# WETLAND DELINEATION REPORT

Parcels #784434, 954945, 954946, 954947, 951674 Kittitas County, Washington

#### Prepared for:

#### Levi Venn

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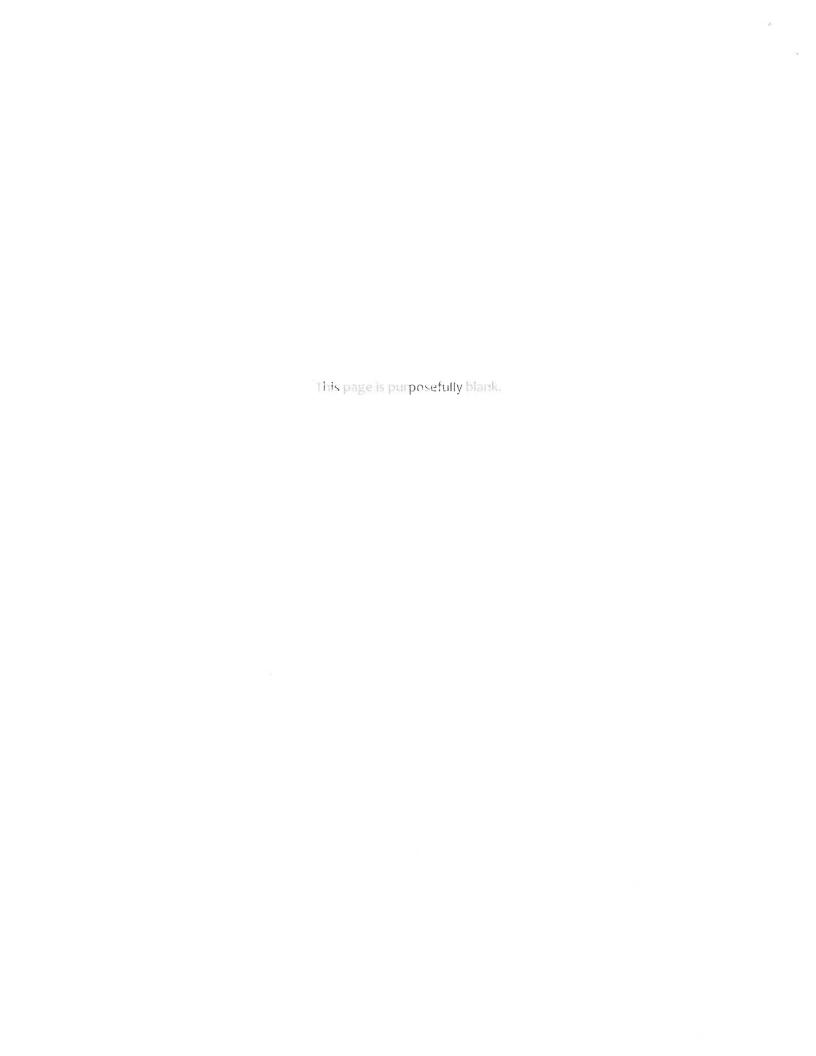
#### Prepared by:

#### **GG Environmental**

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June 3, 2021





## **Summary**

On May 21, 2021, Geoffrey Gray (GG Environmental) completed a wetland and stream investigation within the boundaries of parcels 784434, 954945, 954946, 954947, and 951674 (study area), totaling 71.29 acres (ac), in unincorporated Kittitas County, Washington.

The study area (property) lies upon an alluvial fan between Wilson and Naneum Creeks, land upon which local farmers and ranchers have intentionally irrigated since at least 1954. The property has been managed as grazeland for beef cattle and horses since 1986. Irrigation water arrives via two unlined KRD canals, from which water is diverted across the property (flood irrigation) via a complex network of irrigation ditches, irrigations wales, weirs, and check dams that collectively deliver water, via gravity flow, onto otherwise dry land.

Two soil map units are mapped within the study area, including Brickmill gravelly ashy loam and Nack-Opnish complex, neither of which is listed as a hydric (wetland) soil.

Thirteen locations were investigated across the property to document any variance in the hydrologic regime (irrigation practices), vegetation, and soils. The locations were strategically positioned to gather data from the wettest irrigation swale bottoms to the driest alluvial rock formations.

Because irrigation water supports hydrophytic vegetation, most locations exhibited both wetland hydrology and vegetation, but lacked wetland soils. All three requisite wetland indicators were documented in only one location, where their presence is demonstrably, and exclusively, supported by intentional irrigation practices. No evidence was observed of "natural" wetlands, supported exclusively, or in part, by natural hydrology. Alternatively, all wetland indicators observed onsite can be explained by intentional, agricultural irrigation practices.

According to the Kittitas County Critical Areas Ordinance (CAO), Section 17A.02.310, wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, agricultural fields or areas of agricultural activities that exhibit wetland characteristics due to the introduction or influence of irrigation waters to those fields, grasslined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. The introduction or influence of irrigation waters to agricultural fields or areas of agricultural activities which cause those areas to exhibit wetland characteristics, even though the areas were non-wetland sites prior to the introduction or influence of irrigation waters, is defined in this section.

This definition is taken from the statutory definition at RCW 36.70A.030(17). This statutory definition of wetlands specifically exempts a number of intentionally created wetlands, including but not limited to those related to irrigation systems. Due to the inherent design of most irrigation systems, such systems are reasonably and foreseeably expected to result in some leakage or seepage. Such seepage or leakage is a normal result of utilization of irrigation systems and is deemed for purposes of this chapter to be an artificial wetland intentionally created from a non-wetland site, and therefore such areas do not constitute wetlands.

Per county code, no county-regulated wetlands are present within the study area.

No river, stream, or creek was identified within 200 feet of the study area limits.



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## **Acronyms and Abbreviations**

AgACIS Agricultural Applied Climate Information System

CAO Critical Areas Ordinance (Kittitas County)
Corps United States Army Corps of Engineers

Cowardin Classification System

DNR Washington State Department of Natural Resources

DPS Distinct Population Segment

Ecology Washington State Department of Ecology

GIS Geographic Information System
GNSS Global Navigation Satellite System

GPS Global Positioning System

HGM Hydrogeomorphic (Wetland Classification)

NOAA National Oceanic and Atmospheric Administration

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

PEM Palustrine Emergent

PHS Priority Habitats and Species
PWS Professional Wetland Scientist

USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

WDFW Washington State Department of Fish and Wildlife

WETS Climate Analysis for Wetlands Tables

WGS84 World Geodetic System 1984

KCC Kittitas County Code



### 1. Introduction

GG Environmental (Geoffrey Gray, PWS #3162) was retained by Levi Venn (client) to complete a wetland and stream investigation within Kittitas County tax parcels 784434, 954945, 954946, 954947, and 951674 (study area), totaling 71.29 acres (ac). The property has been owned by Mr. Don Akehurst since 1986.

## 2. Location

The study area is located north of Brick Mill Road, east of Wilson Creek Road and west of Naneum Road, in unincorporated Kittitas County, Washington (Figure 1).

Ranging in elevation from approximately 1,825 to 1,868 feet in elevation, topography is gently sloped toward the south, as the parcels lie upon an alluvial fan between Wilson and Naneum Creeks. The study area falls within the NW ¼ of Section 20, Township 18 North, Range 19 East. The northeast corner of the property is located at latitude 47°02'38.3"N and longitude 120°29'34.2"W (WGS84).

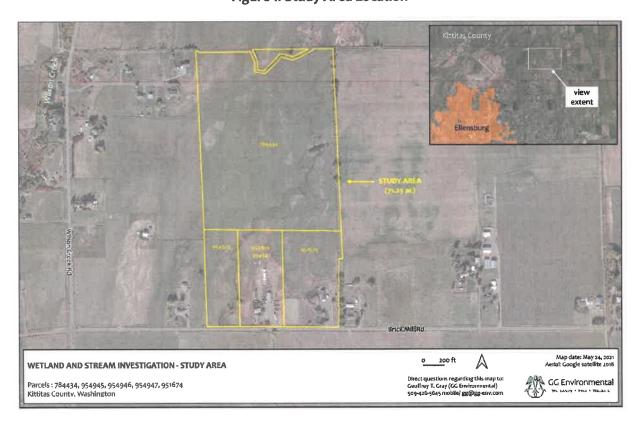
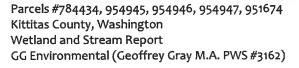


Figure 1. Study Area Location





The study area occurs within USDA Land Resource Region B and USDA Major Land Resource Area 8 (Columbia Plateau) (NRCS 2006), Water Resource Inventory Area 39 (Upper Yakima), and the Naneum Creek-Wilson Creek subwatershed (12<sup>th</sup> Hydrologic Unit Code 170300010408).

## 3. Methods

An overview of the methods employed to delineate wetlands and streams in the study area is presented in this section.

#### 3.1. Background Research

Prior to conducting fieldwork, available data for the study area, including information on soils, topography, vegetation, precipitation, wetlands, streams, sensitive species and habitats, historic aerial imagery, and the county code was researched:

#### Wetlands

- National Wetlands Inventory (NWI) (USFWS 2021a). (Appendix A-1);
- Kittitas County wetland GIS data (Kittitas County 2021a). (Appendix A-1);
- Wetlands and Plants of High Conservation Value (DNR 2021a, DNR 2021b);
- Natural Resources Conservation Service soil survey data (NRCS 2021a). (Appendix A-2);
- Agricultural Applied Climate Information System climate data (NRCS 2021b). (Appendix B);
- Historic aerial photography: 1954 (CWU 2021) (Appendix A-4) and 1993-2018 (Google 2021);
- Light Detection and Ranging (LIDAR) data for 2011 (DNR 2021c); and
- Kittitas County Critical Areas Ordinance (CAO) (Kittitas County 2021b).

#### Streams

- Kittitas County floodplain and shorelines data (Kittitas County 2021a) (Appendix A-3);
- Kittitas County (DNR)¹ stream type (Kittitas County 2021a);
- USGS topographic maps (USGS 2021);
- USGS National Hydrography Dataset (USGS 2019); and
- Kittitas County CAO (Kittitas County 2021b).

#### **Sensitive Species and Habitats**

- Federal and state-listed threatened, endangered, or candidate species (USFWS 2021b, WDFW 2019)
- Designated critical habitats (USFWS 2021c, NOAA 2021a).
- Priority Habitats and Species (PHS) (WDFW 2021).



#### 3.2. Field Investigation

Fieldwork was completed on May 21, 2021 by GG Environmental (Geoffrey Gray, PWS #3162), accompanied by Don Akehurst, Greg Akehurst, and Jason Greene. The study area was traversed by vehicle and on foot. The majority of the cattle pasture had not been irrigated during the preceding week, but a small amount of irrigation water was still being released into the main irrigation swale, starting at the northeast corner of the property.

Thirteen locations were investigated to determine the presence or absence of the three requisite wetland indicators (water, plants, and soils) (**Table 1, Figure 2**). These locations were of a number, and intentionally spaced, to adequately describe the variability of the site, from the wettest irrigation ditch/swale bottoms to the driest alluvial rock formations.

Under the direction of Geoffrey Gray, Don Akehurst mechanically excavated 13 test pits with a backhoe. The target depth was at least 16 inches, but impenetrable rock was encountered in several locations, limiting the excavation depth.

Table 1. Data Collected by Location (refer to Figure 2)

ID	Veg <sup>1</sup>	Sat	ORC	Matrix	Rdx	Tex	Notes	Call
1	yes	no	no	10YR 3/2	no	SL	Elevated rock sill	Upland
2	yes	no	no	10YR 3/1	no	SL	Broad irrigation swale	Upland
3	yes	yes	yes	10YR 3/1	no	SL	Flat area near former tailwater	Upland
4	yes	no	no	10Y 3/1	Gley (relict)	S	Depression with former tailwater	Upland
5	yes	yes	yes	10YR 3/1	no	SL	Flat area adjacent to unlined canal	Upland
6	yes	no	yes	10YR 3/1	no	SL	Broad swale with tailwater, adjacent to unlined canal	Upland
7	yes	yes	yes	10YR 3/1	no	LS	Edge of wetted irrigation swale	Upland
8	yes	no	yes	10YR 3/1	no	LS	Elevated area next to irrigation swale	Upland
9	yes	no	no	10YR 3/2	no	LS	Elevated rocky formation	Upland
10	yes	no	no	10YR 4/2	no	L5	Flat irrigated area	Upland
11	yes	no	no	10YR 4/2	no	LS	Bottom of small irrigation swale	Upland
12	yes	no	по	10YR 4/2	no	sand	Near formerly backwatered irrigation swale	Upland
13	yes	yes	yes	10YR 3/1	yes	LS	In formerly backwatered irrigation swale	Wetland

Key to column headers: ID (location number); Veg (hydrophytic vegetation dominant); Sat (saturated soil in upper 12"); ORC (oxidized root channels in upper 12"); Matrix (dominant Munsell soil color); Rdx (redoximorphic soil features in upper 12"); Tex (dominant soil texture: sand [S], sandy loam [SL], loamy sand [LS]); Call (wetland determination).



<sup>&</sup>lt;sup>1</sup>Pasture grasses were dominant at all locations, but unidentifiable due to grazing. Since all pasture grasses were inferred to be at least FAC (facultative), the wetland plant indicator was met at all locations. It is important to note that this inference may be overly conservative.

rrigation toll water tryigation tall water rom north improunds against canal berm ater ditch maintained by the county Direct questions regarding this map to: Geoffrey T. Gray (GG Environmental) 509-426-5645 mobile/gg@gg-env.com The data presented herein reflect site conditions encountered on 5/21/2021. Work was performed in accordance with accepted standards for professional wetland biologists and applicable and current federal, state, and local ordinances. Delineation date: 5/21/2021 All services provided by GG are without warranty, express or implied, except that services provided under this Agreement are performed GG in good faith and to the standards commonly practiced by professional wetland scientists. GG shall not be responsible for, and disclaims all liability for, any loss, liability, damage (whether direct, or consequential), personal injury, or expense of any kind which may be suffered by any person, or any third party (including a company), as a result of, or which may be attributable, directly or indirectly, to the services provided. upland sample irrigation ditch/swale irrigation ditch check dam irrigation pond wettest area observed irrigation weir irrigation canal study area irrigation culvert WETLAND AND STREAM DELINEATION Parcels #784434, 954945, 954946, 954947, 951674 GG Environmental Kittitas County, Washington

Figure 2. Wetland and Stream Delineation Results



#### 3.3. Geospatial Documentation

Features were geospatially surveyed with a Motorola G7 mobile phone, running the Mapit Spatial GIS application paired via Bluetooth® with a Juniper Systems Geode<sub>TM</sub> Multi-Global Navigation Satellite System (Multi-GNSS) receiver capable of sub-meter horizontal accuracy.

#### 3.4. Wetland Delineation, Rating, and Regulatory Jurisdiction

Wetlands were delineated using routine methods described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Corps 2008). Plants were identified by scientific name and wetland indicator status per Corps (2018).

Wetlands were rated per the Washington State Wetland Rating System for Eastern Washington – 2014 Update (Hruby 2014) and classified following the U.S. Fish and Wildlife Service (USFWS) Cowardin Classification System (Cowardin et al. 1979) and Hydrogeomorphic Classification System (HGM) by Brinson (1993).

Any wetlands or streams observed within the study area are regulated as Critical Areas under the Kittitas County Code (KCC) Chapter 17A because the study area lies beyond 200 feet of a Shoreline stream and outside the 100-year FEMA floodplain (Kittitas County 2021b, Appendix A-3).

## 4. Existing Conditions

### 4.1. Land Management

The property owner, Don Akehurst, has managed the property as cattle and horse pasture since 1986. He has not leveled the land as have the surrounding landowners, nor has he ever plowed the earth. As such, topography within the study area is slightly undulating with swales coursing between elevated alluvial rock formations.

### 4.2. Irrigation Practices

The study area lies upon an alluvial fan between Wilson and Naneum Creeks, upon which, according to historic aerial imagery, local farmers and ranchers have diverted flow to flood-irrigate the alluvial plain since at least 1954 (CWU 2021). For at least the past 67 years, water has been delivered to the study area from the north via two irrigation ditches. The west ditch receives diverted water from Wilson Creek, while the east ditch receives water from the KRD North Branch Canal (Figure 3). This water is then diverted across the property via a complex network of irrigation ditches, irrigation swales, weirs, and check dams, infrastructure that is constantly maintained and managed to collectively distribute water, via gravity flow, onto otherwise dry land.



irrigation canals irrigation weir irrigation ditches/swales irrigation culvert irrigation pond study area Map date: May 25, 2021 Aerial: Google satellite 2018 IRRIGATION INFRASTRUCTURE Direct questions regarding this map to: Geoffrey T. Gray (GG Environmental) 509-426-5645 mobile! gg@gg-env.com Parcels 171411-34006 and 171411-34007 Yakima County, Washington GG Environmental

Figure 3. Irrigation Infrastructure



#### Soils 4.3.

The soil surface is extremely compacted by cattle, except where wetted irrigation ditches and swales are utilized by cattle as mud wallows. According to the Akehursts, the soils of the property are porous and dry out very quickly. The lowest topographic areas only remain moist for a couple days after irrigation stops. No groundwater springs or areas with naturally-saturated soils (high groundwater) are present. An excavated pond is filled with irrigation water during the growing season, but once irrigation stops, the pond dries out completely. Without the introduction of irrigation water, the entire property is xeric.

The study area includes two soil map units (NRCS 2021a), comprised of (1) the Nack-Opnish complex, o to 2 percent slopes, on the east and west sides of the study area, and (2) Brickmill gravelly ashy loam, 0 to 2 percent slopes down the center, from north to south. Both soils are associated with alluvial fans and are comprised alluvium with volcanic ash at/near the surface.

The Nack-Opnish complex ranges from somewhat poorly drained (Nack) to moderately well drained (Opnish). Depth to the uppermost limit of the irrigation-induced water table is 12 to 40 inches.

The typical Nack soil profile is gravelly ashy loam (0-6"), clay loam (6-15"), and extremely gravelly sandy clay (15-60"). Soil colors are 10YR 3/2 moist (0-15") and 10YR 3/3 moist (15-39"). Few, fine, distinct redoximorphic concentrations (5YR 5/8) are observed past 15 inches. This soil unit does not flood or pond and is not listed as a hydric soil. The Nack soil series is used for irrigated crop production and livestock grazing. Native vegetation is greasewood and saltgrass. When irrigated, hay, oats, wheat, corn, potatoes, and peas are among the crops grown.

The typical Opnish soil profile is ashy loam (0-8"), ashy clay loam (8-13"), clay loam (13-26"), and extremely gravelly clay loam (26-60"). This soil unit does not flood or pond and is not listed as a hydric soil. Soil colors are 10YR 2/2 moist (0-13"), and 10YR 3/1 moist (13-19"). Redoximorphic features (stains) are not observed until 47 inches. The Opnish soil series is used for irrigated crop production and livestock grazing. Native vegetation is greasewood and saltgrass. When irrigated, hay, oats, wheat, corn, potatoes, and peas are among the crops grown.

Brickmill gravelly ashy loam is somewhat poorly drained with a water table ranging from 28 to 38 inches. The typical soil profile is gravelly ashy loam (0-12"), very gravelly ashy sandy loam (12-28"), extremely gravelly sandy loam (28-49"), and extremely gravelly loamy coarse sand (49-60"). This soil unit does not flood or pond and is not listed as a hydric soil. Soil colors are 10YR 2/2 moist (0-12"), and 10YR 4/3 moist (12-28"). Many large, prominent, redoximorphic concentrations (5YR 4/6) are observed past 28 inches. The Brickmill soil series is used for pasture, limited cropland, and wildlife habitat. Native vegetation is bluebunch wheatgrass, Sandberg bluegrass, and big sagebrush.

#### **Plants** 4.4.

The study area has been heavily grazed for many decades, yet, according to Don Akehurst, it has not been plowed or reseeded since 1986. Vegetation was cropped close to the soil surface, making plant identification difficult. Unidentified pasture grasses were dominant throughout the study area,



interspersed with Baltic rush (*Juncus balticus*) and intermittent patches of Rock Mountain iris (*Iris missouriensis*). Both rush and iris are commonly associated with wetlands, but their distribution across the property included elevated terrain that lacked hydric soil indicators. This strongly suggests their distribution and persistence is dependent on artificial hydrology supported by intentional irrigation practices. The wettest portions of irrigation ditch/swale bottoms are lined with pasture grasses well, but are interspersed with wetland-associated plants, including Baltic rush, yellow-flag iris (a Kittitas County Class C noxious weed) (Kittitas County 2020), and sedge.

#### 4.5. Streams

The study area lies approximately 1,200 feet east of Wilson Creek and approximately 3,600 feet west of Naneum Creek. An irrigation ditch that parallels the eastern boundary of the study area is referred to by locals as "Lyle Creek." However, no evidence of a mapped creek in this location was uncovered. Both the USGS topographic map (USGS 2021), and USGS National Hydrography Dataset (USGS 2019), show a mapped ditch in this location. The ditch is linear, is obviously excavated, and according to Don Akehurst, is only wetted during the irrigation season. For the above reasons, the ditch is not considered to be a stream and is referenced as an irrigation ditch in this report.

#### 4.6. Landscape

Adjacent properties are managed for agriculture, including leveled and irrigated pasture to the west, and leveled and irrigated alfalfa to the east.

The property to the north is not only leveled and irrigated for pasture and hay production, but it is also managed as a livestock feed lot. The property is flood irrigated, and tailwater flows south into the study area where it either impounds against the KRD canal berm or adds to irrigation water released at the study area's northeast corner.

Land use within one kilometer of the study area is entirely under agricultural management, primarily for pasture and hay production (Google 2021).

### 4.7. Precipitation and Hydrology

Chapter 19 of the Engineering Field Handbook (NRCS 2015) was referenced in determining if precipitation that fell within three months of the site visits was within the normal range (30-year average).

Drier than normal climatic conditions prevailed the three months prior to the May 21 field visit (**Appendix B**). However, due to the geomorphic character of the vicinity, combined with local irrigation practices, the relative contribution of precipitation toward soil moisture is negligible.

### 4.8. Growing Season

According to Climate Analysis for Wetlands Tables (WETS) (NRCS 2021b), the growing season (28 °F or greater) at the nearest AgACIS station (Ellensburg) demonstrates a 70 percent probability of occurring between April 16 and October 14 (181 days) and 50 percent between April 20 and October 10 (173 days). Fieldwork was completed during the growing season.



## 5. Findings

#### 5.1. Wetland Delineation Results

Thirteen locations were investigated across the property to document any variance in the hydrologic regime (irrigation practices), vegetation, and soils. The locations were strategically positioned to gather data from the wettest irrigation swale bottoms to the driest alluvial rock formations.

Because irrigation water supports hydrophytic vegetation, most locations exhibited both wetland hydrology and vegetation (hydrophytic vegetation was inferred), but lacked wetland soils. All three requisite indicators were documented in a single location (location 13), where they are demonstrably, and exclusively, supported by intentional irrigation practices.

No evidence of wetlands supported exclusively, or in part, by natural hydrology was observed. Alternatively, the presence of all wetland indicators observed, throughout the study area, can be reasonably explained by the history of intentional irrigation practices.

According to the Kittitas County Critical Areas Ordinance (CAO), Section 17A.02.310 (Kittitas County 2021b), wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, agricultural fields or areas of agricultural activities that exhibit wetland characteristics due to the introduction or influence of irrigation waters to those fields, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. The introduction or influence of irrigation waters to agricultural fields or areas of agricultural activities which cause those areas to exhibit wetland characteristics, even though the areas were non-wetland sites prior to the introduction or influence of irrigation waters, is defined in this section. This definition is taken from the statutory definition at RCW 36.70A.030(17). This statutory definition of wetlands specifically exempts a number of intentionally created wetlands, including but not limited to those related to irrigation systems. Due to the inherent design of most irrigation systems, such systems are reasonably and foreseeably expected to result in some leakage or seepage. Such seepage or leakage is a normal result of utilization of irrigation systems and is deemed for purposes of this chapter to be an artificial wetland intentionally created from a non-wetland site, and therefore such areas do not constitute wetlands.

Per county code, the wet area in which location 13 exhibited all three requisite wetland indicators is not regulated as a wetland. As such, no county-regulated wetlands were observed within the study area.

Wetland delineation data forms are included in **Appendix C**. Representative photos of the study area are included in **Appendix D**. A large-format map of delineation results is included in **Appendix E**.



### 5.2. Species and Habitats of Interest in the Vicinity

Sensitive species and habitat lists are maintained by the United States Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), and Washington Department of Fish and Wildlife (WDFW). These lists were queried for the project vicinity,<sup>2</sup> the results for which are summarized in **Tables 2 and 3**.

Table 2. Sensitive species and habitats mapped in the vicinity

Common Name	Scientific Name	Federal Status <sup>a</sup>	State Status <sup>b</sup>	
Canada lynx	Lynx canadensis	Threatened	Endangered	
Gray wolf	Canus lupus	Delisted <sup>3</sup>	Endangered	
yellow-billed cuckoo	Coccyzus americanus	Threatened	Endangered	
bull trout	Salvelinus confluentus	Threatened	Candidate	
MCR DPS <sup>c</sup> steelhead	Oncorhynchus mykiss	Threatened	Candidate	

a USFWS (2021b), NOAA (2021b), WDFW (2020), Distinct Population Segment

Table 3. WDFW priority habitats and species listed near the study area.

Fish	Mammal	Birds	Reptile	Habitats
none	none	none	none	Freshwater emergent wetland/riverine

a WDFW (2021)

<sup>&</sup>lt;sup>2</sup> Results are for general reference only within the query zone, and do not conclusively determine that a particular species or habitat is present.

 $<sup>^3</sup>$  The USFWS delisted the gray wolf in the lower 48 states on 11/3/2020 (85 FR 69778 69895).

### 6. Limitations

The data presented herein reflect site conditions encountered on May 21, 2021. Work was performed in accordance with accepted standards for professional wetland biologists and applicable and current federal, state, and local ordinances.

Although the report is accurate and complete to the best of available scientific knowledge, it should be considered a preliminary determination, with no warranty, express or implied, until it has been reviewed, and approved in writing, by appropriate jurisdictional authorities.

## Consultant Qualifications

Geoffrey Gray is a professional biologist and wetland scientist whose 24-year career has provided him with a unique breadth of experience that can readily assist you in moving your project forward.

Investing eight years in higher education, he earned a Bachelor's Degree in Business Management and a Master's degree in Biology from California State University at Fresno.

Geoffrey has earned 12.4 credit hours of certified professional wetland training, including completion of the 38-hour Army Corps of Engineers (Corps) Wetland Delineation and Management Training Program, as well as Corps Advanced Wetland Delineation, Corps Delineation Manual Regional Supplements, Washington State Department of Ecology (Ecology) 2014 Wetland Rating System, Ecology Credit-Debit Method for Estimating Mitigation Needs, Ecology Selecting Wetland Mitigation Sites Using a Watershed Approach, and multiple courses in wetland plant identification.

Continuously employed as a wetland, fish, and wildlife biologist since 1997, while serving tenures in field research, a large environmental consulting firm, state agencies in both California and Washington, and as an independent environmental consultant, Geoff's resume includes over 16 years of full-time duty as a wetland biologist, with experience ranging from the unique vernal pool wetland habitats of California's Central Valley to the diverse wetlands of Eastern Washington State, stretching from the Cascade crest to Idaho. Spanning his career, Geoff has performed over 85 wetland delineations and has managed 40 wetland mitigation/riparian restoration sites. As a fish and wildlife biologist, he has evaluated over 620 projects for compliance under the Endangered Species Act, including over 120 federal consultations.

Geoff founded GG Environmental in 2015, and has since served a diverse palette of clients including habitat restoration groups, private landowners, commercial businesses, and local governments who need assistance in overcoming the challenges of Critical Areas/Shorelines permitting and Endangered Species Act consultation.

A professional-level GPS/GIS user for over 20 years, Geoff employs cutting-edge GPS technology in the field and is proficient in GIS mapping with ArcGIS and QGIS.

Certified as a Professional Wetland Scientist by the Society of Wetland Scientists, Geoff's work is performed to the highest standards and is fully insured (StarStone #R80561190AEM).



## 8. References

- Brinson, M.M. 1993. A Hydrogeomorphic Classification for Wetlands. Vicksburg (MS): US Army Engineer Waterways Experiment Station. Technical Report WRP-DE-4.
- [Corps]. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), Wakeley JS, Lichvar RW, Noble CV, editors. Vicksburg (MS): US Army Engineer Research and Development Center. ERDC/EL TR-08-28. Available at: https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg\_supp/
- [Corps]. 2018. National Wetland Plant List, version 3.4. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- Central Washington University. 2021. Department of Geology. Central Washington Historical Aerial Photograph Project [Internet]. Available at: https://www.gis.cwu.edu/geog/historical\_airphotos/
- Cowardin L.M., Carter V., Golet F.C., LaRoe E.T. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Fish and Wildlife Service. Washington DC. FWS/OBS-79/31. Available at: <a href="https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf">https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf</a>
- [DNR] Washington State Department of Natural Resources. 2021a. Washington Natural Heritage High Conservation Value Element Occurrence Data [Internet]. Available at: <a href="http://data-wadnr.opendata.arcgis.com/datasets/washington-natural-heritage-program-element-occurrences-current">http://data-wadnr.opendata.arcgis.com/datasets/washington-natural-heritage-program-element-occurrences-current</a>
- [DNR] 2021b. Washington Wetlands and Plants of High Conservation Value Map Viewer. Available at: https://wadnr.maps.arcgis.com/apps/webappviewer/index.html?id=5cf9e5b22f584ad7a4e2ae bc63c47bda
- [DNR] 2021c. Washington LIDAR Portal. Division of Geology and Earth Resources. Available at: https://lidarportal.dnr.wa.gov/#47.33743:-121.32236:12
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Vicksburg (MS): US Army Engineer Waterways Experiment Station. Technical Report Y-87-1. Available at: <a href="http://www.swl.usace.army.mil/Portals/50/docs/regulatory/wlman87.pdf">http://www.swl.usace.army.mil/Portals/50/docs/regulatory/wlman87.pdf</a>
- Google. 2021. Google Earth Pro Historic Aerial Imagery [Software Program]. Download available at: <a href="https://www.google.com/earth/versions/">https://www.google.com/earth/versions/</a>
- Hruby T. 2014. Washington State Wetland Rating System for Eastern Washington 2014 Update. Department of Ecology Publication. Publication #14-06-030. Available at: https://fortress.wa.gov/ecy/publications/SummaryPages/1406030.html
- Kittitas County Noxious Weed Control Board. 2020. Noxious Weed List. Available at: https://www.co.kittitas.wa.us/uploads/documents/noxious-weeds/2020\_KC-Noxious-Weed-List.pdf



- Kittitas County. 2021a. Compas. Available at: https://kitcogis.maps.arcgis.com/apps/webappviewer/index.html?id=8bcc146d9c2847acb2e9 aa239187c25e
- Kittitas County. 2021b. Kittitas County Code, Title 17A Critical Areas. Available at: https://www.co.kittitas.wa.us/boc/countycode/title17a.aspx
- [NOAA] National Oceanic and Atmospheric Administration. 2021a. West Coast Region. Endangered Species Act Critical Habitat Mapper [Internet]. Available at:

  <a href="https://www.arcgis.com/apps/MapJournal/index.html?appid=75e5f6b4387f4809b5a6b1f251e">https://www.arcgis.com/apps/MapJournal/index.html?appid=75e5f6b4387f4809b5a6b1f251e</a>
  38bda#
- [NOAA] 2021b. ESA Threatened and Endangered Species. Available at:
   https://www.fisheries.noaa.gov/species-directory/threatened endangered?title=&species\_category=1000000031&species\_status=any&regions=1000001126
   &items\_per\_page=25&sort=
- [NRCS] Natural Resource Conservation Service. 2006. Land Resource Regions and Major Land Resources Areas of the United States, the Caribbean, and the Pacific Basin. United States Department of Agriculture, Natural Resources Conservation Service. United States Department of Agriculture Handbook 296. Issued 2006. Available at: https://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs142p2\_050898.pdf
- [NRCS] 2015. Hydrology Tools for Wetland Identification and Analysis. Chapter 19 in Part 650 Engineering Field Handbook. Pages 19-85 through 19-89. US. Department of Agriculture, NRCS. Available at:

  <a href="https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=37808.wba">https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=37808.wba</a>
- [NRCS] 2021a. Web Soil Survey [Internet]. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
- [NRCS] 2021b. Field Office Technical Guide. Agricultural Applied Climate Information System (AgACIS). Climate Data for Kittitas County, Station Ellensburg, including WETS tables. Available at: http://agacis.rcc-acis.org/?fips=53037
- [USFWS] US Fish and Wildlife Service. 2021a. National Wetland Inventory (NWI) mapper [Internet].

  Available at: https://www.fws.gov/wetlands/data/Mapper.html
- [USFWS] 2021b. Information for Planning and Conservation (IPaC) [Internet]. Available at: <a href="https://ecos.fws.gov/ipac/">https://ecos.fws.gov/ipac/</a>
- [USFWS] 2021c. Critical Habitat Mapper [Internet]. Available at:

  <a href="https://www.arcgis.com/home/webmap/viewer.html?url=https://services.arcgis.com/QVENGd">https://www.arcgis.com/home/webmap/viewer.html?url=https://services.arcgis.com/QVENGd</a>

  <a href="mailto:apbd4LUkLV/ArcGIS/rest/services/USFWS">apbd4LUkLV/ArcGIS/rest/services/USFWS</a> Critical Habitat/FeatureServer/0&source=sd
- [USGS] 2019. United States Geological Survey. National Geospatial Program. National Hydrography Dataset. Available at: https://ecology.wa.gov/Research-Data/Data-resources/Geographic-Information-Systems-GIS/Data#s
- [USGS] 2021. United States Geological Survey. 2020. 7.5 Minute Quadrangle Maps. Available at: <a href="https://store.usgs.gov/map-locator">https://store.usgs.gov/map-locator</a>



[WDFW] Washington State Department of Fish and Wildlife. 2019. State-listed Species. Revised June 2019 [Internet]. Available at: <a href="https://wdfw.wa.gov/sites/default/files/2019-06/threatened%20and%20endangered%20species%20list.pdf">https://wdfw.wa.gov/sites/default/files/2019-06/threatened%20and%20endangered%20species%20list.pdf</a>

[WDFW]. 2021. Priority Habitats and Species (PHS). PHS On the Web [Internet]. Available at: http://apps.wdfw.wa.gov/phsontheweb

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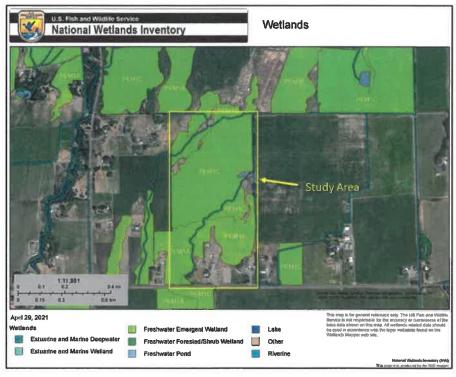
June 3, 2021

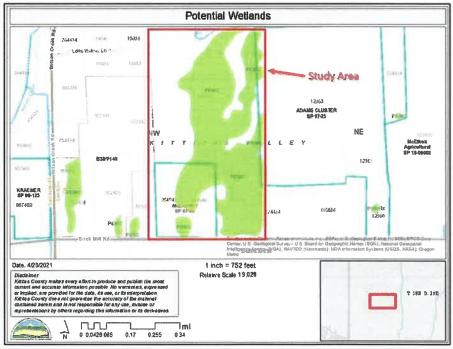
# **Appendix A. Background Information**

#### Appendix A includes the following sub-appendices:

- A-1 USFWS NWI and Kittitas County Wetlands Maps
- A-2 NRCS Soil Survey Map
- A-3 Kittitas County Floodplain and Shorelines Map
- A-4 1954 Historic Aerial Image

### Appendix A-1. USFWS NWI and Kittitas County Wetlands







## **Appendix A-2.** NRCS Soil Survey Map



	. 24 1 1		
Map U	nit Legend		
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
590	Brickmill-Nanum complex, 0 to 5 percent slopes	2.6	1.09
601	Brickmill gravelly ashy loam, 0 to 2 percent slopes	107.8	41.49
795	Nack-Opnish complex, 0 to 2 percent slopes	149.8	57.69

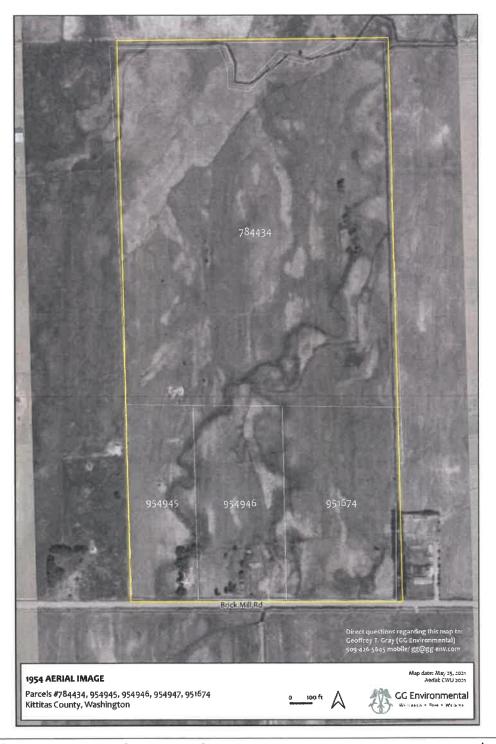


## **Appendix A-3.** Floodplain and Shorelines



June 3, 2021

## Appendix A-4. 1954 Historic Aerial Image





## **Appendix B. Precipitation Analysis**

Precipitation analysis per NRCS (2015). All data were obtained from the AgACIS weather station<sup>4</sup> at Ellensburg.

Drier than normal climatic conditions prevailed the previous three months prior to May 21, 2021 fieldwork.

Long-term rainfall records
(inches)

1st prior month 2<sup>nd</sup> prior month 3<sup>rd</sup> prior month

		(						
Month	3 yrs. in 10 less than	Average	3 yrs. in 10 more than	Total Rainfall Obs. <sup>2</sup>	Condition dry, wet, normal <sup>3</sup>	Condition Value	Month weight value4	Product of previous two columns
Apr	0.35	0.59	0.71	0.11	Dry	1	3	3
Mar	0.36	0.76	0.93	0.06	Dry	1	2	2
Feb	0.59	0.91	1.10	0.60	Normal	2	1	2

<sup>&</sup>lt;sup>5</sup>6-9: drier than normal, 10-14: normal, 15-18: wetter than normal.

Date (2021)	Precipitation Total (inches)
May 21 (fieldwork)	o.o6 (fell after fieldwork completed)
May 20	0.04
May 11-19	0

<sup>1</sup> WETS table (NRCS 2021d); Accumulated Daily Precipitation (NRCS 2021d); WETS table "30% more than and 30% less than values ere referenced to compare recorded rainfall to statistically-normal precipitation; 4Value: Dry = 1; Normal = 2; Wet = 3;

<sup>4 (</sup>NRCS 2021d). AgACIS station: Ellensburg, Kittitas County (FIPS 53037).

# **Appendix C. Wetland Delineation Data Forms**

### WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Akehurst Short Plat		Ci	ty/County:	Unincorpora	ated/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	tilities Inc.			Sta	te: WA Sampling Point: 1
Investigator(s): Geoffrey Gray (GG Environmental)		Se	ection, Tow	nship, Rang	e: NW1/4 S20-T18N-R19E
Landform (hillstope, terrace, etc.): alluvial fan		—— Lo	cal relief (c	concave, cor	nvex, none): convex Slope (%): 0-2
Subregion (LRR): B	Lat: 47	7° 2'36.9			120°29'29.36"W Datum: WGS 84
Soil Map Unit Name: Brickmill gravelly ashy loam, 0					NWI Classification: upland
			0 O V		
Are climatic / hydrologic conditions on the site typica		•	_		_
Are Vegetation , Soil , or Hydrology		-			Normal Circumstances" present?   Yes   No
Are Vegetation, Soil, or Hydrology	naturally p	roblema	tic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site	nap shov	ving sa	ampling	point loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes  Yes	O No	D		e Sampled in a Wetlan	
	applied we	ekly thro	ughout the	growing sea	t 1954 and has been managed as beef cattle pasture ason. Irrigation ditches, dikes, and swales are maintained normal the previous three months.
<b>VEGETATION – Use scientific names of</b>	plants.				
	Absolute	Dom.	Relative	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20ft x 20ft )	% Cover			Status	Number of Dominant Species
1. none	9			#N/A	That Are OBL, FACW, or FAC: 1 (A)
2	1				Total Number of Dominant
3	0				Species Across All Strata: 1 (B)
4					Percent of Dominant Species
		= Total	Cover		That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )					
1. none				#N/A	Prevalence Index worksheet:
2					Total % Cover of: Multiply by:
3				******	OBL species 0 x1 = 0
5.	<u></u>				FACW species 10 x 2 = 20 FAC species 80 x 3 = 240
5		= Total	Cover		FACU species 10 x 4 = 40
Herb Stratum (Plot size: 5ft x 5ft )		- rotar	COVE		UPL species 0 x5 = 0
1. pasture grass	80	Υ	80.0	FAC	Column Totals: 100 (A) 300 (B)
2. Taraxacum officinale	5	N	5.0	FACU	
3. Iris missouriensis	10		10.0	FACW	Prevalence Index = B/A = 3.000
4. Cirsium arvense	5	N	5.0	FACU	Hydrophytic Vegetation Indicators:
5					☑ Dominance Test is >50%
6					Prevalence Index is ≤3.0¹
7.	i				Morphological Adaptations¹ (Provide supporting
8					data in Remarks or on a separate sheet)
	100	= Total	Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )				40.174	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>none</u> 2.				#N/A	be present, unless disturbed of problematic.
2.		= Total	Cover		Hydrophytic
		- Total	Covei		Vegetation   Yes  No
% Bare Ground in Herb Stratum 0 %	Cover of Bi	iotic Cru	st 0		Present?
		VIU			
Remarks:	ntifiable to or	nacies	Accumed a	Il nacture or	ass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observa		/CUICO. /	masuilleu d	ıı pasture gi	ass species are FAC, to be conservative. FAC grasses
	•				

epth epth		Matrix			dox Features		·	m the abse		,		
nches)	Color (m		% C	Color (moist)			OC <sup>2</sup>	Textu	ıre		Remarks	
-12	10YR	3/2		one		<u> </u>		Sandy Loa		very dry (d	colored while	
	TOTA		100 11	Olic						shovel de		weij
2								large cobb		Shover de	Illai	
<u> </u>												
 Гуре: C=Co	ncentration.	D=Depletic	on, RM=Redu	uced Matrix, CS	S=Covered or	r Coated S	and G	rains.	²Loc	ation: PL=F	ore Lining, M	1=Matrix.
Histosol (  Histic Ep	(A1) ipedon (A2) stic (A3)			s, unless othe Sandy Redox ( Stripped Matrix Loamy Mucky I	S5) ( (S6) Mineral (F1)	.)			1 cm 2 cm Redu	Muck (A9) Muck (A10) ced Vertic (	) (LRR B) F18)	ic Soils³
Stratified 1 cm Mu Depleted	n Sulfide (A4 I Layers (A5) ck (A9) (LRF I Below Dark	(LRR C) (D) Surface (A	(11)	Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	x (F3) rface (F6) Surface (F7)	ı			Othe	Parent Mate r (Explain in	n Remarks)	
Sandy M Sandy Gl	rk Surface (/ ucky Mineral leyed Matrix	(S1) (S4)	=	Redox Depress Vernal Pools (F					wetland h		ohytic vegetati nust be presei natic.	
	Layer (If pre	esent):										
Type: Depth (in	ches):							Livelei	Soil Pr	ecent?	Yes	No
				e in the upper				lowed since	: 1986, w	ith thick roc	ot sod from 1-	4" thick.
it dug on ro roperty is a istribution.	n alluvia fan			e in the upper elevated rocky				lowed since	: 1986, w	ith thick roc	ot sod from 1-	4" thick.
Pit dug on ro Property is a istribution.	n alluvia fan	, interspers						lowed since	: 1986, w	ith thick roc	ot sod from 1-	4" thick.
rit dug on ro rroperty is a istribution.  YDROLO  Vetland Hy- rimary India	or alluvia fan  OGY  drology Ind  cators (minir  Water (A1)	icators:	sed by linear,	elevated rocky	mounds, be			lowed since	: 1986, wons/swale	ith thick roces are utilized the same utilized t	ot sod from 1- ed for irrigation	4" thick. on water
t dug on roroperty is a stribution.  TDROLO  Tetland Hydrimary India  Surface V  High Wat  Saturatio  Water Ma	or alluvia fan drology Ind cators (minir Water (A1) ter Table (A2) on (A3) arks (B1) (Ne	icators: mum of one 2) onriverine)	e required; ch	eck all that app Salt Crust Biotic Crus Aquatic In Hydrogen	mounds, be	(B13)	ch sligl	lowed since	Secondar Wate Sedin Drift Drain	y Indicators r Marks (B1 nent Deposits (B2 age Pattern	s (2 or more I) (Riverine) its (B2) (Riverine) is (B10)	4" thick. on water
roperty is a sistribution.  YDROLO  Yetland Hydrimary India Surface V High Wat Saturatio Water Ma Sediment Drift Dep Surface S Inundation	or alluvia fan drology Ind cators (minir Water (A1) ter Table (A2) on (A3)	icators: mum of one 2) conriverine) 32) (Nonriverine) Nonriverine	e required; cherine)	eck all that app Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence of Recent Iro	ply) (B11) st (B12) wertebrates (	(B13) (C1) along Livin ron (C4) in Tilled Sc 7)	g Roof	lowed since th depression	Secondar Wate Sedin Drift Drain Crayf Satur Shalld	y Indicators r Marks (B1 nent Deposit Deposits (B) age Pattern Geason Wate	s (2 or more I) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	4" thick. on water required)
it dug on roroperty is a istribution.  YDROLO  Yetland Hyrimary India Surface N High Water Ma Sediment Drift Dep Surface S Inundation Water-St	drology Ind cators (minir Water (A1) ter Table (A2) arks (B1) (No t Deposits (B3) (No Soil Cracks (I on Visible on cained Leave	icators: mum of one 2) conriverine) 32) (Nonriverine) Nonriverine	e required; cherine)	eck all that app Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence of Recent Iro	ply) (B11) (B12) vertebrates ( Sulfide Odor Rhizospheres of Reduced In	(B13) (C1) along Livin ron (C4) in Tilled Sc 7)	g Roof	lowed since th depression	Secondar Wate Sedin Drift Drain Crayf Satur Shalld	y Indicators r Marks (B1 nent Deposit Deposits (B1 age Pattern Beason Wate ish Burrows ation Visible ow Aquitard	s (2 or more I) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	4" thick. on water required)
roperty is a sistribution.  POROLO  Petland Hydrimary India Surface V High Water Marcon Sediment Drift Dep Surface S Inundatio Water-St ield Observariace Water Table	drology Ind cators (minin Water (A1) ter Table (A2 on (A3) arks (B1) (No t Deposits (B3) (No t Deposits (B3) (No Soil Cracks (Ion Visible on cained Leave vations: ter Present?	icators: mum of one 2) conriverine) 32) (Nonriverine) 86) A Aerial Imas s (B9)  Yes Yes	e required; cherine)  agery (B7)  No  No	eck all that ap Salt Crust Biotic Crus Aquatic In Hydrogen Oxidized F Presence G Recent Irc Thick Muc Other (Exp	ply) (B11) st (B12) vertebrates ( Sulfide Odor Rhizospheres of Reduced In on Reduction k Surface (Ci plain in Remaines):	(B13) (C1) along Livin ron (C4) in Tilled Sc 7) arks)	g Root	lowed since th depression ts (C3)	Secondar  Secondar  Wate  Sedin  Drift  Drain  Dry-S  Crayf  Satur  Shalld  FAC-I	y Indicators r Marks (B1 nent Deposit Deposits (B1 age Pattern Geason Wate ish Burrows ation Visible ow Aquitard Neutral Test	s (2 or more I ) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) s (C8) e on Aerial Im I (D3) t (D5)	4" thick. on water required) rine)
YDROLO  Yetland Hydrimary India Surface V High Water Ma Sediment Drift Dep Surface S Inundation Water-St Water-St Water-St Water-St Water Table Saturation P includes ca	drology Ind cators (minin Water (A1) ter Table (A2) on (A3) arks (B1) (Not t Deposits (B3) (Not to Deposits (B	icators: mum of one 2) conriverine) 32) (Nonriverine) B6) Aerial Imass (B9)  Yes Yes Yes Yes	erine) ) agery (B7)  No No No	eck all that ap Salt Crust Biotic Crus Aquatic In Hydrogen Oxidized F Presence G Recent Irc Thick Muc Other (Exp	oly) (B11) st (B12) vertebrates ( Sulfide Odor Rhizospheres of Reduced In on Reduction sk Surface (Ci plain in Rema	(B13) (C1) along Livin ron (C4) in Tilled Sc 7) arks)	g Roof	lowed since th depression ts (C3)	Secondar Wate Sedin Drift Drain Satur Shalld FAC-I	y Indicators r Marks (B1 nent Deposit Deposits (B1 age Pattern Geason Wate ish Burrows ation Visible ow Aquitard Neutral Test	s (2 or more I) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	4" thick. on water required)
YDROLO  Yetland Hydrimary India  Saturatio  Water Ma  Sediment  Drift Dep  Surface S  Inundatio  Water-St  Water Table  Saturation P  Includes cal	drology Ind cators (minin Water (A1) ter Table (A2) on (A3) arks (B1) (Not t Deposits (B3) (Not to Deposits (B	icators: mum of one 2) conriverine) 32) (Nonriverine) B6) Aerial Imass (B9)  Yes Yes Yes Yes	erine) ) agery (B7)  No No No	eck all that app Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence G Recent Irc Thick Muc Other (Ext	oly) (B11) st (B12) vertebrates ( Sulfide Odor Rhizospheres of Reduced In on Reduction sk Surface (Ci plain in Rema	(B13) (C1) along Livin ron (C4) in Tilled Sc 7) arks)	g Roof	lowed since th depression ts (C3)	Secondar Wate Sedin Drift Drain Satur Shalld FAC-I	y Indicators r Marks (B1 nent Deposit Deposits (B1 age Pattern Geason Wate ish Burrows ation Visible ow Aquitard Neutral Test	s (2 or more I ) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) s (C8) e on Aerial Im I (D3) t (D5)	4" thick. on water required) rine)

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Akehurst Short Plat		City/County: Unincorporated/Kittitas Sampling Date: 5/21/2021					1	
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.		State: WA Sampling Point: 2					
Investigator(s): Geoffrey Gray (GG Environmental)		Secti	Section, Township, Range: NW1/4 S20-T18N-R19E					
Landform (hillslope, terrace, etc.): swale		Local	Local relief (concave, convex, none): concave Slope (%					0-2
Subregion (LRR): B	Lat: 47° 2				20°29'28.81"W		WGS 84	
Soil Map Unit Name: Brickmill gravelly ashy loam, 01	to 2 percent slo	pes		_ `-		ation: upland		
Are climatic / hydrologic conditions on the site typical			○ Ye	s 📵 N		ain in Remarks	.)	
Are Vegetation ✓ , Soil ✓ , or Hydrology ✓	significantly d	-	_		lormal Circumstand		~	○ No
Are Vegetation , Soil , or Hydrology	naturally prob				eded, explain any a		-	O 110
	* *							
SUMMARY OF FINDINGS – Attach site n	nap snowin	g sam	ibiiiid k	JOINT IOCA	ttions, transec	ts, importai	it reature	es, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Yes  Yes	O No No			Sampled A		○ Yes	<ul><li>No</li></ul>	
Wetland Hydrology Present?	O No		WILLIE	ii a wellalit			<b>©</b> 110	
Remarks: Pit dug within a broad, irrigated depression down-gr been managed as beef cattle pasture since 1986. V ditches, dikes, and swales to distribute flood irrigation months.  VEGETATION – Use scientific names of	egetation is gra on water throug	azed sho	ort. Irriga	ation is appl	ed weekly througho	out the growing	season via	maintained
VEGETATION – Use scientific names of	piants.							
			Relative	Indicator	Dominance Test	worksheet:		
Tree Stratum (Plot size: 20ft x 20ft )	% Cover S	p.? <u>%</u>	Cover	Status #N/A	Number of Domin			/A\
1. none				#IV/A	That Are OBL, FA		1	- <sup>(A)</sup>
2.					Total Number of I Species Across A		1	(B)
					Percent of Domin			- (5)
4		Total Co	ver		That Are OBL, FA		100.0%	(A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft)					<u> </u>	•		_ ` ` ' /
1. none				#N/A	Prevalence Inde	x worksheet:		
2					Total % Cov	er of:	Multiply by:	_
3					OBL species	0 x	I =0	
4					FACW species		2 =20	_
5					FAC species		3 = 270	
Herb Stratum (Plot size: 5ft x 5ft )		Total Co	ver		FACU species UPL species		$\frac{1}{5} = \frac{0}{0}$	-
1. pasture grass	90	Υ	90.0	FAC	Column Totals:	100 (A		— (B)
2. Juncus balticus		<u>.                                    </u>	5.0	FACW	Octobril Fotolo.			— (S)
3. Iris missouriensis	5	<u>N</u> –	5.0	FACW	Prevalence	Index = B/A =	2.900	_
4.					Hydrophytic Veg	etation Indica	tors:	
5					✓ Dominance T	est is >50%		
6					Prevalence Ir			
7						I Adaptations¹		
8						rks or on a sep		
No distance Obstance (Distance Figure Figure	= 1	Total Co	ver			lydrophytic Ve		
Woody Vine Stratum (Plot size: 5ft x 5ft )				481/6	<sup>1</sup> Indicators of hyd be present, unles			
1. <u>none</u> 2.				#N/A	be present, unies	3 distalbed of p	nobicinatio.	
2	=7	Fotal Co	ver		Hydrophytic Vegetation	Yes	0 1	lo.
% Bare Ground in Herb Stratum0 %	Cover of Biotic	Crust_	0	_	Present?	J 160		
Remarks:								
Vegetation is grazed short. Grass is not easily ider are common on irrigated pasture (personal observa	•	ies. Ass	sumed al	I pasture gra	ass species are FA	C, to be conser	vative. FAC	C grasses
are common on imgated pasture (personal observa	uon).							

SOIL								Sampling	Point: 2		
Profile Des	cription: (De	scribe to the	depth ne	eded to document the		nfirm the	e absence of i	ndicators.)			
Depth (inches)	Matrix Color (moist)			Redox Features  Color (moist) % Type¹ Loc²			Texture	Remarks			
0-4	10YR	oist) % 3/3 100	_	one	Туро	loar		very dense, thick sod layer			
4-16	10YR	3/1 100	_	one			ndy Loam		,	.,,	
16+						cob		shovel der	nial		
10.			_					5110101 001	THE STATE OF THE S		
						0,=		-			
			_								
								-			
			_			-		-			
1T C C		D-Depletion	DM-Dadi	and Matrix CS=Cayora	d or Coated Con	- Croins	21.04	notion: DI =E	ore Lining, M	I–Matrix	
				ced Matrix, CS=Covered, unless otherwise not		ia Grains			ematic Hydr		
Histosol (A1) Sandy Redox (S5)							1 cm Muck (A9) (LRR C)				
	pipedon (A2)			Stripped Matrix (S6)				Muck (A10)			
Black Histic (A3)				Loamy Mucky Mineral (F1)			Reduced Vertic (F18)				
= -	en Sulfide (A4	•	_	Loamy Gleyed Matrix (F2)			Red Parent Material (TF2) Other (Explain in Remarks)				
	d Layers (A5) uck (A9) (LRR			Depleted Matrix (F3) Redox Dark Surface (F6)				r (Explain in	Remarks)		
Printers .		Surface (A11)	=	Depleted Dark Surface (1							
Thick Dark Surface (A12) Redox Depressions (F8)							3Indicators of hydrophytic vegetation and				
Sandy Mucky Mineral (S1)							wetland hydrology must be present, unless				
	Gleyed Matrix						aisturbed	d or problem	atic.		
	Layer (if pre	sent):									
Type: _				_,			Hadda Call D		○ Yes	No	
	nches):			=:			Hydric Soil P	esentr			
Remarks:	hroad ewale/	denression N	o redov o	bserved. Soil is highly p	ermeable in the	unner la	were Soils hav	ve not heen	nlowed since	1986 with	
thick root se	od from 1-4" t	nick. Property	is an allu	via fan, interspersed by	linear, elevated	rocky mo	ounds, betweer	which sligh	t depressions	/swales are	
	rrigation wate				·	-		_			
IYDROL	OGY										
Wetland H	ydrology Indi	cators:									
		num of one red	quired; ch	eck all that apply)					(2 or more r	equired)	
=	Water (A1)	`		Salt Crust (B11) Biotic Crust (B12)			Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)				
☐ □ □ □ □ Wa ☑ Saturati	ater Table (A2 on (A3)	)		Aquatic Invertebrate	es (B13)			Deposits (B3		iiie)	
=	1arks (B1) (No	onriverine)		Hydrogen Sulfide Odor (C1)				nage Patterns			
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots							:3) 🔲 Dry-9	Season Wate	er Table (C2)		
=	Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)							fish Burrows		(00)	
Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Thick Muck Surface (C7)							=		on Aerial Im	agery (C9)	
=	Stained Leaves	_	y (D/)	Other (Explain in Re				ow Aquitard Neutral Test			
Field Obse		- (==)			1						
	ater Present?	○ Yes	No	Depth (inches):							
Water Tabl		O Yes	No	Depth (inches):							
Saturation		○ Yes	No	Depth (inches):	14	Wetlan	nd Hydrology F	resent?	Yes	○ No	
(includes ca	apillary fringe)		2504								
Describe R	ecorded Data	(stream gaug	e, monitor	ing well, aerial photos, p	revious inspecti	ions), if a	available:				
Remarks:											
				hat redirect water, via gr			adient irrigation	canal. Irrig	ation had bee	en applied	
within the p	oasi week. Sa	iluration depth	is greate	than 12". No oxidized i	oot charmers of	Jaci Ved.					

Project/Site: Akehurst Short Plat		_ City/Co	ounty: L	Jnincorpora	ted/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Uti	ilities Inc.			Staf	te: WA Sampling Point: 3
Investigator(s): Geoffrey Gray (GG Environmental)		Section	n, Town	ship, Range	e: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.): flat		Local r	relief (co	oncave, con	vex, none): none Slope (%): 0-2
					20°29'22.49"W Datum: WGS 84
Soil Map Unit Name: Brickmill gravelly ashy loam, 0 t					NWI Classification: upland
Are climatic / hydrologic conditions on the site typical			○ Ye	s	
Are Vegetation , Soil , or Hydrology		-	_		Normal Circumstances" present?   Yes   No
Are Vegetation , Soil , or Hydrology	-				eded, explain any answers in Remarks.)
	* *				ations, transects, important features, etc.
SOMMAN OF FINDINGS - Attach site is	nap snowing	y Sallip	pinig p	OHIL IOCA	auons, transects, important leatures, etc.
Hydrophytic Vegetation Present?   Yes	○ No		Is the	Sampled A	irea
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No No			a Wetland	
	O NO				
Remarks:  Pit dug just north of a depression in which flood irrig	ation water from	n hevond	d the pro	norh/e nori	h houndary flows south and impounds against an
	•				hort. Irrigation ditches, dikes, and swales are maintained
to distribute flood irrigation water throughout the pro-	perty. Climatic	condition	ns were	drier than r	normal the previous three months.
VEGETATION – Use scientific names of	plants.				
	Absolute Do	m. Re	elative	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20ft x 20ft )	% Cover Sp	p.? % (	Cover	Status	Number of Dominant Species
1. none				#N/A	That Are OBL, FACW, or FAC:1 (A)
2					Total Number of Dominant
3					Species Across All Strata: 1 (B)
4		-4-1			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )		otal Cove	ег		That Are OBL, FACW, or FAC: 100.0% (A/B)
1 1000				#N/A	Prevalence Index worksheet:
2					Total % Cover of: Multiply by:
3.					OBL species 0 x 1 = 0
4.					FACW species 5 x 2 = 10
5.					FAC species 95 x 3 = 285
	=т	otal Cove	ег		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft x 5ft )					UPL species0 x 5 =0
1. pasture grass			95.0	FAC	Column Totals:(A)(B)
2. Juncus balticus 3.		N :	5.0	FACW	Prevalence Index = B/A = 2.950
					Hydrophytic Vegetation Indicators:
5.					Dominance Test is >50%
5					✓ Prevalence Index is ≤3.0¹
7.					Morphological Adaptations¹ (Provide supporting
8.					data in Remarks or on a separate sheet)
	100 = T	otal Cove	er		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )					<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1. <u>none</u>				#N/A	be present, unless disturbed or problematic.
2					Norden about
	= T	otal Cove	er		Hydrophytic Vegetation    Yes  No
W Down Countries Host Charters O	O	01			Present?
	Cover of Biotic	- Grust	0	_	
Remarks:	tifiable to speci	oe Ase.	umed ell	nacture co	ass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observa		63. MSSL	umeu di	r hasinie Als	ass species are FAC, to be conservative. FAC grasses
	•				

SOIL										Sampling	Point: 3	
Profile Des	scription: (De	escribe to	the depth	needed to docu	ment the	indicator	or confi	rm the ab	sence of	indicators.)		
Depth		Matrix		Re	dox Featu							
(inches)	Color (n	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Te	xture		Remarks	<u> </u>
0-4	10YR	3/3	100	none				sandy lo	oam	very dens	e, thick sod I	ауег
4-12+	10YR	3/1	100	none				sandy lo	oam			
						-						
5												
										-		
						- —						
							**	-		-		
-							101		21		Nama I liabana A	4-14-4-4-
				educed Matrix, C			ed Sand	Grains.			Pore Lining, N lematic Hyd	
Histoso		(Applica	DIE LO AII EN	Sandy Redox		eu.,			_	n Muck (A9)	_	
	pipedon (A2)		F	Stripped Matri						n Muck (A10)		
	istic (A3)		Ī	Loamy Mucky	Mineral (F	1)			Rec	luced Vertic (	F18)	
	en Sulfide (A	•		Loamy Gleyed	•	2)				l Parent Mate	` '	
	ed Layers (A5 luck (A9) (LRI		L	Depleted Mati Redox Dark S					Oth	er (Explain ir	i Kemarks)	
	ed Below Dark	-	(A11)	Depleted Dark								
= '	ark Surface (		` _	Redox Depres		,			³Indicat	ors of hydrop	hytic vegetat	tion and
	Mucky Minera			Vernal Pools (	F9)				wetland	l hydrology m	nust be prese	
	Gleyed Matrix								disturbe	ed or problem	natic.	
Restrictive	Layer (if pro	esent):										
Type: _								l			○ Yes	No
Depth (i	inches):							Hyd	Iric Soll F	Present?		NO
No redox o an alluvia f	bserved. Soi an, interspers	l is highly sed by line	permeable i ear, elevated	in the upper laye I rocky mounds,	rs. Solls h between w	ave not be hich slight	een plow t depress	ed since 1 sions/swale	986, With es are utili	tnick root soo	tion water dis	itrîbution.
HYDROL	OGY											
Wetland H	ydrology Ind	licators:										
		mum of o	ne required;	check all that at						-	s (2 or more	required)
_	: Water (A1) ater Table (A	21		Salt Crus Biotic Cru						ter Marks (B1 iment Deposi	its (B2) (Rive	rine)
	ion (A3)	<i>-)</i>			nvertebrate	es (B13)			_		3) (Riverine)	
🔲 Water N	Marks (B1) (N				Sulfide O				_	inage Patterr		
===	nt Deposits (		-	=	Rhizospher	_	_	oots (C3)			er Table (C2)	
	eposits (B3) (l : Soil Cracks (		ne)		of Reduce on Reducti			C6)		yfish Burrows uration Visible	e on Aerial In	nagery (C9)
	tion Visible or		nagery (B7)	_	ck Surface		0 50115 (	C0)	=	llow Aquitard		nagery (es)
	Stained Leave		,	=	kplain in Re					-Neutral Tes		
Field Obse	ervations:											
Surface Wa	ater Present?	○ Ye	s 💿 N	o Depth (inc	hes):							
Water Tab	le Present?	○ Ye		o Depth (inc	ches):						~	
Saturation		Ye	s ON	o Depth (inc	ches):	12	'	Wetland H	ydrology	Present?	Yes	○ No
	apillary fringe Recorded Data		gauge, mon	itoring well, aeria	al photos, p	revious ir	nspection	ns), if availa	able:		-	
Remarks:							_					
Nomans.												
I												

Project/Site: Akehurst Short Plat		Cit	ty/County:	Unincorpora	ated/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.			Sta	te: WA Sampling Point: 4
Investigator(s): Geoffrey Gray (GG Environmental)		Se	ction, Tow	nship, Rang	e: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.): depression		Lo	cal relief (c	oncave, cor	ovex, none): concave Slope (%): 0
Subregion (LRR): B	Lat: 47	° 2'38.2	0"N	Long:	120°29'22.14"W Datum: WGS 84
Soil Map Unit Name: Brickmill gravelly ashy loam, 0	to 2 percent	slopes		_	NWI Classification: upland
Are climatic / hydrologic conditions on the site typical			? () Ye	es 📵 l	
Are Vegetation . Soil . , or Hydrology .	significantl	•	_	_	Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology	naturally p	-			eded, explain any answers in Remarks.)
	,			,	ations, transects, important features, etc.
			inping	ponition.	ations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes	O No		Is the	Sampled A	Area
Hydric Soil Present?  Wetland Hydrology Present?  Yes  Yes	O No			n a Wetlan	
Remarks:	O NO				
	has historics	ally impo	unded ana	inet an irrina	ation canal berm. However, due to a recent modification in
					The observed hydric soil indicator is considered to be
relict. Vegetation is grazed short. Climatic condition					
<b>VEGETATION – Use scientific names of</b>	plants.				
	Absolute	Dom.	Relative	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20ft x 20ft )	% Cover	Sp.?	% Cover	Status	Number of Dominant Species
1. none				#N/A	That Are OBL, FACW, or FAC: 2 (A)
2				-	Total Number of Dominant
3					Species Across All Strata: 2 (B)
4					Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )		= Total	Cover		That Are OBL, FACW, or FAC: 100.0% (A/B)
1 none				#N/A	Prevalence Index worksheet:
2.				HIVA	Total % Cover of: Multiply by:
3.					OBL species 20 x 1 = 20
4.					FACW species 25 x 2 = 50
5.					FAC species 50 x 3 = 150
		= Total	Cover		FACU species 5 x 4 = 20
Herb Stratum (Plot size: 5ft x 5ft )					UPL species0 x 5 =0
1. pasture grass	50	<u>Y</u>	50.0	FAC	Column Totals:100 (A)240 (B)
2. Juncus balticus	15	<u>Y</u>	15.0	FACW	Prevalence Index = B/A = 2.400
3. Schoenoplectus acutus 4. Trifolium repens	10 5	N N	<u>10.0</u> 5.0	FACU	Hydrophytic Vegetation Indicators:
5. Iris missouriensis	10	N	10.0	FACW	✓ Dominance Test is >50%
6. Scirpus microcarpus	10	N	10.0	OBL	✓ Prevalence Index is ≤3.0¹
7.					Morphological Adaptations¹ (Provide supporting
8.					data in Remarks or on a separate sheet)
	100	= Total	Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )					<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1. <u>none</u>				#N/A	be present, unless disturbed or problematic.
2.					Understade
	0	= Total	Cover		Hydrophytic Vegetation   Yes  No
W Book Countries	O	-41 0			Present?
	Cover of Bi	otic Crus	St 0		
Remarks:	446 - L.I - 4 -	!	A =	II ===t::	540
Vegetation is grazed short. Grass is not easily ider are common on irrigated pasture (personal observa		ecies. /	assumed a	ıı pasture gr	ass species are FAC, to be conservative. FAC grasses

SOIL									Si	ampling F	Point: 4	
Profile Des	cription: (De	escribe to	the depth r	eeded to docur	nent the indic	cator or o	onfir	m the ab	sence of indic	ators.)		
Depth	·	Matrix			lox Features							
(inches)	Color (n	noist)	%	Color (moist)	<u> % Ty</u>	ype¹ L	OC <sup>2</sup>	Tex	xture		Remarks	
0-5	10YR	3/3	100	none				loamy s	and th	ick root la	ayer/sod	
5-10+	10Y	3/1	100	none				sand	ha	ard packe	ed	
												-
								<u> </u>				
				duced Matrix, CS		Coated S	and G	irains.			ore Lining, M	
ا ب		(Applicat	e to all LRI	Rs, unless other					Indicators for		•	ic Solis":
Histosol			<u> </u>	Sandy Redox () Stripped Matrix	-				1 cm Mu 2 cm Mu			
Black His	oipedon (A2) stic (A3)			Loamy Mucky I					Reduced			
	en Sulfide (A4	4)	<u> </u>	Loamy Gleyed					Red Pare		•	
	d Layers (A5			Depleted Matri							Remarks)	
	ıck (A9) (LRF	•		Redox Dark Su	, ,							
	d Below Dark		A11)	Depleted Dark								
	ark Surface (.	-	F	Redox Depress Vernal Pools (F					Indicators o		, ,	
	lucky Minera Ileved Matrix		_	J vernai Poois (F	9)				wetland hydi disturbed or			nt, uniess
Restrictive		· ,						1		p		
	Layer (II pre	ssentj.										
Type:	nches):							Hvd	Iric Soil Prese	nt?	Yes	○ No
	iorics).			_				1.1,4				
Remarks: Given the hi	storic irrigati	on regime	and pervious	s soils, the soil i	ndicator is only	/ present	hecal	ise the de	epression histo	rically col	llected flood	irrigation water
from the nor	th, combine	d with loca	l saturation	under the unlined	canal. With	tailwater	remov	ed, satura	ation under the	canal is	not alone su	
result in wet	land hydrolo	gy in the a	idjacent dep	ression, demons	trating that hyd	drology in	the d	epressior	n was an artific	ial condit	ion.	
HYDROLO	OGY											
Wetland Hy	drology Ind	licators:										
Primary Indi	icators (mini	mum of or	ne required;	check all that app	oly)				Secondary In	ndicators	(2 or more r	equired)
=	Water (A1)			Salt Crust							(Riverine)	
	iter Table (A	2)		Biotic Crus							s (B2) (River	ine)
Saturation					vertebrates (B	-			Drift Dep	-	) (Riverine)	
	larks (B1) (N nt Deposits (I			=	Sulfide Odor ( Lhizospheres a	-	na Roo	its (C3)			r Table (C2)	
	posits (B3) (I				of Reduced Iro	_	ig noo	, (05)	Crayfish			
	Soil Cracks (		/	=	n Reduction ir		oils (C	6)	Saturation	n Visible	on Aerial Im	agery (C9)
🔲 Inundati	ion Visible or	n Aerial Im	agery (B7)	Thick Muc	k Surface (C7)	)			Shallow i	-		
☐ Water-S	tained Leave	s (B9)		Other (Ex	olain in Remar	ks)			✓ FAC-Neu	tral Test	(D5)	
Field Obse	rvations:											
Surface Wa	ter Present?	○ Yes	● No	Depth (incl	nes):							
Water Table	e Present?	Yes	⊚ No	Depth (incl	nes):						_	2
Saturation F		Ų O Yes	No 🖲 No	Depth (incl	nes):		_   W	etland H	ydrology Pres	ent?	O Yes	No
	pillary fringe		nauge monit	toring well, aerial	photos previe	ous inene	ctions	) if avails	able.			
Describe K	Journal Dale	a (onean)	gaago, mom	toring well, acrial	priotos, previ	ouo mope	- J.I.JI 10	.,, ii avalle	V.			
Remarks:												
Due to a red	cent modifica	ation to the	maintained	irrigation deliver color observed is	y system, tailw	vater no le	onger	reaches t	ine depression	. No satu ad catur	ıratıon or sta ation under t	nding water
				n the adjacent de								
condition.				•	-				• •			

Project/Site: Akehurst Short Plat		City/County:	Unincorpora	nted/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ifities Inc.		Sta	te: WA Sampling Point: 5
Investigator(s): Geoffrey Gray (GG Environmental)		Section, Tow	nship, Rang	e: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.):		Local relief (c	concave, cor	vex, none): none Slope (%): 0-2
Subregion (LRR): B	Lat: 47° 2'3	7.08"N	Long: 1	120°29'21.93"W Datum: WGS 84
Soil Map Unit Name: Brickmill gravelly ashy loam, 0	to 2 percent slope	es		NWI Classification: upland
Are climatic / hydrologic conditions on the site typical			es 📵 N	
Are Vegetation . Soil , or Hydrology	-	_		Normal Circumstances" present?   Yes   No
Are Vegetation , Soil , or Hydrology	naturally proble			eded, explain any answers in Remarks.)
				ations, transects, important features, etc.
		Samping	point ioci	ations, transects, important reatures, etc.
Hydrophytic Vegetation Present?  Yes	○ No	ls the	e Sampled A	Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No  No		in a Wetland	$\sim$
Remarks:				
Pit dug within a broad, irrigated flat area, down-grad managed as beef cattle pasture since 1986. Vegeta dikes, and swales are maintained to distribute flood three months.	ition is grazed sh irrigation water t	ort. Irrigation	is applied w	has been irrigated since at least 1954 and has been eekly throughout the growing season. Irrigation ditches, limatic conditions were drier than normal the previous
VEGETATION – Use scientific names of	piants.			
	Absolute Don		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20ft x 20ft )	% Cover Sp.	? % Cover	Status	Number of Dominant Species
1. <u>none</u> 2.			#N/A	That Are OBL, FACW, or FAC: 1 (A)
				Total Number of Dominant Species Across All Strata: 1 (B)
4.				Percent of Dominant Species
	= To	tal Cover		That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )				
1. none			#N/A	Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3.				OBL species 0 x1 = 0
4				FACW species 10 x 2 = 20
5		tal Cover		FAC species 90 x 3 = 270 FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft x 5ft )		tui 0010i		UPL species 0 x 5 = 0
1. pasture grass	80 Y	80.0	FAC	Column Totals: 100 (A) 290 (B)
2. Juncus balticus	10 N	10.0	FACW	Prevalence Index = B/A = 2.900
3. Plantago major	10N	10.0	FAC	
4				Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0¹
8.		tal Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )				¹Indicators of hydric soil and wetland hydrology must
1. none			#N/A	be present, unless disturbed or problematic.
2.				
3====	= To	tal Cover		Hydrophytic
				Vegetation
% Bare Ground in Herb Stratum 0 %	Cover of Biotic (	Crust 0		
Remarks:				
		s. Assumed a	III pasture gr	ass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observa	uorij.			

SOIL Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (inches) Color (moist) Color (moist) Type<sup>1</sup> Texture Remarks Sandy Loam very dense, thick sod layer 10YR 3/3 100 0 - 4none **10YR** 3/1 100 Sandy Loam 4-18+ none very sandy <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histosol (A1) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Depleted Matrix (F3) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Dark Surface (F7) Depleted Below Dark Surface (A11) Redox Depressions (F8) Thick Dark Surface (A12) \*Indicators of hydrophytic vegetation and Vernal Pools (F9) Sandy Mucky Mineral (S1) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) disturbed or problematic. Restrictive Layer (if present): Type: O Yes No **Hvdric Soil Present?** Depth (inches): Remarks: Pit dug in a broad flat area down gradient from an irrigation canal. No redox observed. Soil is highly permeable in the upper layers. Soils have not been plowed since 1986, with thick root sod from 1-4" thick. Property is an alluvia fan, interspersed by linear, elevated rocky mounds, between which slight depressions/swales are utilized for irrigation water distribution. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Salt Crust (B11) Water Marks (B1) (Riverine) Surface Water (A1) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Surface Soil Cracks (B6) Thick Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) **Field Observations:** No Surface Water Present? Yes Depth (inches): Water Table Present? ( ) Yes No Depth (inches): Saturation Present? Yes O No Wetland Hydrology Present? Yes ○ No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: According to the landowner, this location receives down-gradient, sub-surface moisture from the adjacent, unlined irrigation canal to the north. It also

receives manual irrigation water. No saturation observed. Presence of oxidized root channels, but lack of redox, shows this area to be regularly wetted,

but for insufficient time to develop hydric soil indicators.

Project/Site: Akehurst Short Plat		City/County:	Unincorpora	ted/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Utili	ties Inc.		Stat	te: WA Sampling Point: 6
Investigator(s): Geoffrey Gray (GG Environmental)		Section, Tow	nship, Range	e: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.): swale		Local relief (c	concave, con	vex, none): concave Slope (%): 0-2
Subregion (LRR): B	Lat: 47° 2'3	8.14"N	Long: 1	20°29'17.07"W Datum: WGS 84
Soil Map Unit Name: Brickmill gravelly ashy loam, 0 to	2 percent slope	es		NWI Classification: upland
Are climatic / hydrologic conditions on the site typical f	for this time of y	ear? O Y	es 🔘 N	lo (If no, explain in Remarks.)
Are Vegetation 🗸 , Soil 🗌 , or Hydrology 🔲	significantly dist	turbed?	Are "N	Normal Circumstances" present?   Yes   No
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally proble	matic?	(If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site m	ap showing	sampling	point loca	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No			
Hydric Soil Present? Yes	No		e Sampled A in a Wetland	
Wetland Hydrology Present?	○ No		ar a wedanc	
Remarks:	aib. atau fuana Ab	!	and food let	to the mostly. The manager, has been instructed along at
				to the north. The property has been irrigated since at ort. Irrigation is applied weekly throughout the growing
season. Irrigation ditches, dikes, and swales are mai				throughout the property. Climatic conditions were drier
than normal the previous three months.				
VEGETATION – Use scientific names of p	olants.			
	Absolute Don		Indicator	Dominance Test worksheet:
	% Cover Sp.	? % Cover	Status	Number of Dominant Species
1. none			#N/A	That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
3. 4.				· · · · · · · · · · · · · · · · · · ·
		tal Cover		Percent of Dominant Species That Are OBL, FACW, or FAC:50.0%_ (A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft)				
1. none			#N/A	Prevalence index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species 0 x1 = 0
4.				FACW species 0 x 2 = 0 FAC species 80 x 3 = 240
5	= Tot	tal Cover		FAC species 80 x 3 = 240 FACU species 20 x 4 = 80
Herb Stratum (Plot size: 5ft x 5ft )				UPL species 0 x 5 = 0
1. pasture grass	80 Y	80.0	FAC	Column Totals: 100 (A) 320 (B)
2. Trifolium repens	20 Y	20.0	FACU	Prevalence Index = B/A = 3.200
3				
4				Hydrophytic Vegetation Indicators:
5. 6.				Dominance Test is >50% Prevalence Index is ≤3.0¹
7				Morphological Adaptations¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
	100 = To	tal Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )				¹Indicators of hydric soil and wetland hydrology must
1. none			#N/A	be present, unless disturbed or problematic.
2				Lludrambudia
	= To	tal Cover		Hydrophytic Vegetation Yes   No
9/ Para Craund in Harb Stratum 0 9/ /	Cover of Biotic (	Smint 0		Present?
	Cover of Biotic C	Crust0	=	
Remarks:  Vegetation is grazed short. Grass is not easily identify	fiable to species	s. Assumada	III nasture ar	ass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observation			paotare gr	and opening and i rio, to be consented and i no grasses

		ie depth nee	ded to document th		or confir	m the absence	e of indicators.)		
inches) Color (m	Matrix	% C	Redox Fea		Loc²	Texture		Remarks	
-4 10YR			ne	1,00		Sandy Loam	ven, dense	e, thick sod lay	er.
2)								· · · · · · · · · · · · · · · · · · ·	CI
-7 10YR			ne			Sandy Loam		at 7 inches	
-18+ 10YR		100 no	ne			rock	small cobb	oles/gravels	
Type: C=Concentration,	D=Depletion	n RM=Reduc	and Matrix CS=Cove	red or Coate	d Sand G	Praine	²Location: PL=P	ore Lining Ma	-Matriy
ydric Soil Indicators:		•			u Sanu C		icators for Probl		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) 1 cm Muck (A9) (LRR Depleted Below Dark	(LRR C) (D)	S   L   L   C   R	andy Redox (S5) tripped Matrix (S6) oamy Mucky Mineral oamy Gleyed Matrix (P3) epleted Matrix (F3) edox Dark Surface (Fapleted Dark Surface	(F2) F6)			1 cm Muck (A9) ( 2 cm Muck (A10) Reduced Vertic (F Red Parent Mater Other (Explain in	(LRR B) F18) rial (TF2)	
Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix	A12) (S1)	R	ledox Depressions (Fi lernal Pools (F9)			wet	dicators of hydroplications of hydrology meturbed or problem	ust be present	
Depth (inches):						Hydric S	oil Present?	○ Yes	● No
Remarks: Pit dug in a broad swale. rom 1-4" thick. Property	is an alluvia					Soils have not	been plowed since	e 1986, with th	ick roo
Remarks: Pit dug in a broad swale. rom 1-4" thick. Property rrigation water distributio	is an alluvia					Soils have not	been plowed since	e 1986, with th	ick root
Remarks: Pit dug in a broad swale. rom 1-4" thick. Property rrigation water distribution YDROLOGY  Vetland Hydrology Ind	icators: num of one i 2) conriverine) (2) (Nonriverionriverine) (36) Aerial Imag	required; che	ersed by linear, eleva	) Tates (B13) Odor (C1) heres along L ced Iron (C4) action in Tillect ce (C7)	ounds, be	Soils have not etween which sl	been plowed since	e 1986, with the swales are utile (2 or more reconstruction) (Riverine) (Rive	ick root ized for quired)
Remarks: Pit dug in a broad swale. From 1-4" thick. Property rigation water distribution  YDROLOGY  Vetland Hydrology Indiger of the second se	icators: num of one icatoricat	required; che	ck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospl Presence of Redu Recent Iron Redu Thick Muck Surfa	) Tates (B13) Odor (C1) heres along L ced Iron (C4) action in Tillect ce (C7)	ounds, be	Soils have not etween which sl	condary Indicators Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	e 1986, with the swales are utile (2 or more reconstruction) (Riverine) (Rive	quired)
Remarks: Pit dug in a broad swale. From 1-4" thick. Property rigation water distribution  YDROLOGY  Vetland Hydrology Indigrimary Indicators (minimary Indic	icators: num of one icatoricat	required; che rine)  ery (B7)	ck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospl Presence of Redu Recent Iron Redu Thick Muck Surfar Other (Explain in	) Pates (B13) Odor (C1) heres along L liced Iron (C4) liction in Tillec ce (C7) Remarks)	ounds, be	Soils have not etween which sl	condary Indicators Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	e 1986, with the swales are utile (2 or more reconstruction) (Riverine) (Rive	ick root ized for quired)
Remarks: Pit dug in a broad swale. From 1-4" thick. Property rrigation water distribution  YDROLOGY  Wetland Hydrology Indi Primary Indicators (mining) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (No) Sediment Deposits (B3) (No) Surface Soil Cracks (B3) Unift Deposits (B3) (No) Surface Soil Cracks (B3) Water-Stained Leaves Field Observations: Surface Water Present? Water Table Present? Saturation Present?	icators: num of one idea (1) porriverine) (2) (Nonriverine) (36) Aerial Imag (5) (B9)  Yes Yes Yes	required; che	ck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospl Presence of Redu Recent Iron Redu Thick Muck Surfa	) Tates (B13) Odor (C1) heres along L ced Iron (C4) action in Tillect ce (C7)	iving Roc )	Soils have not etween which sl	condary Indicators Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	e 1986, with the swales are utile (2 or more reconstruction) (Riverine) (Rive	ick root ized for quired)
Remarks:  Pit dug in a broad swale.  From 1-4" thick. Property rrigation water distribution  PTOROLOGY  Wetland Hydrology Indicators (mining Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (No)  Sediment Deposits (B3) (No)  Surface Soil Cracks (E3)  Inundation Visible on	icators: num of one i	required; che rine)  Pery (B7)  No No No	ck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospl Presence of Redu Recent Iron Redu Thick Muck Surfar Other (Explain in  Depth (inches): Depth (inches):	) Pates (B13) Odor (C1) heres along L liced Iron (C4) liction in Tillec ce (C7) Remarks)	iving Roc ) I Soils (C	Soils have not etween which si	condary Indicators Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	e 1986, with the swales are utiles (2 or more record) (Riverine) (ES (B2) (Riverine) (Ri	quired) ne)

Project/Site: Akehurst Short Plat		_ City/Coun	nty: Unincorpora	ated/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.		Sta	ate: WA Sampling Point: 7
Investigator(s): Geoffrey Gray (GG Environmental)		Section, 1	Fownship, Rang	je: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.): swale		- Local relie	ef (concave, cor	nvex, none): concave Slope (%): 0-2%
Subregion (LRR): B		-		120°29'19.34"W Datum: WGS 84
Soil Map Unit Name: Nack-Opnish Complex, 0-2 per				NWI Classification: upland
Are climatic / hydrologic conditions on the site typica		vear?	Yes 📵 I	
Are Vegetation , Soil , or Hydrology		-		Normal Circumstances" present?   Yes   No
Are Vegetation, Soil, or Hydrology	-			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site i	nap showing	g samplir	ng point loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present?     Yes	○ No		41 011	A
Hydric Soil Present?  Yes	● No		the Sampled <i>i</i> ithin a Wetland	O
Wetland Hydrology Present?	○ No		Turni a Wedan	ur
Remarks:				
Dug at the edge of an actively wetted irrigation swa	le. Climatic con	ditions were	e drier than nom	mal the previous three months.
VEGETATION - Use scientific names of	nlants			
72021711017 000 0010111110 1111100 07	•			Dominance Test worksheet:
Troo Stratum (Blot size: 208 v 208		m. Relati		
Tree Stratum (Plot size: 20ft x 20ft )	% Cover Sp	o.? <u>% Cov</u>	Ver Status #N/A	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2. 3.				Total Number of Dominant Species Across All Strata: 2 (B)
4.				
		otal Cover		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )				<u> </u>
1. none			#N/A	Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species 10 x 1 = 10
4.				FACW species 20 x 2 = 40
5				FAC species 70 x 3 = 210
	=T	otal Cover		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft x 5ft )				UPL species 0 x 5 = 0
1. pasture grass		Y 70.0		Column Totals:100 (A)260 (B)
2. Juncus balticus		Y 20.0		Prevalence Index = B/A = 2.600
3. Scirpus microcarpus		N 10.0	O OBL	Hydrophytic Vegetation Indicators:
4.	. — —			✓ Dominance Test is >50%
5 6.				✓ Prevalence Index is ≤3.0¹
6. 7.				Morphological Adaptations¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
·		otal Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )	·			Indicators of hydric soil and wetland hydrology must
1. none			#N/A	be present, unless disturbed or problematic.
2.				
	= T	otal Cover		Hydrophytic
				Vegetation
% Bare Ground in Herb Stratum 0 %	Cover of Biotic	Crust	0	
Remarks:				
		es. Assume	ed all pasture gr	rass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observa	ition).			

				nt the indicator or confi	rm the absence of	indicators.)	
Depth (inches)	Color (mois	atrix st) %	Color (moist)	Features  % Type¹ Loc²	Texture	Ren	narks
)-4		3/3 100	none	<u> </u>	Sandy Loam	thick root layer/so	od .
4-16		3/1 100	none		Loamy Sand	very sandy	
16+	10111				rock	large cobble	
10.					TOOK	iaigo connic	
					\$ <del></del>		
					//		
					10		
Type: C=C	oncentration, D=	Depletion, RM	=Reduced Matrix, CS=C	overed or Coated Sand		ocation: PL=Pore Lini	
lydric Soil	Indicators: (Ap	oplicable to all	LRRs, unless otherwis	se noted.)	Indicate	ors for Problematic	Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Redox (S5)		1 cr	n Muck (A9) (LRR C)	
Histic E	pipedon (A2)		Stripped Matrix (S	6)	☐ 2 cr	n Muck (A10) (LRR B	3)
Black H	istic (A3)		Loamy Mucky Mine	eral (F1)	Red	uced Vertic (F18)	
Hydroge	en Sulfide (A4)		Loamy Gleyed Mat	rix (F2)	Red	Parent Material (TF2	2)
Stratifie	d Layers (A5) (L	RR C)	Depleted Matrix (F	3)	Oth	er (Explain in Remarl	ks)
1 cm M	uck (A9) (LRR D)	)	Redox Dark Surface	ce (F6)			
Deplete	d Below Dark Su	ırface (A11)	Depleted Dark Sur	face (F7)			
Thick D	ark Surface (A12	2)	Redox Depression	s (F8)	³Indicat	ors of hydrophytic ve	detation and
territor a	łucky Mineral (S	-	Vernal Pools (F9)			hydrology must be p	
=	Gleyed Matrix (S4	-				ed or problematic.	,
Restrictive	Layer (if prese	nt):					
Type:		•					
Depth (i	nches).				Hydric Soil F	Present? OY	es   No
	Tidrica).				- Inyunio com i	10001111	
Remarks:							
WDDOL (	201						
YDROL							
	ydrology Indica				0		
		m of one requir	ed; check all that apply)			ary Indicators (2 or n	
_	Water (A1)		Salt Crust (B1	•		er Marks (B1) (Riveri	
= -	ater Table (A2)		Biotic Crust (I	-	_	iment Deposits (B2) (	-
Saturati	. ,			tebrates (B13)		t Deposits (B3) (River	
_	1arks (B1) (Nonr	•	= ' '	fide Odor (C1)		inage Patterns (B10)	
	nt Deposits (B2)			ospheres along Living Ro		-Season Water Table	(C2)
_	posits (B3) (Non	•		educed Iron (C4)		rfish Burrows (C8)	_
I I C	Cail Cynalia (DC)		Decent Iron D	teduction in Tilled Soils (4	CE)   Cote	ıration Visible on Aer	ial Imagen, (C
_	Soil Cracks (B6)		= -	·			idi ziriagci y (C
Inundat	tion Visible on Ae	erial Imagery (E	= -	urface (C7)	Sha	llow Aquitard (D3)	idi imagery (c

☐ Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): **Wetland Hydrology Present?** Yes ○ No Yes ○ No Depth (inches): 0-2 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Oxidized root channels observed from 4-6". The soil was wet, but only saturated in the top 2 inches. Irrigation surface water was present only two feet from the pit. Due to highly pervious soil, saturation changes rapidly in the soil profile.

Project/Site: Akehurst Short Plat		Cit	ty/County:	Unincorpora	ted/Kittitas Sampling Date: 5/21/2021
Applicant/Owner: Levi Venn, STL Inc.   Raceway Uti	ilities Inc.			Stat	e: WA Sampling Point: 8
Investigator(s): Geoffrey Gray (GG Environmental)		Se	ction, Tow	nship, Range	e: NW1/4 S20-T18N-R19E
Landform (hillslope, terrace, etc.): terrace		Lo	cal relief (c	oncave, con	vex, none): convex Slope (%): 0-2
Subregion (LRR): B	Lat: 47				20°29'19.76"W Datum: WGS 84
Soil Map Unit Name: Nack-Opnish Complex, 0-2 per	ent slopes				NWI Classification: upland
Are climatic / hydrologic conditions on the site typical		of vear	? () Ye	s 📵 N	
Are Vegetation 🗸 , Soil 🔲 , or Hydrology 🔲	significantly	-	_	_	lormal Circumstances" present?   Yes   No
Are Vegetation , Soil , or Hydrology	naturally pr				eded, explain any answers in Remarks.)
				•	ations, transects, important features, etc.
					,
Hydrophytic Vegetation Present?  • Yes  Hydric Soil Present?  Yes	O No		Is the	Sampled A	
Wetland Hydrology Present?	O No		withi	n a Wetland	1? Yes   No
Remarks:					
Pit dug on an elevated area next to large, broad irrig					ed since at least 1954 and has been managed as beef
					e growing season. Irrigation ditches, dikes, and swales
are maintained to distribute flood irrigation water thr	oughout the	property	y. Climatic	conditions v	vere drier than normal the previous three months.
WEGETATION No selectific manager					
VEGETATION – Use scientific names of	piants.				
	Absolute	Dom.	Relative	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20ft x 20ft )	% Cover	Sp.?	% Cover	Status	Number of Dominant Species
1. <u>none</u>				#N/A	That Are OBL, FACW, or FAC: 1 (A)
					Total Number of Dominant Species Across All Strata: 1 (B)
3					Percent of Dominant Species
		= Total (	Cover		That Are OBL, FACW, or FAC:100.0%_ (A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )					
1. none				#N/A	Prevalence Index worksheet:
2					Total % Cover of:Multiply by:
3.					OBL species0 x 1 =0
4					FACW species 5 x 2 = 10
5					FACULTURE 95 x 3 = 285
Herb Stratum (Plot size: 5ft x 5ft )		= Total (	Cover		FACU species 0 x4 = 0 UPL species 0 x5 = 0
1. pasture grass	95	Υ	95.0	FAC	Column Totals: 100 (A) 295 (B)
2. Juncus balticus	5	N	5.0	FACW	
3.					Prevalence Index = B/A =
4.					Hydrophytic Vegetation Indicators:
5					☑ Dominance Test is >50%
6					Prevalence Index is ≤3.0¹
7.					Morphological Adaptations¹ (Provide supporting
8		~			data in Remarks or on a separate sheet)
Manda See Startum (Diet sing Stive St	100	= Total (	Cover		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 5ft x 5ft )  1. none				#N/A	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2				#19/74	To protein, amount ancial bod of problematic
		= Total	Cover		Hydrophytic
					Vegetation    Yes   No
% Bare Ground in Herb Stratum 0 %	Cover of Bio	otic Crus	st0		Present?
Remarks:					
Vegetation is grazed short. Grass is not easily iden		ecies.	Assumed a	II pasture gra	ass species are FAC, to be conservative. FAC grasses
are common on irrigated pasture (personal observa	tion).				-

SOIL Sampling Point: 8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix Loc<sup>2</sup> Remarks (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Texture very dense, thick sod layer 0-4 10YR 3/3 100 Sandy Loam 4-14 10YR 3/1 100 none Loamy sand <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Histic Epipedon (A2) Stripped Matrix (S6) Reduced Vertic (F18) Black Histic (A3) Loamy Mucky Mineral (F1) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) 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 Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) disturbed or problematic. Restrictive Layer (if present): Type: ( ) Yes No **Hydric Soil Present?** Depth (inches): Remarks: Soil very sandy with rapid hyporheic flow potential. Soils on the property have not been plowed since 1986, with thick root sod from 1-4" thick. Property is an alluvia fan, interspersed by linear, elevated rocky mounds, between which slight depressions/swales are utilized for irrigation water distribution. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (minimum of one required; check all that apply) Salt Crust (B11) Water Marks (B1) (Riverine) Surface Water (A1) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Saturation (A3) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) (Nonriverine) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Surface Soil Cracks (B6) Shallow Aguitard (D3) Inundation Visible on Aerial Imagery (B7) Thick Muck Surface (C7) ✓ FAC-Neutral Test (D5) Other (Explain in Remarks) | Water-Stained Leaves (B9) Field Observations: ( No Surface Water Present? ( ) Yes Depth (inches): O Yes No Water Table Present? Depth (inches): O No Yes Saturation Present? Yes O No Depth (inches): Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Prominent oxidized root channels within upper 12". Saturation at 14" shows saturation point to change rapidly in elevation, depending on manual

Remarks:

application of irrigation water.

Project/Site: Akehurst Short Plat		City/	County: L	Jnincorpora	ted/Kittitas	Sampling Date	e: <u>5/21/202</u>	1
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.			Stat	e: WA	Sampling Poir	nt: <u>9</u>	
Investigator(s): Geoffrey Gray (GG Environmental)		Sect	tion, Town	ship, Range	: NW1/4 S20-T18	BN-R19E		
Landform (hillslope, terrace, etc.): mound		Loca	al relief (co	oncave, con	vex, none): conve	ex	Slope (%):	0-2
Subregion (LRR): B	Lat: 47°				20°29'22.59"W		WGS 84	
Soil Map Unit Name: Brickmill gravelly ashy loam, 0	_					cation: upland		
Are climatic / hydrologic conditions on the site typical			○ Ye	s		ain in Remarks		
Are Vegetation , Soil , or Hydrology		_	_	= -	lormal Circumstan			○ No
	naturally pro							O 110
Are Vegetation , Soil , or Hydrology				-	ded, explain any a			4-
SUMMARY OF FINDINGS – Attach site n	nap snowii	ng san	npling p	DOINT IOCS	tions, transec	ts, importa	nt reature	es, etc.
Hydrophytic Vegetation Present?    Yes	○ No		lo the	Complet f				
Hydric Soil Present? Yes	● No			Sampled A		○ Yes	No	
Wetland Hydrology Present? Yes	● No							
Remarks:				4 1 1 1				
Pit dug on an elevated rock sill. The property has be Vegetation is grazed short. Irrigation is applied week								
flood irrigation water throughout the property. Clima							man ran loa	to diotributo
<b>VEGETATION – Use scientific names of</b>	plants.							
		2000 [	Dolothio	Indicator	Dominance Tes	t worksheet:		
Tree Stratum (Plot size: 20ft x 20ft )	Absolute E % Cover		Relative % Cover	Status	Number of Domii	nant Speciae		
1. none				#N/A	That Are OBL, F		1	(A)
2.					Total Number of	Dominant		- ` '
3.				-	Species Across		1	(B)
4.					Percent of Domir	nant Species		_
		Total Co	over		That Are OBL, F	ACW, or FAC:	100.0%	(A/B)
Sapling/Shrub Stratum (Plot size: 15ft x 15ft)								
1. none				#N/A	Prevalence Inde			
2					Total % Cov		Multiply by:	_
3					OBL species		1 =0	
4.					FACW species		2 = 20	
5		Total Co	0100		FAC species FACU species		3 = 270 $4 = 0$	_
Herb Stratum (Plot size: 5ft x 5ft		TOTAL C	ovei		UPL species		5 = 0	_
1. pasture grass	90	Υ	90.0	FAC	Column Totals:	100 (4		(B)
2. Juncus balticus	10	N	10.0	FACW	1		′ —	` '
3.					Prevalence	e Index = B/A =	2.900	
4.					Hydrophytic Ve	getation Indica	ators:	
5.					☑ Dominance 1			
6					Prevalence I	ndex is ≤3.01		
7						al Adaptations <sup>1</sup>		
8						arks or on a se		
100	100 =	Total Co	over			Hydrophytic Ve	-	
Woody Vine Stratum (Plot size: 5ft x 5ft )					Indicators of hyd			
1. none				#N/A	be present, unie	ss disturbed of	problematic	
2		Total C	-		Hydrophytic			
		Total C	Ovei		Vegetation	Yes	0 N	No
% Bare Ground in Herb Stratum 0 %	Cover of Biol	tic Crust	0		Present?		_	
			**	_				
Remarks:  Vegetation is grazed short. Grass is not easily idea	ntifiable to spe	cies Ac	ssumed a	ll pasture or	ass species are FA	C to be conse	rvative FA	C grasses
are common on irrigated pasture (personal observa			osameu a	pastare gr	and openies and I r	,		9.40000

Depth									
inches)	Color (m	oist)	%	Color (moist) % Type¹ I	_oc² T	exture		Remarks	
)-2	10YR	3/3	100	none	Loamy	Sand	roots		
!-4	10YR	4/2	100	none	rock		large cobb	ole	
Type: C=Ce	noontration		ion DM-Da	educed Matrix, CS=Covered or Coated S	Cand Crains	21 -	action DI - D	and I below!	
				RRs, unless otherwise noted.)	Sand Grains.			Pore Lining, M lematic Hydri	
Black Hist Hydroger Stratified 1 cm Mud Depleted Thick Dar Sandy Mu	pedon (A2)	(LRR C) D) Surface (A12) (S1)		Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Vernal Pools (F9)		2 cm Redu Red Othe		(LRR B) F18) rial (TF2) Remarks) hytic vegetatiust be preser	
							. or problem		
strictive L	ayer (if pre								
Type: Depth (inc emarks: t dug on roc	ches):	sent):		y. Soils on the property have not been proper	plowed since 1		ck root sod f		
Type: Depth (ince emarks: t dug on roon a alluvia fan	ches): cky mound. n, intersperse	sent):		y. Soils on the property have not been procky mounds, between which slight de	plowed since 1	986, with thi	ck root sod f	from 1-4" thick	k. Proper
Type:	ches):cky mound. In, intersperse	Very dry a ged by linea	ar, elevated	rocky mounds, between which slight de	plowed since 1	986, with thi	ck root sod f	from 1-4" thick	k. Proper
Type:	cky mound.  a, intersperse  GY  drology Indi cators (minin Vater (A1) er Table (A2 n (A3) rks (B1) (No cosits (B3) (N coil Cracks (E on Visible on ained Leaves	very dry a ed by linea cators: num of on ) onriverine) 2) (Nonriverine) 6) Aerial Ima	e required;		plowed since 1 pressions/swa	Seconda Seconda Sedir Drift Dry-S Crayl Satur	ck root sod fed for irrigation of the fed fo	from 1-4" thick ion water distribution water distri	k. Propert ribution. equired)
Type:	ches):	very dry a ed by linea cators: num of on ) onriverine) 2) (Nonriverine) 66) Aerial Ima	e required; verine) e)	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Si	plowed since 1 pressions/swa	Seconda Seconda Sedir Drift Dry-S Crayl Satur	ck root sod fed for irrigation of the fed fo	from 1-4" thick ion water distribution water distri	k. Propertribution.
Type:	ches):	very dry a ed by linea cators: num of on ) onriverine) 2) (Nonriverine) 6) Aerial Ima (B9)  Yes Yes	e required;  verine)  agery (B7)	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scale (C7) Thick Muck Surface (C7) Other (Explain in Remarks)  Depth (inches):	ng Roots (C3)	Seconda Sedir Sedir Drift Dry-S Crayl Satur Shall	ck root sod fed for irrigation of the fed fo	from 1-4" thick ion water distribution water distri	k. Propertribution.  equired) ine)
Type: Depth (inclemarks: it dug on roon alluvia fan  YDROLO  Yetland Hyd rimary Indic Surface W High Water Saturation Water-Sta ield Observ urface Water Vater Table laturation Princludes cap	ches):	very dry a sed by lines  cators: num of on  inverine)  inverine  i	e required;  verine)  e) agery (B7)  No No	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solution (C4) Thick Muck Surface (C7) Other (Explain in Remarks)  Depth (inches):	ng Roots (C3) Dils (C6)  Wetland I	Seconda Seconda Sedir Drift Drair Crayi Satur Shall FAC-	ck root sod fed for irrigation of the fed fo	from 1-4" thick ion water distribution water distri	k. Propertribution.
Type: Depth (income lemants: Pit dug on room alluvia fand	ches):	very dry a sed by lines  cators: num of on  inverine)  inverine  i	e required;  verine)  e) agery (B7)  No No	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solution (C4) Control (Explain in Remarks)  Depth (inches): Depth (inches):	ng Roots (C3) Dils (C6)  Wetland I	Seconda Seconda Sedir Drift Drair Crayi Satur Shall FAC-	ck root sod fed for irrigation of the fed fo	from 1-4" thick ion water distribution water distri	k. Propertribution.  equired) ine)

Project/Site: Akehurst Short Plat		City/County: Unincorporated/Kittitas Sampling Date: 5/21/2021				
Applicant/Owner: Levi Venn, STL Inc.   Raceway Utilit	ties Inc.	State: WA Sampling Point: 10				
Investigator(s): Geoffrey Gray (GG Environmental)		Section, Tow	nship, Rang	e: NW1/4 S20-T18N-R19E		
Landform (hillslope, terrace, etc.):		Local relief (d	concave, con	vex, none): none Slope (%): 0-2		
Subregion (LRR): B	Lat: 47° 2'29	9.91"N	Long: 1	20°29'25.02"W Datum: WGS 84		
Soil Map Unit Name: Brickmill gravelly ashy loam, 0 to	2 percent slope	es .		NWI Classification: upland		
Are climatic / hydrologic conditions on the site typical for	or this time of ye	ear? OY	es 📵 N	lo (If no, explain in Remarks.)		
Are Vegetation , Soil , or Hydrology	significantly dist	urbed?	Are "I	Normal Circumstances" present?   Yes   No		
Are Vegetation, Soil, or Hydrology i	naturally probler	matic?	(If nee	eded, explain any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach site ma	ap showing	sampling	point loca	ations, transects, important features, etc.		
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes  Yes	No No No		e Sampled / in a Wetland			
is grazed short. Irrigation is applied weekly throughou irrigation water throughout the property. Climatic con-	ut the growing so iditions were drie	eason. Irrigal	tion ditches,			
VEGETATION – Use scientific names of p	lants.					
1	Absolute Dom		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 20ft x 20ft )	% Cover Sp.1	% Cover	Status #N/A	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)		
2.			171074	Total Number of Dominant		
3.				Species Across All Strata: 1 (B)		
4.				Percent of Dominant Species		
	= Tot	al Cover		That Are OBL, FACW, or FAC: 100.0% (A/B)		
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )						
1. <u>none</u>			#N/A	Prevalence Index worksheet:		
2	———			Total % Cover of: Multiply by:  OBL species 0 x 1 = 0		
4.				FACW species 2 x2 = 4		
5.				FAC species 98 x 3 = 294		
-	= Tot	al Cover		FACU species 0 x 4 = 0		
Herb Stratum (Plot size: 5ft x 5ft )				UPL species 0 x 5 = 0		
1. pasture grass	98 Y	98.0	FAC	Column Totals: 100 (A) 298 (B)		
2. Juncus balticus 3.	2 N	2.0	FACW_	Prevalence Index = B/A = 2.980		
4.				Hydrophytic Vegetation Indicators:		
5.				☑ Dominance Test is >50%		
6				Prevalence Index is ≤3.0¹		
7				Morphological Adaptations¹ (Provide supporting		
8	100 7:1			data in Remarks or on a separate sheet)		
Manda Nine Chrotism (Dietaine, 5th v 5th	= Tot	al Cover		Problematic Hydrophytic Vegetation¹ (Explain)		
Woody Vine Stratum (Plot size: 5ft x 5ft )  1. none			#N/A	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
2.			#INIA	processing annexes are all and or processing and		
-	= Tot	al Cover		Hydrophytic Vegetation    Yes  No		
<u>:=====</u>	Cover of Biotic C	crust 0	-	Present?		
Remarks:	fighle to appairs	Acaimad -	Il pacture ==	and analog are EAC to be consequed to EAC		
are common on irrigated pasture (personal observation		. Assumed a	ııı pasture gr	ass species are FAC, to be conservative. FAC grasses		
	•					

SOIL

Sampling Point: 10

(inches)	Color (n	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Text	ure		Remarks	
0-1	10YR	3/3	100	none	28			Loamy S	and	sod		
1-10	10YR	4/2	100	none				loamy sa		-		
10+								rock		cobble - s	hovel denial	
	<u> </u>									-		
	~											
	-									·		
	-									-		-
	-											
				Reduced Matrix, CS			Sand G	Frains.			ore Lining, N	
_		(Applical	ble to all L	RRs, unless other		ed.)					lematic Hydi	ic Soils*:
Histoso				Sandy Redox (S	•				=	Muck (A9)		
=	:pipedon (A2) listic (A3)			Stripped Matrix Loamy Mucky N		11			_	n Muck (A10) uced Vertic (		
=	en Sulfide (A	4)		Loamy Gleyed I		-				Parent Mate		
	ed Layers (A5			Depleted Matrix	_	,				er (Explain in		
1 cm M	luck (A9) (LRI	RD)		Redox Dark Sur	, ,							
	ed Below Dark		(A11)	Depleted Dark	-	7)						
=	)ark Surface (			Redox Depressi							hytic vegetat	
_	Mucky Minera Gleyed Matrix			Vernal Pools (F	9)					nyarology m d or problem	iust be prese	nt, uniess
		<u> </u>							alotal bo	a or problem		
	Layer (if pro	35em).										
Type:											O	(A)
Donath (	inahaa).							Livein	in Call D	manant?	( ) Yes	( NO
Remarks: Soil is high	2 1		-	Soils on the proper	-			ce 1986, w		oot sod from		
Remarks: Soil is high alluvia fan,	ly permeable interspersed		-	, ,	-			ce 1986, w	ith thick :	oot sod from	n 1-4" thick.	Property is a
Remarks: Soil is high alluvia fan,	ly permeable interspersed	by linear,	-	, ,	-			ce 1986, w	ith thick :	oot sod from	n 1-4" thick.	Property is a
Remarks: Soil is high alluvia fan, YDROL Wetland H	oly permeable interspersed  OGY  lydrology Inc.	by linear,	elevated r	rocky mounds, betw	een which			ce 1986, w	ith thick (	oot sod from for irrigation	n 1-4" thick. I	Property is a ution.
Remarks: Soil is high alluvia fan, YDROL Wetland H	oly permeable interspersed  OGY  lydrology Incidicators (mini	by linear,	elevated r	ocky mounds, betw	een which			ce 1986, w	ith thick is a utilized	oot sod from for irrigation	n 1-4" thick. I water distrib	Property is a ution.
Remarks: Soil is high alluvia fan, YDROL Wetland H Primary Inc Surface	OGY  iydrology inc dicators (mini	by linear, licators: mum of o	elevated r	d; check all that app	een which			ce 1986, w	ith thick is a utilized	root sod from for irrigation irrigation irry Indicators er Marks (B1	n 1-4" thick. I water distrib	Property is a ution.
Remarks: Soil is high alluvia fan,  YDROL  Wetland H  Primary In  Surface  High W	oly permeable interspersed  OGY  lydrology Incidicators (mini	by linear, licators: mum of o	elevated r	ocky mounds, betw	een which	ı slight dep		ce 1986, w	ith thick is a utilized	root sod from for irrigation in Irrigation in Irrigation in Irrigation irrigation	n 1-4" thick. I water distrib	Property is a ution.
Remarks: Soil is high alluvia fan,  IYDROL Wetland H Primary In Surface High W Saturat	OGY  lydrology Inc dicators (mini a Water (A1) later Table (A	by linear, licators: mum of o	elevated r	d; check all that app Salt Crust Biotic Crus Aquatic In	een which  (B11) t (B12) vertebrate Sulfide Od	s (B13)	pressions	ice 1986, w s/swales ar	Seconda Wate	for irrigation	s (2 or more) (Riverine) (ts (B2) (Riverine) (s) (Riverine)	Property is a ution.
Remarks: Soil is high alluvia fan,  YDROL  Wetland H  Primary In  Surface  High W  Saturat  Water I  Sedime	OGY  lydrology Inc dicators (mini a Water (A1) later Table (A ion (A3) Marks (B1) (N ent Deposits (	licators: mum of o  2) onriverine (32) (Nonri	ne required	d; check all that app Salt Crust Biotic Crus Aquatic Int Hydrogen (	een which  (B11) t (B12) vertebrate Sulfide Od hizosphen	s (B13) lor (C1) es along L	oressions	ice 1986, w s/swales ar	Seconda  Seconda  Seconda  Sedi  Drift  Drai	for irrigation for ir	s (2 or more) (Riverine) (ts (B2) (Riverine) (s (B10) (r Table (C2)	Property is a ution.
Remarks: Soil is high alluvia fan,  YDROL Wetland H Primary In Surface High W Saturat Water I Sedime Drift De	OGY  lydrology Inc dicators (mini a Water (A1) later Table (A ion (A3) Marks (B1) (N ent Deposits (B2))	licators: mum of o  2) conrivering B2) (Nonriverir	ne required	d; check all that app Salt Crust Biotic Crus Aquatic In Hydrogen ( Oxidized R	ly) (B11) t (B12) vertebrate Sulfide Od hizosphen f Reduced	s (B13) lor (C1) es along L d Iron (C4)	oressions	oce 1986, w s/swales ar	Seconda  Seconda  Seconda  Sedi  Drift  Drai  Cray	for irrigation	s (2 or more ) ) (Riverine) tts (B2) (Riverine) its (B10) er Table (C2)	Property is a ution.  Prequired)
YDROL Wetland H Primary In Surface High W Saturat Water I Sedime Drift De Surface	OGY  Iydrology Inc dicators (mini water (A1) later Table (A ion (A3) Marks (B1) (N ent Deposits (B) e Soil Cracks (	licators: mum of o  2) conrivering (B2) (Nonrivering Nonrivering (B6)	ne required  e) iverine)	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence co	ly) (B11) t (B12) vertebrate Sulfide Od hizosphen if Reduced n Reduction	s (B13) lor (C1) es along L d Iron (C4) on in Tilled	oressions	oce 1986, w s/swales ar	Seconda Seconda Sedi Drift Drai Cray Satu	oot sod from for irrigation irry Indicators er Marks (B1 ment Deposi Deposits (B Deposits	s (2 or more ) ) (Riverine) tts (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Prequired)
YDROL Wetland H Primary Inc Saturat Water I Sedime Drift Do Surface	OGY  Iydrology Inc dicators (mini a Water (A1) later Table (A ion (A3) Marks (B1) (N ent Deposits (B) e Soil Cracks ( tion Visible or	licators: mum of o  2) conrivering (B2) (Nonriverire Nonriverire (B6) n Aerial In	ne required  e) iverine)	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen S Oxidized R Presence co	een which (B11) t (B12) vertebrate Sulfide Od hizosphen f Reduceo n Reductio	s (B13) lor (C1) es along Li d Iron (C4) on in Tilled	oressions	oce 1986, w s/swales ar	Seconda  Seconda  Wate Sedi  Drift  Dry- Cray Satu	oot sod from for irrigation irrig	s (2 or more ) ) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Tequired)
YDROL  YDROL  Wetland H  Primary Inc  Surface  High W  Saturat  Water I  Drift Do  Surface  Inunda  Water-	OGY  Independent of the property of the proper	licators: mum of o  2) conrivering (B2) (Nonriverire Nonriverire (B6) n Aerial In	ne required  e) iverine)	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence co	een which (B11) t (B12) vertebrate Sulfide Od hizosphen f Reduceo n Reductio	s (B13) lor (C1) es along Li d Iron (C4) on in Tilled	oressions	oce 1986, w s/swales ar	Seconda  Seconda  Wate Sedi  Drift  Dry- Cray Satu	oot sod from for irrigation irry Indicators er Marks (B1 ment Deposi Deposits (B Deposits	s (2 or more ) ) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Prequired)
Remarks: Soil is high alluvia fan,  IYDROL Wetland H Primary In Surface High W Saturat Water I Sedime Drift De Surface Inunda Water-Field Obse	OGY  Iydrology Indicators (minited water (A1) Idea (A3) Marks (B1) (New Deposits (B3) (Perosits (B3)) Marks (B1) (New Deposits (B3) (Perosits (B3)) Marks (B1) (New Deposits (B3)) Marks (	licators: mum of o 2) conriverine B2) (Nonr Nonriverine B6) n Aerial In	ne required e) iverine) ne) nagery (87	d; check all that app Salt Crust Biotic Crus Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen if Reduced n Reduction K Surface Idain in Re	s (B13) lor (C1) es along Li d Iron (C4) on in Tilled (C7) marks)	iving Roc	oce 1986, w s/swales ar	Seconda  Seconda  Wate Sedi  Drift  Dry- Cray Satu	oot sod from for irrigation irrig	s (2 or more ) ) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Prequired)
Remarks: Soil is high alluvia fan,  IYDROL  Wetland H Primary In Surface High W Saturat Water I Sedime Drift De Surface Inunda Water-Field Obse	OGY  lydrology Indicators (miniter Table (Alicon (A3)) Marks (B1) (Nent Deposits (B3) (Caposits (B3)) Marks (B1) (Nent Deposits (B3)) Marks (B1) (Nent Deposit	licators: mum of o  2) conrivering B2) (Nonrivering Nonrivering B6) Aerial In Es (B9)	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence co Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduced n Reduction Surface colain in Reduction	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	oversions  iving Roo  Soils (C	oce 1986, w s/swales ar	Seconda  Seconda  Wate Sedi  Drift  Dry- Cray Satu	oot sod from for irrigation irrig	s (2 or more ) ) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Prequired)
Remarks: Soil is high alluvia fan,  YDROL Wetland H Primary In Surface High W Saturat Vater I Sedime Drift De Surface Inunda Water- Field Obse	OGY  Industry permeable interspersed  OGY  Industry indus	licators: mum of o  2) conrivering (B2) (Nonrivering (B2) (Nonrivering (B3) (Nonrivering (B4) (Nonrivering (B5) (Nonrivering (B6) (Nonrivering (B6) (Nonrivering (B7) (Nonrive	ne required  e) iverine) iverine) iverine) ss s	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence co Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduces es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Seconda Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In In Indicators  In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  IYDROL Wetland H Primary In Surface High W Saturat Water I Sedime Unift Do Surface Vater- Field Obse Surface W Water Tab Saturation (includes of	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface o lain in Re es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In In Indicators  In In In Indicators  In I	s (2 or more ) ) (Riverine) its (B2) (Riverine) its (B10) er Table (C2) s (C8) e on Aerial Im	Property is a ution.  Prequired)
Remarks: Soil is high alluvia fan,  IYDROL  Wetland H Primary In Surface High W Saturat Vater I Surface Inunda Vater- Field Obsessurface W Water Tab Saturation (includes of	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence co Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  IYDROL  Wetland H Primary Inc Surface High W Saturat Vater I Sedime Drift Do Surface Inunda Undae Vater-Field Obse	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  IYDROL Wetland H Primary In Surface High W Saturat Water I Sedime Drift De Surface Inunda Water- Field Obse Surface W Water Tab Saturation (includes of Describe F	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  IYDROL  Wetland H Primary In Surface High W Saturat Vater I Surface Inunda Vater- Field Obsessurface W Water Tab Saturation (includes of	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  Wetland H Primary In Surface High W Saturat Water I Sedime Unift De Surface Vater- Field Obse Surface W Water Tab Saturation (includes of	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is a ution.  Pequired)  rine)
Remarks: Soil is high alluvia fan,  Wetland H Primary In Surface High W Saturat Water I Sedime Unift De Surface Vater- Field Obse Surface W Water Tab Saturation (includes of	OGY  Iydrology Indicators (miniter Table (Alion (A3)) Marks (B1) (New Deposits (B3) (Perosits (B3))  Perosits (B3) (Perosits (B3))	licators: mum of o  2) conrivering B2) (Nonrivering B6) A Aerial In Es (B9)  Ye Ye Ye	ne required  e) iverine) nagery (87	d; check all that app Salt Crust Biotic Crust Aquatic Int Hydrogen Oxidized R Presence of Recent Iro Thick Mucl Other (Exp	een which (B11) t (B12) vertebrate Sulfide Od hizosphen of Reduceto n Reductio c Surface olain in Reduction es): es):	s (B13) lor (C1) es along L d Iron (C4) on in Tilled (C7) marks)	iving Roo	ots (C3)	Seconda Wate Sedi Drift Drai Cray Satu	ing Indicators  In In Indicators  In In In Indicators  In In In Indicators  In In In In Indicators  In I	s (2 or more s) (Riverine) (Riverine) (Riverine) (Riverine) (S (B10) (River Table (C2) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Property is aution.  Pequired)  rine)

Project/Site: Akehurst Short Plat		Cit	y/County:	Unincorpora	ted/Kittitas Sampling Date: 5/21/2021			
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.		State: WA Sampling Point: 11					
Investigator(s): Geoffrey Gray (GG Environmental)		Se	ction, Town	nship, Rang	e: NW1/4 S20-T18N-R19E			
Landform (hillslope, terrace, etc.): swale		Lo	Local relief (concave, convex, none): none Slope (%): 0-2					
Subregion (LRR): B	2'20.05			20°29'31.68"W Datum: WGS 84				
Soil Map Unit Name: Brickmill gravelly ashy loam, 0 f	to 2 percent s	slopes			NWI Classification: upland			
Are climatic / hydrologic conditions on the site typical			? () Ye	es 💿 N				
Are Vegetation , Soil , or Hydrology	significantly	•	_	7	Normal Circumstances" present?   Yes   No			
Are Vegetation , Soil , or Hydrology	naturally pro				eded, explain any answers in Remarks.)			
	• •				ations, transects, important features, etc.			
SOMMART OF FINDINGS - Attach site in	nap snow	iliy sa	mbini i	point loca	idons, transects, important reatures, etc.			
Hydrophytic Vegetation Present? Yes	○ No		Is the	Sampled A	Area			
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No  No			n a Wetland	^			
Remarks:	<b>©</b> 140							
	e nronerty ha	s heen	iminated si	nce at least	1954 and has been managed as beef cattle pasture since			
			~		Irrigation ditches, dikes, and swales are maintained to			
distribute flood irrigation water throughout the prope	erty. Climatic	condition	ons were d	rier than nor	mal the previous three months.			
<b>VEGETATION – Use scientific names of</b>	plants.							
	Absolute	Dom.	Relative	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 20ft x 20ft )	% Cover	Sp.?	% Cover	Status	Number of Dominant Species			
1. none				#N/A	That Are OBL, FACW, or FAC: (A)			
2					Total Number of Dominant			
3					Species Across All Strata: 1 (B)			
4		= Total (			Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )		= rotart	Cover		That Are OBL, FACW, or FAC: 100.0% (A/B)			
1. none				#N/A	Prevalence Index worksheet:			
2.	***************************************	-			Total % Cover of: Multiply by:			
3.					OBL species 0 x 1 = 0			
4.					FACW species 0 x 2 = 0			
5					FAC species 100 x 3 = 300			
		= Total (	Cover		FACU species 0 x 4 = 0			
Herb Stratum (Plot size: 5ft x 5ft )					UPL species 0 x 5 = 0			
1. pasture grass	100	Υ	100.0	FAC	Column Totals:100 (A)300 (B)			
3.					Prevalence Index = B/A =3.000			
					Hydrophytic Vegetation Indicators:			
5.					☑ Dominance Test is >50%			
6.					✓ Prevalence Index is ≤3.0¹			
7.					Morphological Adaptations¹ (Provide supporting			
8.					data in Remarks or on a separate sheet)			
	100 =	= Total (	Cover		Problematic Hydrophytic Vegetation¹ (Explain)			
Woody Vine Stratum (Plot size: 5ft x 5ft )					¹Indicators of hydric soil and wetland hydrology must			
1. none				#N/A	be present, unless disturbed or problematic.			
2		75.4.1			Hydrophytic			
		= Total (	Cover		Vegetation			
% Bare Ground in Herb Stratum 0 %	Cover of Bio	die Crus	et O		Present?			
	. Josef 01 DIG	, ao oras	^	_				
Remarks:  Vegetation is grazed short. Grass is not easily iden	ntifiable to en	eciee /	e hamused	ll nasture ar	ass species are FAC, to be conservative. FAC grasses			
are common on irrigated pasture (personal observa		cuica. F	woullieu d	pastare gr	see species are 1 no, to be conservative. FAO grasses			

Sampling Point: 11

(inches)		Matrix		Red	ox Featur	es						
<u> </u>	Color (r	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²		dure		Remarks	
0-2	10YR	3/3	100	none				Loamy S	Sand	dense roo	ots/sod	
2-24	10YR	4/2	100					loamy sand		no redox		
Hydric Soi  Histoso  Histic E  Black H  Hydrog  Stratifie  1 cm M  Deplete  Thick D  Sandy (  Sandy (	I Indicators:	(Applica 4) () (LRR C) R D) (> Surface (A12) ((S1) ((S4)	ble to all I	Reduced Matrix, CS LRRs, unless other Sandy Redox (S Stripped Matrix Loamy Mucky M Loamy Gleyed Matrix Redox Dark Sur Redox Dark Sur Redox Depressi Vernal Pools (Fi	wise note (S6) lineral (F1 Matrix (F2 (F3) face (F6) Surface (F ons (F8)	ed.) .) )	d Sand (	Grains.	Indicate 1 cm 2 cm Red Red Othe	ors for Prob in Muck (A9) in Muck (A10 uced Vertic ( Parent Mate er (Explain in	) (LRR B) (F18) (F18) (F18) (TF2) (TF2) (TF2) (TF3) (T	ic Soils³:
Type: _ Depth (i	inches):							Hvd	ric Soil P	resent?	○ Yes	No
Soil is high				. Soils on the proper rocky mounds, between				nce 1986, v	vith thick i			
	interspersed							nce 1986, v	vith thick i			
Soil is highlalluvia fan,  HYDROLO  Wetland H  Primary Inc  Surface  High W.  Saturati  Water N  Sedime  Drift De  Surface  Inundat	interspersed  OGY  ydrology Inc	dicators: mum of o  2) lonrivering B2) (Nonrivering Nonrivering B6) n Aerial In	ne require  e) iverine) ne)	ed; check all that app Salt Crust ( Biotic Crust) Aquatic Im Hydrogen ( Oxidized R Presence of Recent Iro	ly) (B11) t (B12) vertebrate Sulfide Od hizosphere f Reduced n Reduction	s (B13) lor (C1) es along L I Iron (C4 on in Tilled	pression:	nce 1986, v s/swales a	Seconda Sedi Sedi Drift Draii Cray Satu	ory Indicators ory Indicators or Marks (B1 ment Deposits (B Deposits (B Dage Pattern Season Water Season Water	s (2 or more r.) (Riverine) its (B2) (Riverine) is (B10) er Table (C2) is (C8) e on Aerial Im	equired)
Soil is highlalluvia fan,  IYDROLO Wetland H Primary Ince Surface Saturati Water N Sedimel Drift De Surface Inundar	OGY  ydrology Inc dicators (mini Water (A1) ater Table (A ion (A3) Marks (B1) (N nt Deposits (B3) (ion posits (B3) (ion posit	dicators: mum of o  2) lonrivering B2) (Nonrivering Nonrivering B6) n Aerial In	ne require  e) iverine) ne)	ed; check all that app Salt Crust ( Biotic Crust) Aquatic Im Hydrogen ( Oxidized R Presence o Recent Iro	ly) (B11) t (B12) vertebrate Sulfide Od hizosphere f Reduced n Reduction	s (B13) lor (C1) es along L I Iron (C4 on in Tilled	pression:	nce 1986, v s/swales a	Seconda Sedi Sedi Drift Draii Cray Satu	ny Indicators ry Marks (B1 ment Deposits (B nage Pattern Season Wate fish Burrows ration Visible low Aquitand	s (2 or more r.) (Riverine) its (B2) (Riverine) is (B10) er Table (C2) is (C8) e on Aerial Im	equired)
Soil is highla alluvia fan,  HYDROLU  Wetland H  Primary Inc Surface High Water N Sedime Drift De Surface Inundat Water-S  Field Obse Surface Water Tabl Saturation (includes c	oGY ydrology Inc dicators (mini Water (A1) ater Table (A ion (A3) Marks (B1) (N nt Deposits (B3) (I eposits (B3) (I exposits	dicators: mum of o  2)  lonrivering B2) (Nonrivering B6) n Aerial Intes (B9)  Year Year Year Year	ne require  e) iverine) nagery (B7	ed; check all that app Salt Crust ( Biotic Crust) Aquatic Im Hydrogen ( Oxidized R Presence o Recent Iro	ly) (B11) t (B12) vertebrate Sulfide Od hizosphere f Reduced n Reduction s Surface ( lain in Reduction es): es):	s (B13) or (C1) es along L I Iron (C4 on in Tillea (C7) marks)	Living Root) d Soils (C	oce 1986, votes (C3)	Seconda Seconda Sedi Sedi Drift Drain Satu Shal	ery Indicators er Marks (B1 ment Deposits (B nage Pattern Season Wate fish Burrows ration Visible low Aquitard Neutral Test	s (2 or more r.) (Riverine) its (B2) (Riverine) is (B10) er Table (C2) is (C8) e on Aerial Im	equired)

Project/Site: Akehurst Short Plat		City/County: Unincorporated/Kittitas Sampling Date: 5/21/2021				5/21/2021	
Applicant/Owner: Levi Venn, STL Inc.   Raceway Uti	lities Inc.	State: WA Sampling Point: 12					
Investigator(s): Geoffrey Gray (GG Environmental)		Section, Township, Range: NW1/4 S20-T18N-R19E					
Landform (hillslope, terrace, etc.): none		Local relief (	concave, con	vex, none): none		Slope (%): 0-2	
Subregion (LRR): B	Lat: 47° 2'	13.25"N	Long: _1	20°29'31.98"W	Datum:	WGS 84	
Soil Map Unit Name: Brickmill gravelly ashy loam, 0 to	o 2 percent slop	es		NWI Classific	cation: upland		
Are climatic / hydrologic conditions on the site typical	for this time of	year? O	'es 📵 N	lo (If no, expla	ain in Remarks.)	)	
Are Vegetation . Soil , or Hydrology	significantly dis	sturbed?	Are "N	lormal Circumstanc	es" present?	● Yes	
Are Vegetation , Soil , or Hydrology	naturally proble	ematic?	(If nea	eded, explain any ar	nswers in Rema	rks.)	
SUMMARY OF FINDINGS - Attach site m	nap showing	sampling	point loca	tions, transect	ts, importan	t features, etc.	
Hydrophytic Vegetation Present?    Yes	○ No						
Hydric Soil Present? Yes	● No		e Sampled A		Ο.v.	@ ··	
Wetland Hydrology Present?  Yes	No	with	in a Wetland	l? (	○ Yes	● No	
Remarks:							
Pit dug in a flat area at the edge of slight depression							
maintained. The ditch was recently cleared to resto normal the previous three months.	re design flow a	nd the depres	sion no longe	r impounds water.	Climatic condition	ons were drier than	
The state of the s							
VEGETATION - Use scientific names of	plants.						
	Absolute Do	m. Relative	Indicator	Dominance Test	worksheet:		
Tree Stratum (Plot size: 20ft x 20ft )	% Cover Sp			Number of Domin	ant Species		
1. none			#N/A	That Are OBL, FA		1(A)	
2				Total Number of D	Dominant		
3				Species Across A	III Strata:	1 (B)	
4				Percent of Domini			
Cauling/Church Charleson (Diet sine 456 v 456	= To	otal Cover		That Are OBL, FA	CW, or FAC:	100.0% (A/B)	
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )  1. none			#N/A	Prevalence Index	x worksheet:		
2.			W. Call	Total % Cove		/ultiply by:	
3.				OBL species	0 x1		
4.				FACW species	1 x 2	= 2	
5				FAC species	99 x 3	= 297	
	= To	otal Cover		FACU species	0 x 4		
Herb Stratum (Plot size: 5ft x 5ft )	00	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	E40	UPL species	0 x 5		
1. pasture grass 2. Juncus balticus		99.0	FACW	Column Totals:	(A)	(B)	
3.		1.0	TACVV	Prevalence	Index = B/A =	2.990	
4.				Hydrophytic Veg	jetation Indicat	ors:	
5.				☑ Dominance Te	est is >50%		
6.				Prevalence In	idex is ≤3.0¹		
7						Provide supporting	
8			-		rks or on a sepa		
Manda Vine Otreture /Distaine Eff. Ff	= To	otal Cover				etation¹ (Explain)	
Woody Vine Stratum (Plot size: 5ft x 5ft )  1. none			#N/A	be present, unless		and hydrology must roblematic.	
2.			#14//	and producting annual			
	= To	otal Cover		Hydrophytic			
				Vegetation	Yes	○ No	
% Bare Ground in Herb Stratum0 %	Cover of Biotic	Crust0		Present?			
Remarks:							
Vegetation is grazed short. Grass is not easily iden		es. Assumed	all grass spec	cies are FAC, to be	conservative. F	AC grasses are	
common on irrigated pasture (personal observation)	).						

S. ( ) I	

Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Matrix Depth % Color (moist) Loc² Texture Remarks (inches) Color (moist) Type<sup>1</sup> 100 Loamy Sand 0-1 10YR 3/3 none roots 1-16 10YR 4/2 100 sand none cobble - shovel denial 16+ rock <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Solls<sup>3</sup>: Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histosol (A1) 2 cm Muck (A10) (LRR B) Histic Epipedon (A2) Stripped Matrix (S6) Reduced Vertic (F18) Loamy Mucky Mineral (F1) Black Histic (A3) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Redox Depressions (F8) Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Vernal Pools (F9) wetland hydrology must be present, unless Sandy Mucky Mineral (S1) disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: O Yes No **Hydric Soil Present?** Depth (inches): Remarks: Soil is highly permeable in the upper layers. Soils on the property have not been plowed since 1986, with thick root sod from 1-4" thick. Property is an alluvia fan, interspersed by linear, elevated rocky mounds, between which slight depressions/swales are utilized for irrigation water distribution.

HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; cher 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)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)	
Field Observations:		
Surface Water Present? Yes No	Depth (inches):	
Water Table Present? Yes No	Depth (inches):	Ov. 811
Saturation Present? Yes No (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspecti	ons), if available:
Remarks:		
No oxidized root channels observed.		

Project/Site: Akehurst Short Plat	City	City/County: Unincorporated/Kittitas Sampling Date: 5/21/2021						
Applicant/Owner: Levi Venn, STL Inc.   Raceway Ut	ilities Inc.		State: WA Sampling Point: 13					
Investigator(s): Geoffrey Gray (GG Environmental)		Sec	Section, Township, Range: NW1/4 S20-T18N-R19E					
Landform (hillslope, terrace, etc.): swale								
Subregion (LRR): B					20°29'31.63"W		WGS 84	
Soil Map Unit Name: Brickmill gravelly ashy loam, 01				_	NWI Classifica			
Are climatic / hydrologic conditions on the site typical		O Ye	es 📵 N		in in Remarks.	1		
		_		Normal Circumstance				
Are Vegetation , Soil , or Hydrology significantly dis						•	1761	
Are Vegetation, Soil, or Hydrology	-				eded, explain any an		•	
SUMMARY OF FINDINGS – Attach site n	nap snowir	ng sar	mpling	point loca	itions, transect	s, importar	it features, etc.	
Hydrophytic Vegetation Present?  Hydric Soil Present?  Yes  Yes	O No			Sampled A		2	O.11	
Wetland Hydrology Present?     Yes	Ŏ No		within	n a Wetland	1?	Yes	○ No	
Remarks: Pit dug in a slight depression that tends to impound recently cleared to restore design flow and the depr the soil profile are trampled and mixed. Climatic cor	ession no long	er impo	ounds wat	er. The swa	le is used by cattle a			
VEGETATION – Use scientific names of	plants.							
	•	lore	Relative	Indicator	Dominance Test	worksheet:		
Tree Stratum (Plot size: 20ft x 20ft )	% Cover S		% Cover	Status	Number of Domina	ant Species		
1. none				#N/A	That Are OBL, FA		1(A)	
2.					Total Number of D	ominant		
3.					Species Across Al	I Strata:	1(B)	
4					Percent of Domina	ant Species		
		Total C	over		That Are OBL, FA	CW, or FAC:	100.0% (A/B)	
Sapling/Shrub Stratum (Plot size: 15ft x 15ft )					Description on Indian			
1. none				#N/A	Prevalence Index			
2					Total % Cove OBL species		Multiply by:	
3					FACW species	10 x 1		
5.					FAC species _	90 x 3		
		Total C	over		FACU species	0 x4		
Herb Stratum (Plot size: 5ft x 5ft					UPL species	0 x 5		
1. pasture grass	90	Υ	90.0	FAC	Column Totals:	100 (A	280 (B)	
2. Scirpus microcarpus	10	N	10.0	OBL	Provolence A	Index = B/A =	2.800	
3								
4					Hydrophytic Vege		tors:	
5					Dominance Te			
6					Prevalence Inc			
7.							Provide supporting	
8		Total C	'ovor			•	getation¹ (Explain)	
Woody Vine Stratum (Plot size: 5ft x 5ft)	100 -	Total C	OVE				and hydrology must	
1. none				#N/A	be present, unless			
2.					•			
		Total C	over		Hydrophytic			
					Vegetation	Yes	○ No	
% Bare Ground in Herb Stratum 0 %	Cover of Bioti	c Crust	t0		Present?			
Remarks:								
Vegetation is grazed short. Grass is not easily iden		cies. A	ssumed al	Il pasture gra	ass species are FAC	, to be conser	vative. FAC grasses	
are common on irrigated pasture (personal observa	tion).							

SOIL

Sampling Point: 13

Depth	Oalas (-	Matrix	%	Colon /		ox Featur		Loc²	Texture		Remarks	
inches)	Color (r			Color (m	ioist)	%	Type <sup>1</sup>	LOC		root mass		
)-5	10YR	3/2	100	none					loam			
5-12	10YR	3/1	100	2.5YR	4/6	5	<u> </u>	PL&M	Loamy Sand	- <del></del>	ces with iron fo	ormation
2+									rock	_ cobble - s	hovel denial	
					_				7			
			<del></del> -	-					0	_		
											S 1111 M	M-4-5-
	oncentration Indicators:							ed Sand C			Pore Lining, Ma lematic Hydri	
Histosol		(Applican	io to all L	Sandy F			Ju.,		_	m Muck (A9)	-	
	oipedon (A2)			= .	d Matrix	-			=	m Muck (A3)		
_	stic (A3)			_		ineral (F1	1)		=	duced Vertic (		
	en Sulfide (A	4)		=		latrix (F2				d Parent Mate	•	
	d Layers (A5			_	d Matrix	-	,		=	her (Explain ir	. ,	
	uck (A9) (LR			= .		face (F6)				· · · · · · · · · · · · · · · · · · ·	=/	
	d Below Darl	•	A11)			Surface (F	7)					
= '	ark Surface (		,	= '	Depression		•		³Indica	ntors of hydror	hytic vegetation	on and
	lucky Minera	•			Pools (F9						nust be presen	
	Gleyed Matrix			_	•					ed or problem		
Restrictive	Layer (if pr	esent):										
Туре:											@ u	O
Depth (ii	nches):								Hydric Soil	Present?	Yes	○ No
YDROLO	nev											
	ydrology Inc	licators:										
Primary Ind	icators (mini	mum of on	e required	t; check all	that appl	y)			Secon	dary Indicator	s (2 or more re	equired)
Surface	Water (A1)			Sa	t Crust (	B11)			☐ Wa	ater Marks (B1	.) (Riverine)	
☑ High Wa	ater Table (A	2)		=	tic Crust	. ,				-	its (B2) (Riveri	ne)
✓ Saturation				= '		ertebrate	` '			ift Deposits (B		
	1arks (B1) (N					Sulfide Od				ainage Patterr		
	nt Deposits (		-			•	_	Living Ro	• • =	y-Season Wat		
_	posits (B3) (		2)			f Reduced	-	-		ayfish Burrows		
	Soil Cracks (							ed Soils (C	· ==		e on Aerial Ima	agery (C9
=	ion Visible o		agery (B7	<i>'</i>		Surface			_	allow Aquitard		
Water-S	Stained Leave	es (B9)		∪ Ot	her (Exp	lain in Re	marks)		[✓] FA	C-Neutral Tes	t (D5)	
Field Obse		_										
	ater Present?	_			oth (inche		- 10					
Water Table		Yes			oth (inch		12					O
	apillary fringe				oth (inche		10		Vetland Hydrolog	y Present?	Yes	○ No
Describe R	ecorded Data	a (stream g	jauge, mo	onitoring we	I, aerial <sub>I</sub>	photos, p	revious ir	nspections	s), if available:			
Remarks:		_		_								
	ent irrigation	maintenan	ce, the wa	ter table ha	s droppe	ed from p	ooled wa	ter to 12 i	nches in depth in o	only three days	s (pers. comm	. with
landowner)	. Under a re	gular irriga	tion maint	enance req	ime, it is	reasonal	ole to infe	r that the	wetland indicator	would no long	er be present.	-
		gg			,					•		
,		- •		J						·		

## Appendix D. Photos

Excavator-assisted soil sample.



Typical irrigation ditch.



Typical irrigation check dam.



Wet area at Location 13 – used as cattle wallow.



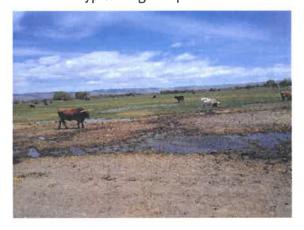
Typical soil colors – brown sod, underlain by a dark horizon (10YR 3/1)



Typical irrigation wiers.



Typical irrigated pasture.



Dried-down irrigation ditch.



# Appendix E. Large-format Delineation Map

GG Environmental
WETLANDS • FISH • WILDLIFE

