford Rd	0.39	0.39	0	0
	Yakima, WA 98901				
19131731405	Hartford/16th St N	0.20	0.03	0	0
	Yakima, WA 98901				
19131731410	H St E/16 th St N	0.20	0	0	3,448
	Yakima, WA 98901				
19131731411	H St E/16th St N	0.20	0	0	5,178
	Yakima, WA 98901				

Parcel	Site Address	Lot Size	Acquisition	TCE Area	Permanent Easement
10121721/12	H St E/16th St N	(Acres)	Area (Acres)		6 004
19131/31412	Yakima, WA 98901	0.20	0	0	0,904
19131731413	H St E/16th St N	0.20	0	0	8,363
10121721414	U St E/16th St N	0.20	0.20	0	0
19131/31414	Yakima, WA 98901	0.20	0.20	0	0
19131731415	H St E/18 th St N	0.20	0.20	0	0
	Yakıma, WA 98901				
19131731416	H St $E/18^{tn}$ St N	0.20	0.20	0	0
	Yakıma, WA 98901				
19131731417	H St E/18 th St N	0.20	0	0	8,543
	Yakima, WA 98901				
19131731418	H St E/18 th St N	0.20	0	0	8,543
	Yakima, WA 98901				
19131731419	H St E/18 th St N	0.20	0	0	8,543
	Yakima, WA 98901				
19131731420	G St E/16 th St N	3.92	0	0	19,756
	Yakima, WA 98901				
19131731013	1804 Hartford Rd	2.43	0.20	0	0
	Yakima, WA 98901				
19131731012	18th St N/Hartford Rd	12.01	0	0	49,181
	Yakima, WA 98901				
19131731011	18th St N/Hartford Rd	2.40	1.52	0	0
	Yakima, WA 98901				
19131731004	713 Horgan St	1.11	0.40	0	0
	Yakima, WA 98901				
19131742017	Unassigned Address	4.05	0.03	0	0
	Yakima, WA 98901				
N/A	N/A	N/A	1.23	10,291	0
19131742009	S Hartford Rd	1.17	0.31	0	0
	Yakima, WA 98901				
19131723405	1411 Hartford Rd	1.69	1.69	0	0
	Yakima, WA 98901				
19131723012	1507 Hartford Rd	1.56	0.16	3.732	0
	Yakima, WA 98901			-)	
19131723404	810 N 15 th St	2.86	0.05	3.607	0
	Yakima, WA 98901		-	,	
19131723004	827 N 15 th St	6.79	1.89	0	0
	Yakima, WA 98901				
19131723007	826 N 15 th St	0.51	0.01	0	0
	Yakima, WA 98901		-		

Bureau of Reclamation Parcels





Sections 13, 17, 18 Township 13N, Ranges 18E 19E

4.2 Indirect Effects

Indirect effects are defined as effects caused by the Proposed Project that are later in time or farther removed in distance, but still reasonably certain to occur. The project would be consistent and compatible with existing zoning and land use plan.

No building moratoriums are in place; no land use changes are anticipated to result from the project (other right-of-way acquisitions necessary to build the project); no known developments are contingent upon the completion of the proposed project; nor are any land use changes tied by permit condition to the proposed project.

The Proposed Project will; however, result in increased traffic within the zone of influence¹. Traffic along the new corridor will increase due to the diversion of traffic from Terrace Heights Drive to the new route. The project will not create new sources of traffic; however, it will result in increased traffic along the existing H Street Corridor as well as creating new roadway through the Boise Cascade Mill Site which is anticipated to be developed in the future. It will also reduce traffic along the Yakima Avenue/ Terrace Heights Drive corridor.

Land use development compliant with the comprehensive plan could potentially occur faster in Terrace Heights following project completion as compared to the No Build Alternative. See Figure 7 for the area with an increased rate of development as anticipated by Yakima County Planning. The current level of service (LOS) along the Yakima Avenue/Terrace Heights Drive corridor has triggered Yakima County's concurrency requirements, which require public facilities are sufficient to support the planned development without decreasing levels of service below the minimum standards (Yakima County 2017). Should the County not act on this in the next 20 years, the rate of development in the Terrace Heights neighborhood could be slowed. This would limit development in an area that experienced a 33.3% population growth between 2000 and 2010 and is anticipated to grow in population by 20.43% in the next 10 years (pers. comm. Brett Sheffield). The County must either increase the capacity of the existing corridor or divert sufficient traffic volume onto another route. The construction of the East-West corridor will allow for traffic diversion necessary to avoid a slowing of development.

Undeveloped land adjacent to the Yakima River and in the floodplain within the Terrace Heights neighborhood is either owned by the United States Bureau of Reclamation, Yakima County, or Washington State for the purpose of preserving and/or restoring the floodplain and riparian habitat (Yakima County 2019). Because much of the area adjacent to the project corridor is unlikely to be developed, the project is anticipated to maintain the rate of land use development compliant with the comprehensive plan along the project corridor in Terrace Heights. See Figure 7.

¹ The zone of influence is defined by the area in which changes in traffic patterns due to the Proposed Project which may potentially result in a change in land use. The zone of influence may; therefore be affected by indirect effects associated with future development as a result increased stormwater from impervious surfaces or vegetation removal associated with future projects.

A future I-82 interchange improvement is planned which would include connections to Cascade Mill Parkway. While this interchange is expected to connect to the East-West corridor, the Proposed Project will improve mobility from Terrace Heights and provide reductions in congestion along the Yakima Avenue/Terrace Heights Drive corridor, even if no other improvements are made to the I-82 Interchange. The I-82 interchange will require its own NEPA review.

The East-West corridor is proposed to cut directly through the Boise Cascade Mill site. The roadway will allow access to this area. The project will maintain exiting access to the surrounding properties through two roundabout intersections on Bravo Company Boulevard. Development of the Boise Cascade Mill site has also been discussed in conjunction with the Proposed Project as remediation for the contaminated site is required for both this project and any future developments. The potential Boise Cascade Mill site development is not directly connected to this project as the feasibility of development is more reliant on the construction of the I-82 interchange. As such, its potential construction is not an indirect effect and will be discussed below in section 4.3 Cumulative Impacts.

The Proposed Project would not induce a change in land use designation. No change in zoning or amendment to an existing land use plan would be required. By improving mobility in the study area, the Proposed Project is anticipated to increase the rate of development in Terrace Heights. The project will prevent the Yakima County concurrency requirements from hindering growth and allow the current rate of development to continue with land uses allowed by zoning.

No Build Alternative

The No Build Alternative would not change existing land uses within the study area; however, the rate of development could potentially be hindered by future traffic congestion.



4.3 Cumulative Effects

Cumulative effects are those effects of future state, local, or private (not federal) activities that are reasonably certain to occur within the action area of the proposed project. Per the Federal Highway Administration (FHWA) guidance, a cumulative effects analysis is discipline specific and generally performed for the discipline, in this case land use, directly affected by the action (such as a transportation project) under study.

While no specific plans have been made, it is anticipated that the Boise Cascade Mill site will be developed. While the East-West Corridor will provide a direct route from the Terrace Heights neighborhood, it is the potential I-82 interchange that will bring in sufficient people to justify the development.

The City of Yakima has discussed the possibility of developments such as an auto mall, general retail, light industry, an office park, and education facilities (City of Yakima 2017a; 2019). While the East-West corridor will provide access to these proposed developments, they are separate proposals, and the East-West corridor's purpose is connecting the City of Yakima and Terrace Heights regardless of any proposed developments. The proposed development is included in the City of Yakima's comprehensive plan and will comply with current zoning and comprehensive planning designations. The zoning designation for the mill site is Regional Development (RD), and the comprehensive plan designation is Regional Commercial (City of Yakima 2017a; 2022).

The potential development of the Boise Cascade Mill site will likely require extensive cleanup of site due to the site's historic use and its status on WSDOE's Confirmed and Suspected Contaminated Sites List (CSCSL) (WSDOE 2021b). The Boise Cascade mill operated as a sawmill and lumber manufacturer from the early 1900s until 2006. During that time there were numerous spills and accumulation of toxic materials with few cleanup efforts (Barr 2019). Currently, the site has confirmed soil contamination from benzene, halogenated solvents, metals, diesel, gasoline, other petroleum products, and polycyclic aromatic hydrocarbons; confirmed groundwater contamination from halogenated solvents and metals; and suspected soil contamination from polychlorinated biphenyls (PCBs) (WSDOE 2021a).

The future commercial development planned at the Boise Cascade Mill site is a potential cumulative effect, however it will undergo its own, separate, environmental review.

5.0 Consistency with Land Use Plans and Implementing Regulations

5.1 Federal

Construction of the East-West Corridor is consistent with the following FHWA goals (National Goals and Performance Management Measures 2012):

- To achieve a significant reduction in congestion on the National Highway System (NHS);
- To improve efficiency of the surface transportation system; and
- To enhance the performance of the transportation system while protecting and enhancing the natural environment

5.2 State

WSDOT South Central Region staff has participated with the City of Yakima and Yakima County in several planning studies which indicate this project will significantly improve the transportation system in Yakima Urban Area. With the cooperation of the WSDOT, the City of Yakima and Yakima County completed a thorough evaluation of alternative projects aimed at improving mobility between the City of Yakima and the Terrace Heights Neighborhood (BergerABAM 2011, Lochner 2012).

5.3 Regional

As mentioned in Section 3.3, the project is consistent with the Yakima Valley M/RTP 2020-2045. Specifically, the project will improve transportation efficiency, provide faster travel routes for emergency vehicles, and provide more opportunities for non-motorized transportation.

5.4 City and County

As mentioned in Section 3.3, the project is consistent with the Yakima County Horizon 2040 Comprehensive Plan as well as the City of Yakima Comprehensive Plan 2040.

The Proposed Project will construct sidewalks and a 14-foot trail to connect to the existing pedestrian/non-motorized network and provide better access to areas of business and residential growth outside of the city center. Pedestrian and bike facilities would provide access to the Greenway Trail via Cascade Mill Parkway and bike lanes provided on H Street and Bravo Company Boulevard are consistent with the City of Yakima's Bicycle Master Plan (City of Yakima 2017b).

As previously mentioned in Section 3.3, shorelines in the City of Yakima are regulated by Title 17 of the YMC. The project will not have substantial adverse modification of the shoreline character and is in compliance with the YMC as any vegetation altered/removed as part of the project action will be mitigated for within currently degraded portions of the shoreline near the project site.

6.0 Mitigation

6.1 Direct Effects

Required mitigation/minimization measures to avoid or minimize adverse effects during construction could include:

- The existing East H Street corridor must be brought up to current standards before the rest of the corridor can be constructed to minimize congestion impacts to the surrounding neighborhood and provide the necessary capacity for additional traffic.
- Prepare and implement a Transportation Management Plan (TMP), requiring the contractor to post signs during any required lane closures. Local access will always be maintained on existing roads.
- Erosion control best management practices (BMPs), such as silt fences, straw bales (certified weed free) and catchbasin liners will be installed before any earthmoving activities take place and would be maintained throughout construction.
- Where possible, disturbed areas will be re-vegetated and or planted according to an approved planting plan.
- Any natural vegetation altered/removed along the shoreline will be mitigated for within currently degraded portions of the shoreline near the project site.

6.2 Indirect Effects

As no substantial indirect effects are anticipated to occur due to the Proposed Project no mitigation/minimization measures will be necessary to reduce potential indirect effects.

6.3 Consistency with Land Use Plans and Implementing Regulations

The Proposed Project would support and be consistent with adopted plans and regulations, no mitigation would be required during project operation.

7.0 References

Personal Communication

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