

CRITICAL AREA WETLAND BUFFER REDUCTION and CRITICAL AREA BUFFER MITIGATION PLAN

PARCEL #25271.1901

1455 S. Geiger Blvd.

SPOKANE, SPOKANE COUNTY WA. 99201



PREPARED FOR:

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JUNE 1, 2020

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1455 S. GEIGER BLVD SPOKANE, WA. 99201

LANDOWNER OBJECTIVES

The landowner proposal for residential development includes the following:

- To obtain a City of Spokane, Washington Planning Service Department Shoreline/Critical Areas Checklist and Wetland Conditional Use (Type III) Permit.
- Site Plan Review Approval.
- To be consistent with the requirements of the City of Spokane Comprehensive Plan and City of Spokane Municipal Code Title 17E Chapter 17E.070). Please see Attachment 4.
- Obtain all necessary permits and approvals from City of Spokane, Spokane, Washington including Wetland Conditional Use Permit (Type III).
- Construct a single-family home with attached garage, with basement as: 55ft(W)x 44ft(L)x 2ft (D), with the total footprint of 1802(sqft) and a proposed shop 42ftx32x1.5ft(D)=1,344 sqft footprint (2,016 cubic ft) with a proposed buffer reduction of 75ft Critical Area Wetland Buffer (CAWB).
- Construct a new well with landing 40'x15'=600sqft, 50'x28' drainfield, 2, (6'x8') 1000 gallons tanks=1,496sqft septic area and approximately 21 cubic yards, and overhead electricity onsite for single family residence.
- Routine repair, maintenance, and upgrade of existing private drive. 325'(L)x 20'x1ft(D)=6,500sqft.
- Stabilize and re-vegetate native species on disturbed areas at the project site.
- Maintain remainder of the lot in an undisturbed condition.
- Provide for reasonable buffers around wetlands in order to provide a local habitat for wetland plant and animal communities, and to reduce or minimize intrusions from humans and domestic animals.
- Stewardship strategies should be implemented for the long-term management of wetlands.
- Complete Wetland Delineation and Eastern Washington State Rating Summary with all applicable Figures and Maps. This has been completed and is provided in **ATTACHMENT 4. WETLAND DELINEATION AND STATE RATING FORMS** and **ATTACHMENT 5. REQUIRED AGENCY MAPS AND DOCUMENTATION FOR WETLAND RATING AND WETLAND MITIGATION PLAN.**
- Complete all Phases of the City of Spokane approved Critical Area and Wetland Buffer Mitigation Plan development (conceptual, draft, and final). This has been completed and is provided in this document.

PROJECT DESCRIPTION

The project site is located at 1455 S. Geiger Blvd. Spokane, Spokane County, Washington 99201. The site parcel number is 25271.1901. The site is located within T25N R42E Section 27. The GPS coordinates are N5276595 E463667 NAD 83 UTM Zone 11N meters, and an elevation baseline of 685m. For the legal description and property Plat Map, please see Attachments 1. The Hydrologic Unit Code is 17010306,

Hangman Creek. USGS Station Hangman Creek @ Spokane, WA #12424000 and is consider the upper headwaters of Indian Canyon Creek which receives into Hangman Creek and downstream to the Spokane River near Palisades Park. Figure 1.

The property owner is proposing to convert vacant land of 2.5 acres into single family residential. The construction of a single family residential home (1,125sq.ft), detached garage (864sq.ft), detached shop (1200sq.ft), and with construction of normal appurtenances (well, septic/drainfield, and underground power cable line) are proposed. In addition, the owner is proposing to maintain the existing private drive approach from Taylor Rd. Of this, approximately 25'(L) x 14(W)x 12"(H)= 350 sq.ft is proposed to be maintained as pervious graveled private drive within the Category II wetland and approximately 6,646sqft within the Critical Area Wetland Buffer (CAWB) with a proposed reduction of the 150ft CAWB to 75ft and 100ft from the OHWM of Indian Canyon Creek. Please see Site Development Plan in Figure 2.

The existing site conditions includes a Category II Wetland with a 150' Critical Area Wetland Buffer, (CAWB). This wetland is based on the Cowardin Classification as a Riverine Intermittent Unconsolidated Bottom Mud (R4UB3) with an associated Palustrine Emergent Persistent Seasonally Flooded (PEMIC) wetland and is approximately 1.2 acres on the property. The wetland HGM classification is considered Depressional wetland unit because the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year and then an additional Riverine Wetland Unit, as initially a Type N waterbody; as the wetland unit is in a stream channel, where it gets inundated by overbank flooding from the stream. This means that any outlet, if present, is higher than the interior of the wetland and the riverine portion is within the boundary of depression. There are other PEMIC wetlands <1/4 mile from the property as well. Please see Figure 1.

Please note that this Type N was upgraded to a Type F by ECOS USA Water Type Modification Form and Application based on "Physical Characteristics" and was approved with Concurrence Washington Department of Natural Resources Ref# FP-56-20-0004 on March 21, 2020. Please see "Water Type Application" and "Water Type Map" in Attachments 4.

ECOS USA performed four fieldwork site visits on May 2, 2019, June 18, 2019, December 12, 2019, and March 12, 2020 and conducted the "*Routine Wetland Delineation*" according to U.S. Army Corps of Engineers, (2010) and "*Eastern Washington Wetland Rating*" according to Washington Department of Ecology (Ecology), (2014). Further fieldwork assessment included the instream Water Type monitoring according to Washington Department of Natural Resources (DNR) to determine fish use for water typing (WAC 222-16-031(3)) and the Board Manual Section 13 "*Guidelines for Determining Fish Use for the Purpose of Typing Waters*". Please see Attachments 4. The wetland and OHWM was field demarcated and the wetland boundary, and the 150 ft Critical Area Wetland Buffer (CAWB) was demarcated as well. This was done by establishment of wetland baseline information by field survey, review of United States Fish and Wildlife Service (USFWS), National Wetland Inventory (NWI) and maps from the Spokane County Shoreline, Engineers and Floodplain Managers. FEMA FIRMette Flood Zone Maps where created. The proposed site area is FEMA Zone X, or out of the FEMA Flood zone. The baseline information and maps are provided in Attachment 7 and 8. The Wetland Baseline Map and Wetland Buffer and Wetland Mitigation Plan Map was created for the parcel by ECOS USA in Figure 1&2.

USFWS NWI 1KM WETLAND MAP PARCEL #25271.1901 SPOKANE CO. WA.

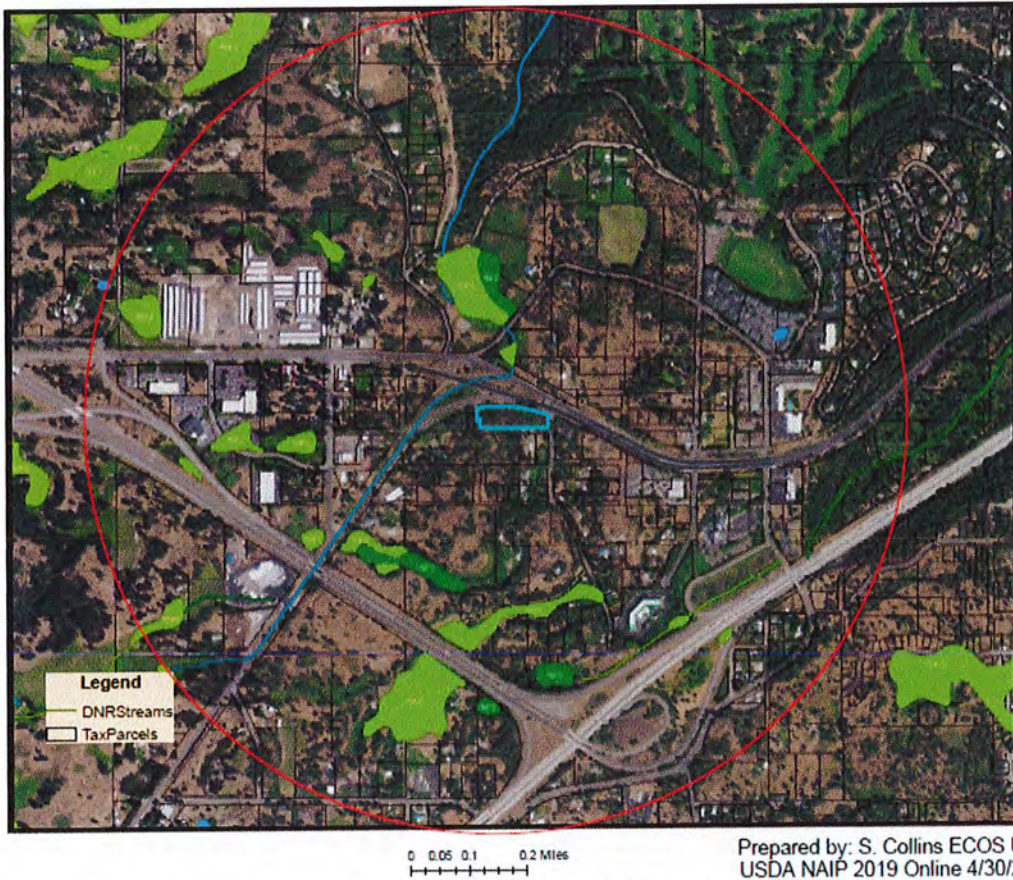


Figure 1. USFWS NWI 1KM BASELINE SITE AREA MAP Parcel #25271.1901 Spokane, Spokane County, WA.

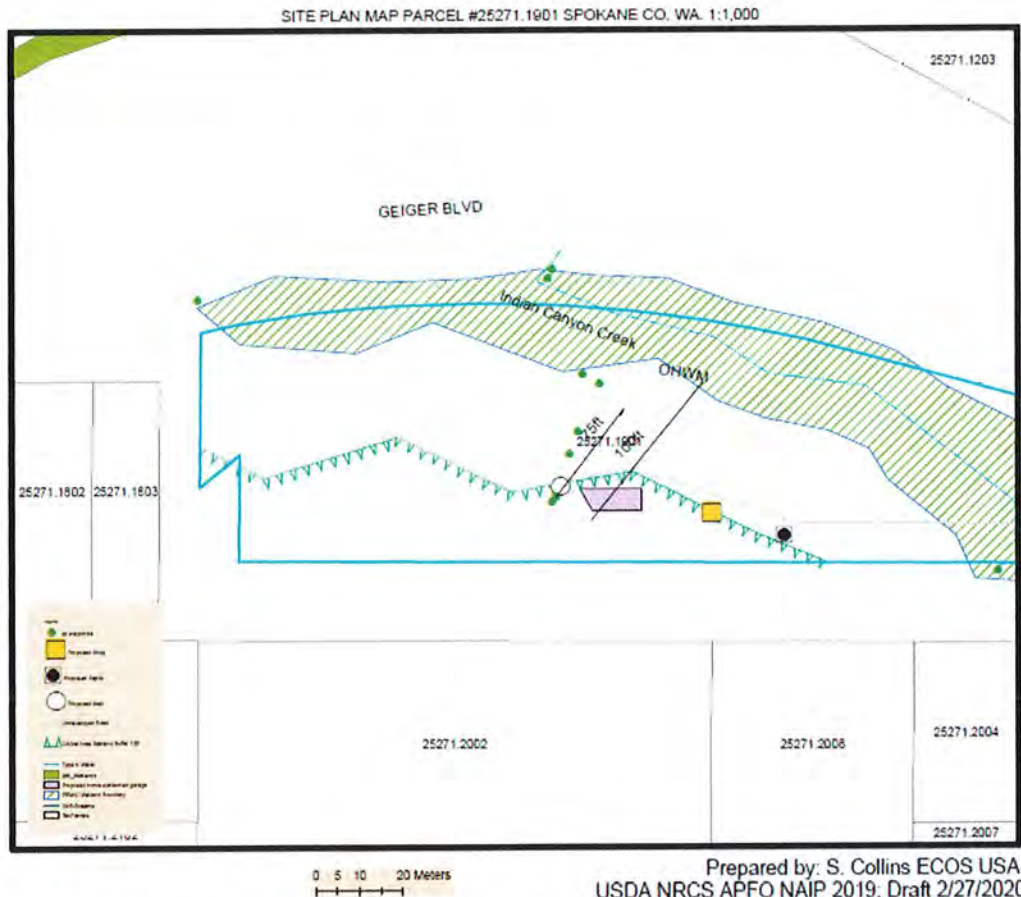


Figure 2. Parcel #25271.1901 Spokane, Spokane County, WA. Site Development Plan.

PROJECT SITE AREA BASELINE CONDITIONS

AIRPORT FLY ZONE

The project is located within the Spokane International Airport Fly Zone (GEG) (AFZ) Airfield Influence Area and Airfield Overlay (Traffic Pattern Zone 5). As part of the 77 elevation rings related to building maximum heights, any and all proposed structures will be less than 35' and will not encroach into the maximum 150' as mapped by T. Palmquist and sent via email correspondence April 8, 2018. There are no known effects or impacts proposed onsite which would affect the AFZ. Please see Email Correspondence available upon request.

WATER QUALITY

Indian Canyon Creek is considered within the Water Resource Inventory Area (WRIA) 56, Hangman Creek, and HUC # 17010306. The area is currently Waterbody 303d listed for Dissolved Oxygen (DO) and Ph. Attachment 5. This Type N Waterbody R4UB3 and associated PEMIC wetland and onsite based on water quality function was moderate. The Upper Indian Canyon Creek and associated PEMIC wetland has a highly constricted permanently flowing

outlet on the northern end of the property because of the construction of City of Spokane, Sunset Highway/Boulevard, Geiger, Royal, 16th, and Taylor Street. The creek has been indirectly re-routed due to City of Spokane roading construction over the past 100 years. The wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area and is seasonally ponded 1/2 - 1/4 total area of the wetland. There is evidence prolific growth of algae and algal bloom, anoxic conditions on site. This could be due to the timing of the field visits, which were only conducted during the spring. There was evidence of dumping, including 10 tires, furniture, and garbage debris and transient use throughout the wetland unit. Finally there was over .1m depth of total suspended sediment in the bottom, at the outlet of the concrete culvert at Sunset Boulevard which borders the Northern property line which is indicative of nonpoint source pollution of stormwater sediments, dust, and fine particulates from high intensity roading construction bordering the North side of property.

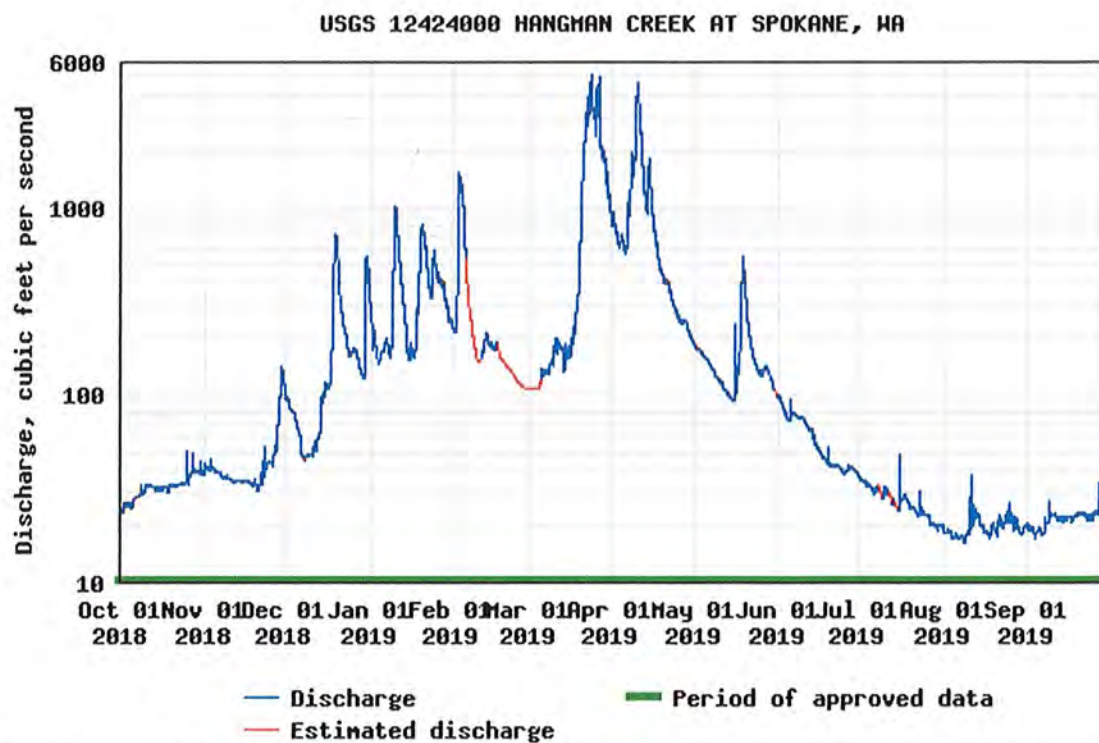


Figure 3a. USGS 12424000 Hangman Creek At Spokane WA. Discharge, cubic feet per second from Water year 2018-19.

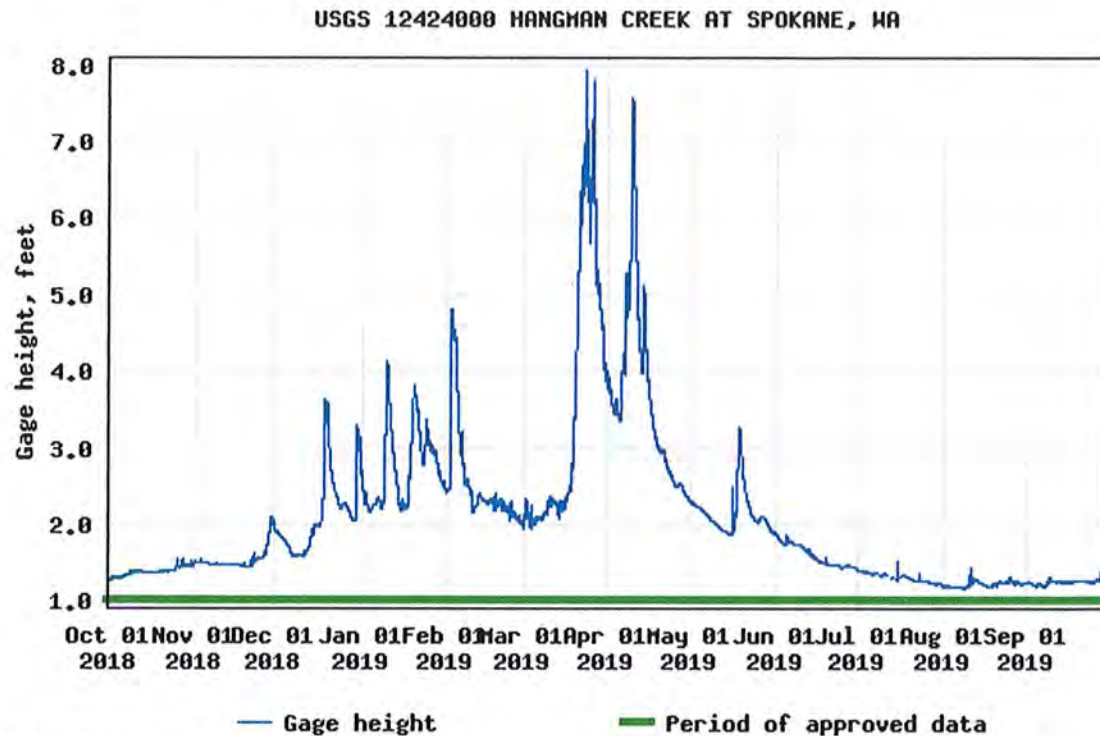


Figure 3b. USGS 12424000 Hangman Creek At Spokane WA. Gage height, feet from Water year 2018-19.

HYDROLOGY

There was average hydrology present on site with above average precipitation at the time of fieldwork visits on May 2, 2019. The 30-day precipitation for April was just above average at 1.47", according to the National Oceanic Atmospheric Administration (NOAA)/National Weather Service Station located at Spokane International Airport Spokane, Washington. Figure 4. USGS Station #12424000 @ Hangman Creek recorded above average gage height of 8ft with above average discharge peaking at approximately 6,000cfs in mid-April, 2018-19 water year.

ECOS USA observed that the average discharge on May 2, 2019 was .1cfs, with average bankfull width (BFW) of 1m, wetted width (WW) at .5m, wetted depth (WD) of .25m, and average instream gradient 2%. The banks were predominantly covered and stable with native rooted littoral wetland grasses and aquatic water cress.

The existing or potential outflow from the Upper Indian Canyon Creek and associated PEMIC wetland onsite is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that normally flood because of the Spokane County Road construction of City of Spokane, Sunset Highway/Boulevard, Geiger, Royal, 16th, and Taylor Street. There is evidence of intensive housing developments, agricultural farm practices including tillage and re-contouring, pastoral grazing, and orchard farming of the property area over the more recent and past 125 years immediately upstream which is a mix of small residential properties with small forest landowners. Evidence of past agricultural farming include upland pastoral grazing seed mixtures, including timothy and wheatgrass farming in the

wetland. These upland species mixtures tend to physically change the hydrogeomorphology by “drying up” the wetland so less surface water is available to support native emergent plants. Field notes available from ECOS USA upon request.

Climatological Data for SPOKANE INTL AP, WA - April 2019									
Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2019-04-01	59	34	46.5	2.3	18	0	0.00	0.0	0
2019-04-02	63	35	49.0	4.6	16	0	0.00	0.0	0
2019-04-03	58	44	51.0	6.4	14	0	0.05	0.0	0
2019-04-04	56	40	48.0	3.2	17	0	0.00	0.0	0
2019-04-05	57	41	49.0	4.1	16	0	0.22	0.0	0
2019-04-06	52	34	43.0	-2.1	22	0	0.06	0.0	0
2019-04-07	52	39	45.5	0.2	19	0	0.23	0.0	0
2019-04-08	51	42	46.5	1.0	18	0	0.11	0.0	0
2019-04-09	51	38	44.5	-1.1	20	0	0.49	0.0	0
2019-04-10	55	34	44.5	-1.3	20	0	T	0.0	0
2019-04-11	52	33	42.5	-3.5	22	0	0.00	0.0	0
2019-04-12	51	39	45.0	-1.2	20	0	0.01	0.0	0
2019-04-13	45	38	41.5	-4.8	23	0	0.19	0.0	0
2019-04-14	47	35	41.0	-5.5	24	0	T	0.0	0
2019-04-15	51	32	41.5	-5.2	23	0	0.01	0.0	0
2019-04-16	55	34	44.5	-2.4	20	0	0.00	0.0	0
2019-04-17	62	43	52.5	5.4	12	0	T	0.0	0
2019-04-18	66	42	54.0	6.7	11	0	T	0.0	0
2019-04-19	65	54	59.5	12.0	5	0	T	0.0	0
2019-04-20	62	41	51.5	3.7	13	0	0.03	0.0	0
2019-04-21	65	38	51.5	3.5	13	0	0.00	0.0	0
2019-04-22	65	41	53.0	4.8	12	0	T	0.0	0
2019-04-23	67	49	58.0	9.5	7	0	0.00	0.0	0
2019-04-24	65	40	52.5	3.8	12	0	0.00	0.0	0
2019-04-25	64	39	51.5	2.5	13	0	0.00	0.0	0
2019-04-26	64	47	55.5	6.3	9	0	0.07	0.0	0
2019-04-27	53	34	43.5	-6.0	21	0	T	0.0	0
2019-04-28	53	35	44.0	-5.8	21	0	0.00	0.0	0
2019-04-29	57	32	44.5	-5.6	20	0	0.00	0.0	0
2019-04-30	57	34	45.5	-4.9	19	0	0.00	0.0	0
Sum	1720	1161	-	-	500	0	1.47	0.0	-
Average	57.3	38.7	48.0	1.0	-	-	-	-	0.0
Normal	57.2	36.8	47.0	-	540	0	1.28	1.0	-

Figure 4. Climatological Data for SPOKANE INTLAP, WA APRIL 2019.

FISH PASSAGE BARRIER ASSESSMENT

The Spokane County Conservation District conducted “Hangman (Latah) Creek Fish Passage Barrier Inventory”, (HCFPBI) March 2009. The HCFPBI analysis concluded in Indian Canyon Creek, immediately downstream of the proposed project area that there are 3 Fish Passage Barriers which included the following:

1. A total of 1 natural fish passage natural barrier with a 50-60' waterfall at Palisades Park located at transect 1(d).
2. A total of 2 manmade fish barriers including road fill, no culvert or bridge (semi-permeable dam)-1(e) and then a culvert 3FT RND Culvert .8 outfall drop, rock placement at transect 1(f). Please see Figure 5 below.



HCL-1(d)	Indian Creek	Palisades Park, Natural Feature	City of Spokane	NA	50-60' Waterfall
HCL-1(e)	Indian Creek	Unimproved road	Private	5	Road fill, no culvert or bridge (semi-permeable dam)
Crossing ID#	Waterbody	Crossing Location	Jurisdiction	Barrier Classification	Crossing Type/Field Notes
HCL-1(f)	Indian Creek	Bonnie Dr.	City of Spokane	6	3' RND CST Culvert, 0.8 outfall drop, rock placement

Figure 5. Spokane County Conservation District Indian Canyon Creek Fish Passage Barrier Assessment Monitoring Site Location Map and a portion of Appendix A. "Detailed Hangman Creek Watershed Barrier List". Cited from SCCD, March 2009:22&61.

Shultz, A. (2004) concluded that the reach segment within the project area, which is considered the "unknown" area on Figure 5 above, contain fish and may support salmonids, and that Indian Creek should be reclassified by Washington Department of Natural Resources as Type F, or Fish Bearing waterbody. (Pers Com A. Shultz January 20, 2020). To date ECOS USA did not find evidence of fish presence onsite but would be considered a Type F Waterbody based on Physical Characteristics. A WDNR Water Type Modification Application will need to be completed with the addition of the water segment type into the project area. Please see Water Type Maps in Attachment 5.

PLANT COMMUNITY

A small remnant native wetland community, only about a 1/10 of the property currently exists in the wetland along the southwest property boundary area including an opportunistic Quaking aspen/red-osier dogwood POTR/COST plant series and degraded Cottonwood/red-osier dogwood POTR/COST plant series communities according to (Kovalchik and R. Clausnitzer, 2004:109 and 119-120). There also exists a small remnant native birch community with less than 20 saplings onsite. There are emergent plants including at least 4 species of native Sedges (*Carex* sp.) species, but not able to be keyed by ECOS USA Wetland Biologist to species as the fruition of the sedges had past and no seeds/achenes were present onsite. Attachment 8 and 9. Also please see "Wetland Determination Data Forms" and "Rating

Summaries-Eastern Washington” in Attachment 7. An ECOS USA photo picture log is available upon request.

PRIORITY HABITAT AND HABITAT FUNCTION

The property within 1km was mapped by the WDFW Priority habitat online mapping website on May 6, 2019. A total of 5 priority habitats included: Freshwater Emergent, Freshwater Forested/Shrub, Moose-*Alcea alces*, Mule deer *Odocoileus hemionus* Northwest White Tailed Deer-*Odocoileus virginianus*. Presently there is some evidence of light browsing from NW White-tailed Deer and Coyote scat. The overall habitat function score was moderate as 10-50% and > 3 patches of relatively undisturbed habitat in 1 km polygon around the wetland was present and has 2 priority habitats including “Riparian” and “Basalt Talus”. Please see Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species Report in Attachment 5.

SOILS

Soil samples were extracted and identified on October 12, 2019 by ECOS USA. Soils consisted of wetland histic soils including saturated fine dark silt loam, Cocolalla-Hardesty complex 0-3% slope, Soil Map Unit #1021. The other onsite soils included Northstar-Rock Outcrop-Rocky 0-15% slopes, Soil Map Unit #3117. Please see Attachment 5 “Soils” section.

PROPOSED ACTIVITIES AND CONSTRUCTION WITHIN 150FT CRITICAL AREA WETLAND BUFFER

Phase 1-PROPOSED NEW WELL AREA

The proposed new well area will be constructed to specification by J&J Well Report and “Site Set Up” Specifications area provided in Attachment 3. This landing area is approximately 40’40’x1’= 1600sqft.

Phase 2-PROPOSED HOME WITH ATTACHED GARAGE AND SHOP

The proposed home with attached garage and shop will be constructed on site with a CAT 430D excavator and a E45 mini bobcat with rubber tracks within the 150ft Critical Area Wetland Buffer (CAWB). The proposed duration of construction is 6 months. Please see Table 2 provided below. And Attachment 3 “Architectural Designs and Specifications”. In addition, Best management practices (BMP’s) are proposed which includes the most current DOE approved “Materials On Hand” and Silt Fence specifications to minimize, reduce, and/or avoid erosion onsite during and post construction. Please see BMP’s provided in Attachments 6,7, & 9.

Phase 3-PROPOSED SEPTIC SYSTEM DESIGN

The proposed septic will be constructed on site with a CAT 430D excavator and a E45 mini bobcat with rubber tracks within the 150ft CAWB. The proposed duration of construction is 3 months. Please see Table 2 provided below. And Attachment 3 “Proposed Septic Specifications and Designs”. Best management practices (BMP’s) are proposed which includes the most current DOE approved “Materials On Hand” and Silt Fence specifications to minimize, reduce, and/or avoid erosion onsite during and post construction. Please see BMP’s provided in Attachments 6,7, & 9.

TAYLOR STREET UNIMPROVED ROAD CONSTRUCTION

The owner will be repairing the existing roadway base or subgrade, which is within the entire 150’ WMZ. The base material will be 1 ¼” base and 5/8” surface Basalt delivered from a local rock pit. The

undeveloped road will remain a graveled road and pervious. The 16th ave. will remain a dead-end unimproved road according the owner and the City of Spokane Road Engineering Department and will not be altered or change and will remain in its existing condition.

STORMWATER AND EROSION CONTROL

Impervious area within the 2.5 acres property is currently 90% as it is undeveloped land. The proposed impervious area will be >30%. The runoff curve based on proposed cover types and hydrologic condition for *Fully developed urban areas (vegetation established)* impervious areas including roofs, driveways, etc. (excluding right-of-way) for hydrologic soil group D is 98, with a Antecedent Moisture Conditions (AMC) III of 99.

Stormwater and erosion control designs have been developed and will be constructed including bioretention structures including rain gardens, infiltration planters, installation of rain gutters, which are designed to capture the roof scape runoff of the proposed home, garage, and shop.

Infiltration planters are often used in highly urban settings as stormwater management retrofits next to buildings or within streetscapes. Infiltration planters typically conditions suggest a minimum plant establishment of 2 to 3 years.

Piped entrances such as the proposed rain gutters and pipes should include rock or other erosion protection material in the rain garden planters entrance to dissipate energy and disperse flow. Design considerations and General Criteria for Bioretention Soil Media (BSM) were considered as outlined under the Febuary, 2019 Washington Department of Ecology, Eastern Washington Stormwater Manual. Please see USDA National Cooperative Soil Survey U.S.A., Soil "Rockly Series" Description in Attachment 5.

Other BMP's include critical area planting of niche cluster planting areas (NCPA) of a native wetland seeding mixture approved by Spokane County. The property will have stormwater Low Impact Development (LID) structures constructed to design specifications as provided in Attachments 6.

DEVELOPMENT RELATIONSHIPS TO CRITICAL AREA BUFFER AND REQUIRED SETBACKS

The proposed routine maintenance of the private drive 325(L)x 14'(W)x 12"(H)= 4550sq.ft will be within the administratively required 40' wetland buffer/critical area wetland buffer (CAWB) along the Northern boundary of the property and approximately 10 cubic yards of fill is proposed.

Other appurtenances including power are located and will be construct in the upland basalt terrace and greater than 150' from the OHWM of Indian Canyon Cr. And over 100' from the Riverine Wetland boundary and do not need included in this Plan.

The CAWB onsite is about the same setback as the homes on adjacent parcels. This parcel # is 25271.1901 with approximately 1.2 acres of wetland. The proposed private drive will be constructed as a pervious surface structures and will have stormwater Best Management Practices (BMP's) constructed to capture surface run-off and precipitation and will minimize, reduce and avoid impacts to water quality functions within the wetland buffer. This site assessment is for a buffer reduction to allow for the new proposed construction of private drive Please see Architect Specification plans and ECOS USA edits to the Site Plan and Profile Maps in Attachment 2.

ASSESSMENT OF CRITICAL AREA CONDITION

BUFFER CONDITION

This wetland is situated along the Spokane County, S. Geiger Blvd urban environment. Native, POTR/COST and POTR2/COST Cottonwood/Red Osier dogwood Community Series. There is also native horsetail, red osier dogwood, alder, willow, and upland over story of dominant PIPO/SYAL Habitat Type within the parcel. See the attached Baseline Map and Site Plan and Profile Map for the location and designation forest habitat types. The CAWB determination was completed using survey protocol and validation monitoring by ECOS USA. This is a Category IV with a 40' CAWB. The CAWB determination in this report includes the following:

- Vicinity Map
- Parcel Map and Exhibit A "Legal Description"
- Spokane County Property Details Report
- USFWS NWI Map
- Water Quality Assessment for Washington Map
- Priority Habitat (PHS) Map and Report
- Soils Map
- FEMA Map
- Legend of "Cowardin" Mapping symbols
- Wetland Baseline Map/Site Plan Map

CONDITION OF THE WETLAND CRITICAL AREA (CATEGORY II)

The unnamed PEMIC wetland is subject to erosion from snow/ice frost heaving and ice movement during winter/spring break up. There are at least 4 native species of emergent species including native Common Horsetail, and over 4 different species of Sedges, Carex sp. There is also native opportunistic Aspen/red osier dogwood (POTR/COST) degraded Cottonwood/red osier dogwood POTR2/COST plant series communities, and box elder Acer nequundo, golden willow, scouler willow Salix sp., water birch Betula occidentalis were observed near but not on the property parcel. The dominant upland existing site The upland community is Ponderosa pine/Douglas fir mix/snowberry, Pinus ponderosa Pseudotsuaga menziesii /Symphoricarpos albus common snowberry habitat type. This unnamed wetland provides habitat for native and migratory species of birds including resident Owls, Bald eagle, Falcons, and Hawks, as well as other local native species including pheasant, grouse, rock wrens, crow, and blue jay which were observed onsite. It also has regular concentration of northwest white-tailed deer. Other large ungulates include moose, Cougar, voles, and black bear are often sited within the area as well.

TABLE 1- Critical Area Wetland Buffer, (CAWB) AREA CALCULATIONS

BUFFER ENCROACHMENT	AREA (Sq. Ft)	Percentage %
A. Total CAWB (Category IV-40') B.	105,820	100%
C. Proposed CAWB encroachment=	6,646	6%
D. CAWB Area Remaining	99,174	94%

Table 2

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category	Impact area (sq. ft., Cubic yards/or Acres)	Duration of impact ³	Proposed mitigation type ¹	Wetland mitigation area (sq. ft. or acres)
Fill of home and attached garage footprint	PEMIC/Upper Indian Canyon Cr.	II	55ft(W)x 44ft(L)x 2ft (D)= total footprint 1802(sqft)	8 months	R/C and RH 3:1 Ratio	
Fill of shop	PEMIC/Upper Indian Canyon Cr.	II	42ftx32x1 .5ft(D)=1, 344 sqft footprint (2,016 cubic ft)	8 months	R/C and RH3:1 Ratio	
Well construction	PEMIC/Upper Indian Canyon Cr.	II	40ftx15= 600sqft,	30 days	R/C and RH3:1 Ratio	
Septic construction	PEMIC/Upper Indian Canyon Cr.	II	1,496sqft	3 months	R/C and RH3:1 Ratio	
private drive approach from Taylor Rd. Of this, approximately 25'(L) x 20(W)x 1	PEMIC/ Indian Canyon Cr	II	500 sqft 25'(L)x20'(W)x1'(D)	2 months	R/C and RH 3:1 Ratio	
			5,742 sq ft		X3	17,226 SQFT

Notes: 1-Re-establishment or creation (R/C) and Rehabilitation (RH).

WETLAND MITIGATION PLAN

The property owner, A. Chumov is proposing new construction of structures which includes the home, garage, and shop, and appurtenance's including a well, septic, and routine maintenance of pervious private drive are proposed approximately 75' from the PEMIC Wetland Boundary (WB). The Wetland Rating prepared by ECOS USA on 5/2/2019 and revised on 5/17/2019, due to comments sent back from

Ecology, J. McCann and concurrence with City of Spokane, T. Palmquist the Category Rating was determined to be a Category II Wetland with a Functional Score of 19 with a moderate level of habitat function, with a moderate impact of land use as and would be have a minimum of a 150' buffer according to the City of Spokane Municipal Code Table 17E.070.110-3 would have a 150' minimum wetland buffer (WB). The Client, A. Chumov is proposing to encroach this CAWB approximately 100' from the OHWM of Upper Indian Canyon Creek Type N waterbody and 75' from associated PEMIC depressional wetland.

Due to the encroachment into the PEMIC CAWB, ECOS USA and the Client would like to continue into Options open to negotiation include the following:

1. "Reduction of Standard Wetland Buffer Zone Width" based on Spokane Municipal Code 17E.070.110 D1.c., and the client would apply the measures to minimize the impacts of the proposed land uses or activities as provided in Table 17E.070.110-3, Alternative 2.
2. "Reasonable Use" as there is a 75' CAWB proposed, which is only 75' of encroachment into the CAWB and 100' from the OHWM of Upper Indian Canyon Creek.
3. The site area property is limited to build on as the basalt cliffs and surficial geology of the site containing Terraced Basalt outcrops along the southern property line limits or constraints the client to be able to construct home, garage, and shop at 150' from CARB. A 75' CAWB is proposed.
4. "Wetland Mitigation" as outlined in City of Spokane Municipal Code Section 17E 070.130 as identified in Table 17E.070.130-1 with a Category II with Re-establishment with 3:1 ratio. This preliminary estimate of proposed encroachment into to the CAWB onsite.
5. Preserve, maintain, and increase the population of all existing native species onsite, including the small remnant native *Betula occidentalis*, water birch community along Indian Canyon Creek with less than 20 saplings onsite.

A "Wetland Buffer and Wetland Mitigation Plan Map" has been prepared by ECOS USA as provided in Figure 5 below.

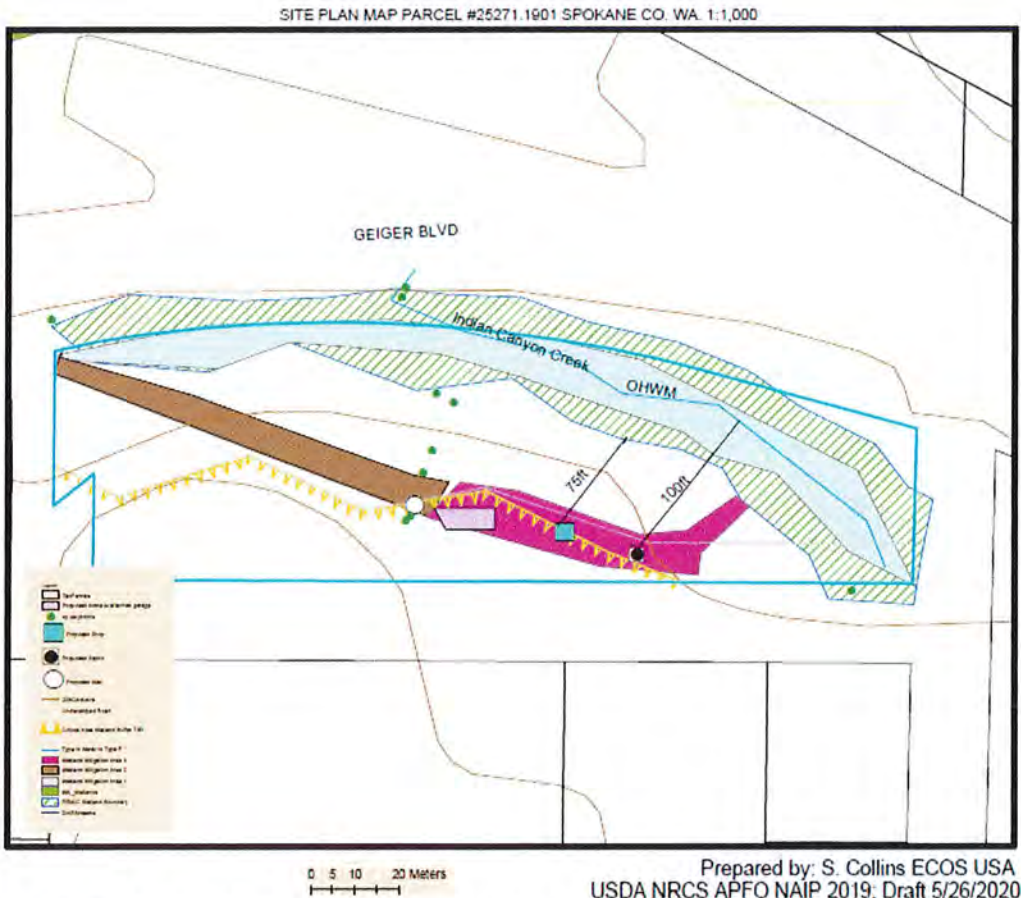


Figure 5. Wetland Buffer and Wetland Mitigation Plan Map.

GENERAL PURPOSE

This Wetland Mitigation Plan (WMP) is to document how proposed construction activities will be implemented to meet the requirements of current WAC-222-16-030 and Chapter 90.58 RCW and the City of Spokane, Spokane Municipal Code Title 17E Chapter 17E.070.110 and 17E.070.130, as it relates to impacts to the adjacent critical area and maintaining the wetland buffer condition and functions, for the Category IV PEMIC wetland. The mitigation measures will be on the same property.

ANALYSIS OF AVOIDANCE:

- a) Avoid. The area is vacant land. Measures to avoid additional impacts included placing all proposed homesite and normal appurtenances (proposed well, septic/drainfield, and home) structures in the upland basalt terrace. Measures to mitigate all potential impacts to the wetland buffer because of the width (40'), slope, and location of the existing wetland intact species and communities within the parcels CAWB.
- b) Minimize. The locations of the proposed private drive and approach has been arranged to minimize the area of wetland and CAWB impacted by keeping further from the CAWB. A temporary silt fence will be constructed and remain place during road construction. The proposed private driveway is similar to existing private drives on adjacent parcels. These proposed footprints in total, will result in impacting only %30 of the CAWB on this parcel, minimizing the negative impacts to the Category IV wetland. Additional plants may need to be

planted in Spring 2021 and Fall of 2021 if evidence of 80% mortality in annual monitoring in the first year.

- c) Enhancement. The project will be enhanced to the original condition of the land on within the CAWB on this parcel by a certified professional landscaper in workman like manner, (hand tools including: a shovel, hoe, hand seed spreader, trimmer, pruner, hand axe and mini chainsaw). Then the area will be seeded with Spokane County approved native wetland seed mixture grasses. Please see Attachment 9 and Critical Area Planting Specifications 342 and Planting Calendar in Attachment 9.
- d) Reduce impacts over time. Construction oversight and inspection by qualified contractors followed by re-vegetation of the disturbed areas will take place. All existing live wetland vegetation will remain in tack. This will reduce the overall impact over time.
- e) Compensate. Rehabilitation/Enhancement will be 3:1 ratio with a total of 6,646sqft. Impacts to the buffer will be compensated for by enhancing the area to native wetland grasses and landscaping with native over-story trees and shrubs to enhance and diversify the existing wetland and upland habitat on this property.
- f) Monitor. Construction lay out, and inspection will be provided by ECOS USA during all phases of the project. Wetland area planting and buffer landscaping within the CAWB are part of this mitigation plan and will be completed as the final portion of the project. Since the property owner cannot avoid all impacts to the 75ft CAWB, Category II wetland they will not further adversely effect, degrade, and/or minimize the area of impact as possible. Gradually reducing impacts over time, and mitigation for the 75ft CAWB impacted by including habitat enhancement measures. The objective of the mitigation plan is to accomplish these environmental goals as follows:

ENVIRONMENTAL GOALS

1. Protect public health, safety and welfare.
2. Minimize the area impacted.
3. Gradually reduce impacts over time.
4. Compensate for the wetland buffer impacted by enhancing the existing fish and wildlife habitat as mitigation.
5. Achieve no net loss of critical area resources.

OBJECTIVES:

Protection of public health, safety and welfare as well as achieving no net loss of a critical area or priority habitat area or species resources. The objective of the mitigation planned for encroaching on the wetland buffer is to maintain and enhance the existing native wetland plant communities within the CAWB. The total CAWB buffer is approximately 9831sqm or 2.4acres.

The Wetland Mitigation Plan will include:

1. Native wetland and conservation and re-vegetation plans. A 3:1 ratio has been established to compensate for "no net loss" to the native wetland species in the unnamed PEMIC. These include 3 Mitigation Areas which primarily include conservation and enhancement measures within construction site and excavated areas to provide additional erosion protection, reduce the encroachment of noxious weeds, and improve water quality by providing native wetland vegetation filtration of runoff on the parcel. This Wetland Mitigation Plan also includes

measures to provided enhancement of additional priority habitat and wildlife resources, (i.e. increasing instream shade and forested wetland forage) in and along the PEMIC.

2. A Silt Fence will be constructed and remain onsite intact during construction at 75ft from the OHWM of PEMIC wetland boundary. Silt fences are used as an effective barrier to sediment leaving the site in stormwater runoff from relatively small areas. Once installed, the silt fence should remain in place until all areas upslope have been permanently stabilized by native riparian vegetation or approved biotechnical structure. Please see design and specifications in Attachment 8.

Previous clean-up measures were taken by the property owner on May-June 2019 which included with the area within Indian Canyon Creek and is approximately 1802sqm or .46acres. This area had all dumped material and garbage (i.e.. Tires, couches, cans, plastics, papers,...) removed and hauled to an approved City of Spokane upland dump site. In addition all and existing native species within the MA-1 will be preserved, maintained, and remain intact onsite.

Native Birch saplings will be collected and transplanted onsite to increase the population of the small remnant native *Betula occidentalis*, water birch community along Indian Canyon Creek with less than 20 saplings onsite. The standard designs and specifications for collection and transplanting with MA-1 area provided in Attachments 6.

Mitigation Area 1, (MA-1)

Mitigation Area 1, (MA-1) includes Wetland native seed mixture hydroseeding by hand of 618sqm= 6,652sq.ft or .2acres. These wetland mitigation areas will be planted according to USDA NRCS Specification 342 "Critical Area Planting". Attachments 7. Please see planting calendar, specifications, and list of native wetland plants to be planted in Attachments 6.

Critical Area and Wetland Mitigation Monitoring Plan

Annual Monitoring Reports will be prepared by ECOS USA and delivered to the City of Spokane, Planning Services Dept. by Dec. 31, for 4 consecutive years commencing 2020. The USDA NRCS Specification 391 "Riparian Forest Buffer" Standards, Specifications, Practice Documentation, and Implementation Requirements will be used for onsite monitoring reporting requirements. Attachments 7.

CONCLUSION:

ECOS USA has determined that the proposed activities will not change or alter, or further impair the waterbodies or the wetland functions onsite as **adequate 75' CAWB have been established onsite and over 70% of the CAWB will remain intact.**

CITED LITERATURE:

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ATTACHMENT 1-LEGAL DESCRIPTION AND PLAT MAPS

Chamov ATTACHMENT 1

Parcel Number: 25271.1901

Data As Of: 4/30/2019

Site Address: Unassigned Address SCOUT Map (<https://cp.spokanecounty.org/SCOUT/Map/?PID=25271.1901>)

Printer Friendly (SummaryPrint.aspx)

Collapse All

Owner/Taxpayer

(Default.aspx?PID=25271.1901)

Owner

Owner Name: B AND A INVESTMENTS

Address: PO BOX 141449, SPOKANE, WA, 99214-1449

Royal / Sunset Blvd.
Junction

Taxpayer

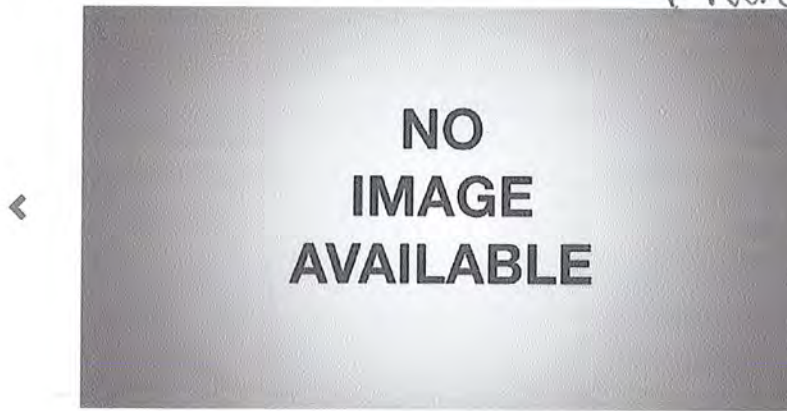
Taxpayer Name: B & A INVESTMENTS

Address: PO BOX 141449, SPOKANE, WA, 99214-1449

Adjoining South W/River
Parcel #25271.2004
Adjoining North City of Spokane
Road Engineers,
+ Parcel 25271.1202

Photos

(<https://cp.spokanecounty.org/SCOUT/Map/?PID=25271.1901>)



Assessed Value

Site Address 1455 S. Geiger Blvd Spokane, WA. 99201

Parcel Type	Land Size	Size Desc.	Description	Tax Year	Tax Code Area
-------------	-----------	------------	-------------	----------	---------------

+ R	109945	Square Feet	Commercial Undeveloped land	2019	0055
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(<https://cp.spokanecounty.org/Assessor/TCA/TaxCodeAreaByYear.aspx>)
TCA=0055

CARPENTER & DAVIES ADD PTN OF BLK 8 LYG SLY OF A CURVED LN LYG 50FT SLY & PAR TO S R/W OF PSH 11 AND E1/2 OF VAC TAYLOR ST ADJ TO

Appraisal

(<https://cp.spokanecounty.org/Assessor/ContactAssessors/Default.aspx?parcel=25271.1901>)

Parcel Class	Neighborhood Name	Neighborhood Desc	Appraiser Name	Appraiser Phone
+ 91 Vacant Land	AS220		Sam	477-5923

Appraiser
477-5923 Sam

T27N R2E Sec 27 NW 1/4

CARPENTER
÷ AND ÷

÷ AND ÷

**DAVIE'S
ADDITION
SPOKANE
FALLS**

Wash:

Scale 100ft = 1in

Riblet & Struck
Civil Engineers

Dedication

I have all men by these presents that we, James G. Thompson and
 Wm. Owen have laid off the land plotted on the Map 1. to be known as
 Prospect and Dorcas Addition to Spokane Falls town, and being
 the Northeast quarter of the Northeast quarter and the Northeast quarter
 of the Northeast quarter of Section 27, Township 4 North, Range
 10 East of the 11th. And being hereby declared to be the first of no legal
 value the above so marked and divided on the plat reasoning
 however the perpetual right in all streets to lay pipes and to carry
 water and gas through the same, to construct and operate streets
 and water and to erect poles for telegraph and other uses or to lay
 the same under ground, within and across the East day of April 1894.

Robert S. Parfett
Wm. Davis

O. B. Moody }
John B. Rice } Western

Acknowledgment:

State of Washington }
County of Spokane } ss

I A.B. Moody a Notary Public in and for said State of Kentucky do hereby certify that on the First day of April A.D. 1880 personally appeared before me the above named Robert C. Carpenter & W^o Bone personally known to me to be the identical persons named in the above instrument & duly acknowledged to me that they signed & entered the same as the free & voluntary act & deed for the name & purpose herein mentioned.

In witness whereof I have hereunto set my hand and affixed my
notarical seal the day & year last above written

C. B. Moody
Notary Public

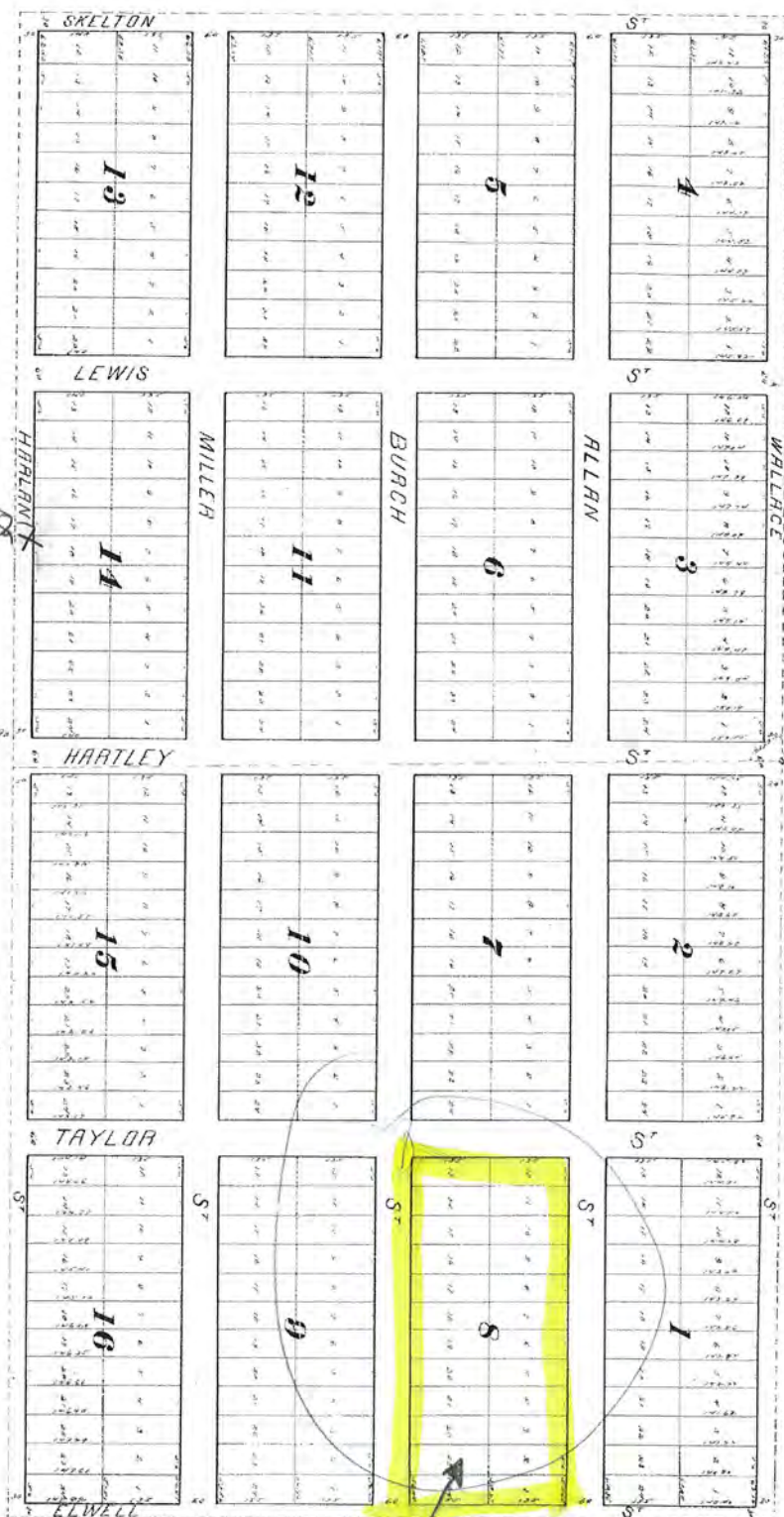
Certificate

We hereby certify that this is a correct Map of Quarter
32 Bovey's Addition to Spokane Falls, Wash. being the
Northwest quarter of the Northwest quarter of the Willow &
quarter of the Northwest quarter of Section 27 Township 20
North Range 40 East of the W.M. as surveyed by us on
March 1 - 1890

Revised By Street
Civil Engineers

Filed April 1st 1890
1 O.M.

Request W. B. Davis
Recorded April 24th 1890
M. D. Smith Auditor
By C. A. Smith Deputy

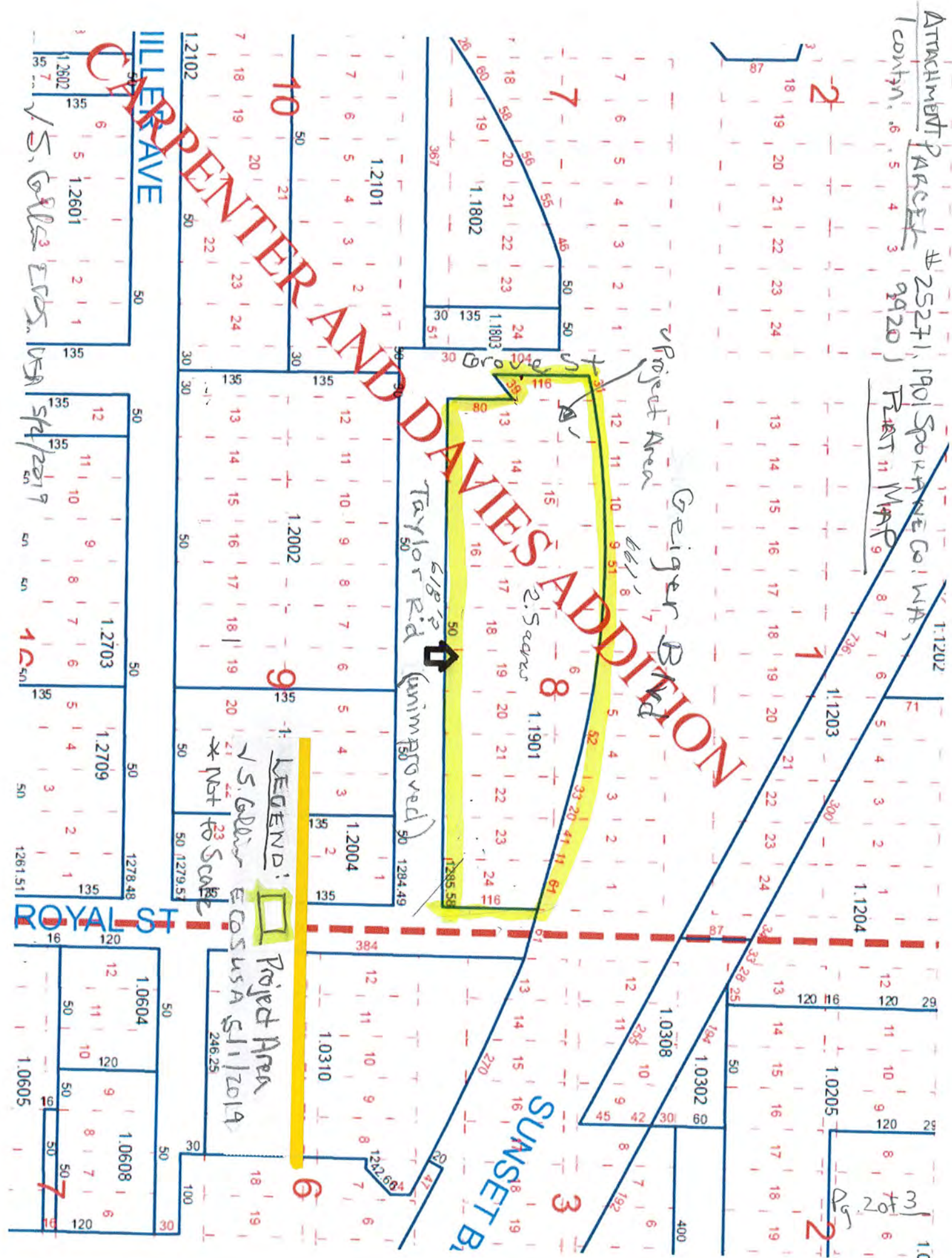


Project Area

J. S. Galt FLOS USA 5/2/2019

Pg 3 of 3

Attachment Parcel #25271, 1901 Spokane Co. WA, 99201 Plat 11 Map 9



LEGEND:



Project Area

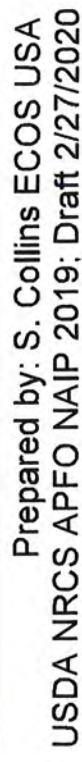
S. Collier Ecos USA 5/1/2019
Not to Scale

S. Collier Ecos USA 5/1/2019

ATTACHMENTS 2

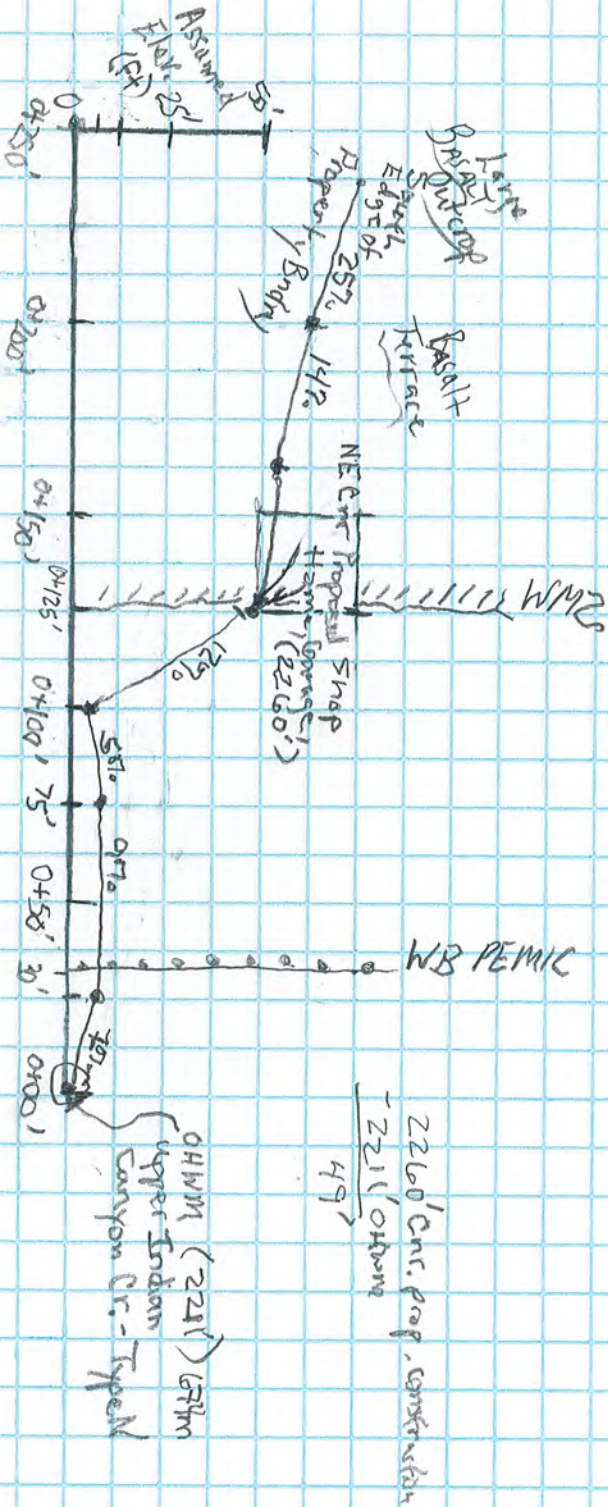
- 1. SITE DEVELOPMENT PLAN MAP**
- 2. SITE AREA PROFILE MAPS**
- 3. ECOS USA <xy waypoints with descriptors.xls>**

2-11-1944



A vertical number line with tick marks at 0, 5, 10, and 20. The label "20 Meters" is at the top.

Parcel # 25271.1901 Site Profile Map Sporan Co., WA. 99201



LEGEND 1"=50'

- NECNR - North East Corner Proposed Home, Garage & Shop 2260' Elev. (221' Elev.)
- WMZ - Proposed WMZ 125' PERM - Polishing Emergent Persistent Seasonally Flooded (2228' Elev.)
- WB - Wetland Boundary

Prepared by
S. Collins
ECDS USA 5/7/2019

ATTACHMENT 2- ECOS USA XY WAYPOINTS WITH DESCRIPTORS**Parcel #25271.1901****1450 Geiger Blvd. Spokane, WA 99201****S. COLLINS, ECOS USA 06_2019 Chomav****FIELDWORK SITE VISIT 1-MAY 3, 2019****XY Waypoints with Descriptors.xls**

Id	Waypoint	Northing	Easting	Elev. (m)	Description
0	194	5276595	463667	685	NW Cnr Property (BASELINE)
0	195	5276578	463755	679	Wetland Boundary 2
0	196	5276576	463759	683	WMZ 30 feet
0	197	5276565	463754	674	WMZ 75 feet
0	198	5276560	463752	686	WMZ 100 feet
0	199	5276550	463749	689	NE CNR Proposed Home
0	200	5276549	463748	689	NW CNR Proposed Home 1600sqft
0	201	5276600	463747	678	BFW Type N Stream
0	202	5276602	463748	676	BFW Type N Stream
0	203	5276533	463850	674	BFW Type N Stream
0					

5/3/2019

ECOS USA Garmin Etrex 20x UTM NAD83 Zone 11N meters

FIELDWORK SITE VISIT 2- JUNE 18, 2019

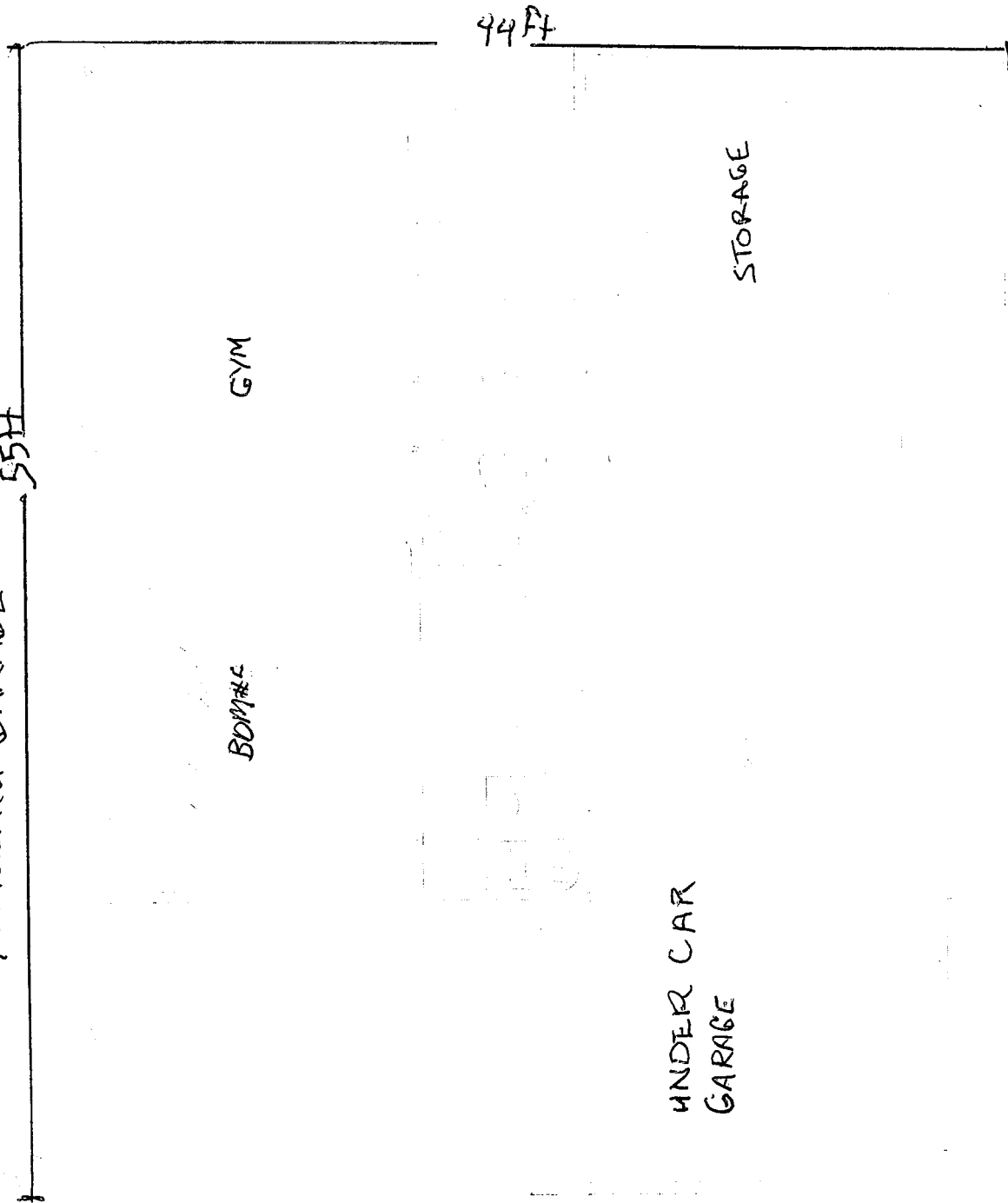
Id	Waypoint	Northing	Easting	Elev. (m)	Description
0	218	5276588	463756	680	Wetland Boundary (WB)-1
0	219	5276593	463744	673	WB-2
0	220	5276566	463737	672	OHWM Indian Creek
0	221	5276579	463775	676	WB-3
0	222	5276583	463778	675	WB-4
0	223	5276543	463784	684	75FT WMZ 1
0	224	5276543	463785	682	100FT WMZ 1
0	225	5276534	463774	678	Proposed Septic
0	226	5276556	463756	680	NE CNR proposed Home w/attached garage
0	227	5276556	463752	674	NW cnr Att garage proposed
0	228	5276550	463763	668	NW CNR Proposed Shop
0	229	5276556	463721	680	Proposed Well

ECOS USA Garmin Etrex 20x UTM NAD83 Zone 11N meters

ATTACHMENT 3-

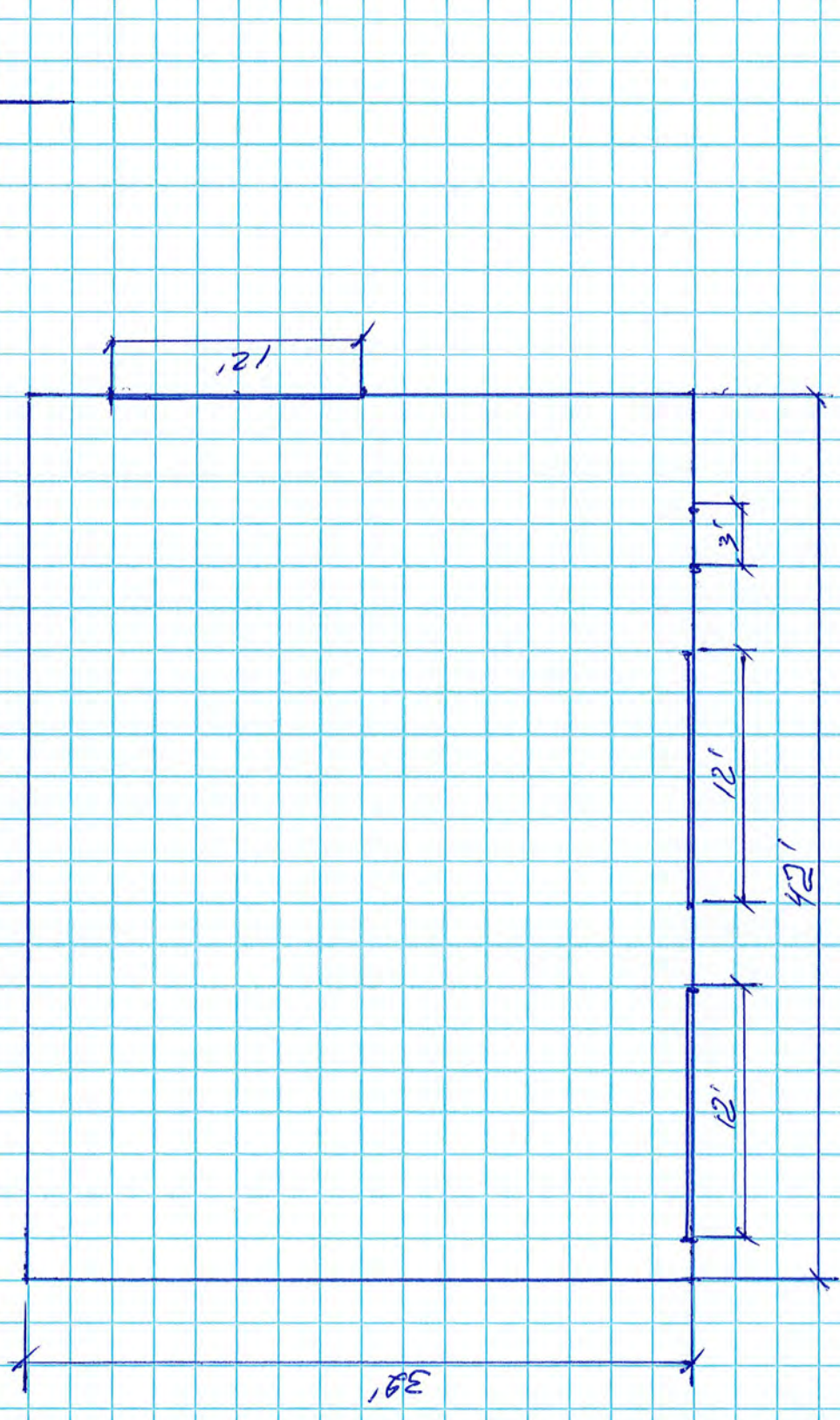
- 1. PROPOSED SITE ARCHITECT PLANS AND SPECIFICATIONS-PROPOSED FOOTPRINTS FOR HOME WITH ATTACHED GARAGE AND SHOP.**
- 2. PROPOSED SEPTIC DESIGNS AND SPECIFICATIONS.**
- 3. J&J WELL REPORT.**

PROPOSED Parcel # 25-271.1901 OWNER: Hadley Chumov
HOME w/ ATTACHED GARAGE FOOTPRINT 55ft



2-27-2020 VERSION
A.C.

Proposed Shop Plan 38' x 42' x 15' Foot Print
 1455 S Gerber Blvd Spokane WA



Prepared By Shirley Chumov
 509-991-7827

06-03-2020

February 11, 2020

Spokane Regional Health District

1101 W. College, Room 402
Spokane, WA 99201

Sent Via Fax #: 324-1567

RE: Andrey Chumov Property
1455 S. Geiger Blvd
Parcel # 25271.1901
SRHD App # 19-15074

Bob:

This is a follow-up to our joint site visit on 2/5/20. We evaluated 2 testholes and determined that the on-site soils and site topography will require a pre-treatment (NuWater) to subsurface drip disposal system to serve the proposed home and shop.

Please reference the enclosed preliminary plan and testhole report. Your review and concurrence is requested.

Please contact me if you have any questions.

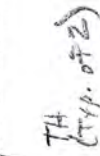
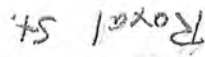
Sincerely,
Metro Engineering, Inc.

Joel G. Lee, P.E.
Principal Engineer

cc: Project File



1455 S. Geiger Blvd Spokane, WA. 99201



16th Ave.
(unimproved)

1945

Andrey Chernov
1455 S. Beige Blvd.
Parcel # 25271.1901
CD4D App. # 19-15074

LEBEND
OHIM - Ordinary
High Water Mark

0.4 SLR Required
675 LF or Drip provided.

App. # 19-15074

✓ Reviewed + Revised by S. Collier
ECOS USA

7-100' loops 1400 # of Dig Field

Attachment 3 - Proposed Septic Site Development Plan
Chumov Property - 1455 S. Geiger Blvd. Spokane, WA

1" = 60'
More Info

Measure



J & J Well Drilling, Inc.

JJWELJW843DS

13011 E. Palouse Hwy.

Valleyford, WA 99036

509-928-2038

ESTIMATE

Date: 6/17/2019

Prepared for:

Andrey Chumov

509-991-7827

andchumov@yahoo.com

This is an estimation of cost for drilling a new domestic water well on Spokane County parcel 25271.1901 with a street address of South Geiger Blvd, Spokane. The property location utilized in this estimation is the NW Quarter of the NE Quarter of Section 27, Township 25N, and Range 42E. The following is a list of J & J Well Drilling's pricing for drilling a water well in this area.

8" Drilling	\$	per foot	No minimum well depth requirement past the eighteen feet required by state law.
6" Drilling	\$ 24.00	per foot	
8" Steel Casing	\$	per foot	The state requires that we install a minimum of eighteen feet of steel casing below ground. However, we will need to install steel casing until a hard rock formation is reached and the well can stay open on its own or water is obtained.
6" Steel Casing	\$ 18.00	per foot	
5" Steel Casing	\$	per foot	Sometimes the rock formation of a well is so broken that we are unable to line the well with PVC. In these rare cases, we would need to line the well with steel casing to ensure the well stays open and clean for the pump system.
4" PVC Liner	\$ 4.75	per foot	
8" Ecology Seal	\$		Required by state law, the seal prevents surface water contamination of the well.
6" Ecology Seal	\$ 300.00		
8" Drive Shoe	\$		The shoe protects the steel casing from damage as the steel casing encounters the hard rock formation.
6" Drive Shoe	\$ 100.00		
8" Well Cap	\$		This is the Cap that goes on the well.
6" Well Cap	\$ 50.00		

Notice of Intent	\$ 200.00	This is the notice to the Department of Ecology to drill the well.
Minimum Fee	\$ 3,500.00	Minimum fee charged to cover travel time and set-up costs (only charged if subtotal is less than minimum amount). Plus, Sales Tax and NOI Fee.
Down Payment	\$ 3,500.00	A Down Payment is required before well construction begins. This covers the minimum fee, NOI, and tax. The Down Payment amount is applied toward the invoice total.

Example Estimates

I have prepared a few example estimates for this drilling project that are based on the Water Well Reports on record for the area.

Example #1:

Based on well depth of 60 feet

60 ft	6" Drilling	\$ 24.00 ft	\$ 1,440.00
23 ft	6" Casing	\$ 18.00 ft	414.00
60 ft	4" PVC	\$ 4.75 ft	285.00
1	6" Ecology Seal	\$ 300.00	300.00
1	6" Drive Shoe	\$ 100.00	100.00
1	6" Well Cap	\$ 50.00	50.00
1	Minimum Fee		911.00
	Subtotal		\$ 3,500.00
	Sales Tax (3210)	8.9%	311.50
	NOI Fee	\$ 200.00	200.00
	Estimation Total		\$ 4,011.50

Note: Minimum fee charged to cover travel time and set-up costs (only if subtotal is less than minimum)

Example #2:

Based on well depth of 120 feet

120 ft	6" Drilling	\$ 24.00 ft	\$ 2,880.00
20 ft	6" Casing	\$ 18.00 ft	360.00
120 ft	4" PVC	\$ 4.75 ft	570.00
1	6" Ecology Seal	\$ 300.00	300.00
1	6" Drive Shoe	\$ 100.00	100.00
1	6" Well Cap	\$ 50.00	50.00
	Subtotal		\$ 4,260.00
	Sales Tax (3210)	8.9%	379.14
	NOI Fee	\$ 200.00	200.00
	Estimation Total		\$ 4,839.14

Example #3:

Based on well depth of 155 feet

155 ft	6" Drilling	\$ 24.00 ft	\$ 3,720.00
42 ft	6" Casing	\$ 18.00 ft	756.00
155 ft	4" PVC	\$ 4.75 ft	736.25
1	6" Ecology Seal	\$ 300.00	300.00
1	6" Drive Shoe	\$ 100.00	100.00
1	6" Well Cap	\$ 50.00	50.00
	Subtotal		\$ 5,662.25
	Sales Tax (3210)	8.9%	503.94
	NOI Fee	\$ 200.00	200.00
	Estimation Total		\$ 6,366.19

The pricing listed above is subject to a site evaluation. Pricing may change after 90 days due to material costs. Again, these are only estimations and they are based on the Water Well Reports on record for the area. Unfortunately, no drilling company can determine completed well depth, steel casing requirements, or water production levels prior to well construction. Drilling a well does not guarantee legal access to water from the well.

Please contact the office if you have any questions about the estimate.

Thank you for the opportunity to bid a water well for you. We appreciate your consideration.

Respectfully,



Stacey Mosset
Office Manager

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No. 00230

(1) OWNER: Name B & B Yeager

Address 52006 Gieger Bulva Spokane WA

LOCATION OF WELL: County Spokane

SW 1/4 NW 1/4 Sec. 27 T25 N. R42 W

g and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: (Number of well
if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 65 ft Depth of completed well 65 ft

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from +2 ft. to 18 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☐ " Diam. from ft. to ft.

Perforations: Yes ☒ No ☐
Type of perforator used SKISAW IN PVC
SIZE of perforations 1/8 in. by 6 in.
14 perforations from 62 ft. to 45 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation
above mean sea level ft.
Static level 22 ft below top of well Date 2/7/89
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is
lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield gal/min with ft drawdown after hrs.

Recovery data (time taken as zero when pump turned off) (water level
measured from well top to water level)
Time Water Level Time Water Level

Test 50 gal/min with ft drawdown after 1 hrs
Artesian flow gpm Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and
show thickness of aquifers and the kind and nature of the material in each
stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
TOPSOIL	0	2
CLAY - BROWN	2	5
BASALT - BLACK - HARD	5	28
BASALT - BLACK/BROWN - SOFT	28	31
BASALT - BLACK/BROWN - MED. HARD	31	44
CLAY - BROWN/WHITE - BASALT - BROKEN	44	51
BASALT - BROWN/GREY - MED. HARD	51	65



Work started 2/6 19 90 Completed 2/7 19 89

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is
true to the best of my knowledge and belief.

NAME B & B DRILLING
(Person, firm, or corporation) (Type or print)

Address N. 29202 SR. 395 ACER PARK WA

(Signed) Keith MacLean
(Well Driller)

License No. 1508 Date 2/7 19 89

(USE ADDITIONAL SHEETS IF NECESSARY)

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No.

(1) OWNER: Name Harold Besgrove Address S 1631 Royal Spokane Wash.
(2) LOCATION OF WELL: County Spokane - NE 1/4 NE 1/4 Sec. 27 T25 N. R42 W M
Bearing and distance from section or subdivision corner 1800' S-1135' W NE C. & Sec.

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) 2
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6" Inches.
Drilled 85 ft. Depth of completed well 85 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 0 ft. to 54 1/2"
Threaded ☐ Diam. from ft. to ft.
Welded ☒ Diam. from ft. to ft.

Perforations: Yes ☐ No ☒

Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 54' ft.
Material used in seal Cement Grout
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation 2280 ft.
Static level 39 ft. below top of well Date 8-31-73
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal/min with ft. drawdown after hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Per test 12 gal/min. with ft. drawdown after hrs.
Flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand	0	14
Basalt, Broken	14	45
Basalt, Scoria	45	85

Work started 8-29 1973 Completed 8-31 1973

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Graham Drilling (Person, firm, or corporation) (Type or print)
Address Nine Mile Falls Wash.
[Signed] Lee C. Graham (Well Driller)

License No. 156 Date 9-7 1973

WATER WELL REPORT

Start Card No. W081665
 Unique Well I.D. # ACP524
 Water Right Permit No.

STATE OF WASHINGTON

(1) OWNER: Name COBLEY, DON		Address 4704 N SUNSET HWY SPOKANE, WA 99224-	
(2) LOCATION OF WELL: County SPOKANE		- NW 1/4 NE 1/4 Sec 27 T 25 N. R 42E WM	
(2a) STREET ADDRESS OF WELL (or nearest address) 4722 W SUNSET HWY, SPOKANE 99224			
(3) PROPOSED USE: DOMESTIC		(10) WELL LOG	
(4) TYPE OF WORK: Owner's Number of well (if more than one) Method: ROTARY NEW WELL		Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated. With at least one entry for each change in formation.	
(5) DIMENSIONS: Diameter of well 6 inches Drilled 120 ft. Depth of completed well 120 ft.		MATERIAL	
(6) CONSTRUCTION DETAILS		FROM TO	
Casing installed: 6 " Dia. from +1 ft. to 19 ft.		TOPSOIL 0 2	
LINER 4 " Dia. from -5 ft. to 120 ft.		BASALT HARD 2 27	
		BASALT SOFT 27 74	
		BASALT HARD 74 101	
		BASALT FRACTURED W/WATER 101 106	
		BASALT HARD 106 120	
Perforations: YES			
Type of perforator used SKILL SAM			
SIZE of perforations 1/8 in. by 6 in.			
40 perforations from 90 ft. to 120 ft.			
perforations from ft. to ft.			
perforations from ft. to ft.			
Screens: NO			
Manufacturer's Name			
Type Model No.			
Diam. slot size from ft. to ft.			
Diam. slot size from ft. to ft.			
Gravel packed: NO			
Size of gravel			
Gravel placed from ft. to ft.			
Surface seal: YES To what depth? 19 ft.			
Material used in seal BENTONITE			
Did any strata contain unusable water? YES			
Type of water? DIRTY Depth of strata 70 ft.			
Method of sealing strata off PACKER			
(7) PUMP: Manufacturer's Name			
Type NONE H.P.			
(8) WATER LEVELS: Land surface elevation			
above mean sea level ft.			
Static level 60 ft. below top of well Date 10/14/97			
Artesian Pressure lbs. per square inch Date			
Artesian water controlled by			
Work started 10/10/97 Completed 10/14/97			
(9) WELL TESTS: Drawdown is amount water level is lowered below static level.			
Was a pump test made? NO If yes, by whom?			
Yield: gal./min with ft. drawdown after hrs			
Recovery data			
Time Water Level Time Water Level Time Water Level			
Date of test / /			
Bailer test gal./min. ft. drawdown after hrs.			
Air test 30 gal./min. w/ stem set at 120 ft. for 1 hrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? NO			
WELL CONSTRUCTOR CERTIFICATION:			
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.			
NAME FOGLE PUMP & SUPPLY, INC.			
(Person, firm, or corporation) (Type or print)			
ADDRESS POB 1450, AIRWAY HTS. WA.			
(SIGNED) Jim Doyle / mo License No. 1287			
Contractor's			
Registration No. FOGLEPS09514 Date 10/15/97			

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W21183

UNIQUE WELL I.D. #

Water Right Permit No.

OWNER: Name C. David Spannagle

Address S. 1812 Royal St., Spokane, WA 99204

LOCATION OF WELL: County Spokane

SW 1/4 NE 1/4 Sec 27 T 25 N. R. 42 W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Parcel #25271.9145

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐
☐ Irrigation ☐ Test Well ☐ Other ☐
☐ DeWater ☐ Rotary ☒

(4) TYPE OF WORK: Owner's number of well
(if more than one)

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 155 feet. Depth of completed well 155 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 Diam. from +2 ft to 40 ft.
Welded ☒ PVC 4 Diam. from 5 ft to 155 ft.
Liner installed ☒ Threaded ☐ Diam. from ft to ft.

Perforations: Yes ☒ No ☐ PVC Liner

Type of perforator used Skill Saw

SIZE of perforations 1/2 in by 6 in.

~~3-4~~ perforations from 135 ft to 155 ft.

perforations from ft to ft.

perforations from ft to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name

Type Model No.

Diam. Slot size from ft to ft.

Diam. Slot size from ft to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel

Gravel placed from ft to ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft

Material used in seal Bentonite

Did any strata contain unusable water? Yes ☐ No ☒

Type of water? Depth of strata

Method of sealing strata off

(7) PUMP: Manufacturer's Name

Type H.P.

(8) WATER LEVELS: Land surface elevation

above mean sea level ft

Static level 40 ft below top of well Date

Artesian pressure lbs. per square inch Date

Artesian water is controlled by (Cap. valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☒ If yes, by whom?

Yield: 40 gal./min. with ft. drawdown after hrs.

ESTIMATED AIRLIFT

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test

Barrel test gal./min. with ft. drawdown after hrs.

Airtest gal./min. with stem set at ft. for hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information

MATERIAL	FROM	TO
Top Soil	0	1
Basalt Fractured & Broken	1	40
Basalt, Black, Soft	40	100
Basalt, Black, Hard	100	140
Basalt, Fractured, Black	140	155

6" Drive Shoe Utilized

Work Started 12-30-93 19 Completed 12-30-93 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Ponderosa Drilling & Development, Inc.

(PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address E. 6010 Broadway, Spokane, WA 99212

(Signed) Marty Rugo License No. 2038
(Marty Rugo)

Contractor's

Registration

No. PO-ND-EI*248JE Date December 31 1993

(USE ADDITIONAL SHEETS IF NECESSARY)

J & J Well Drilling, Inc.

JJWELJW843DS

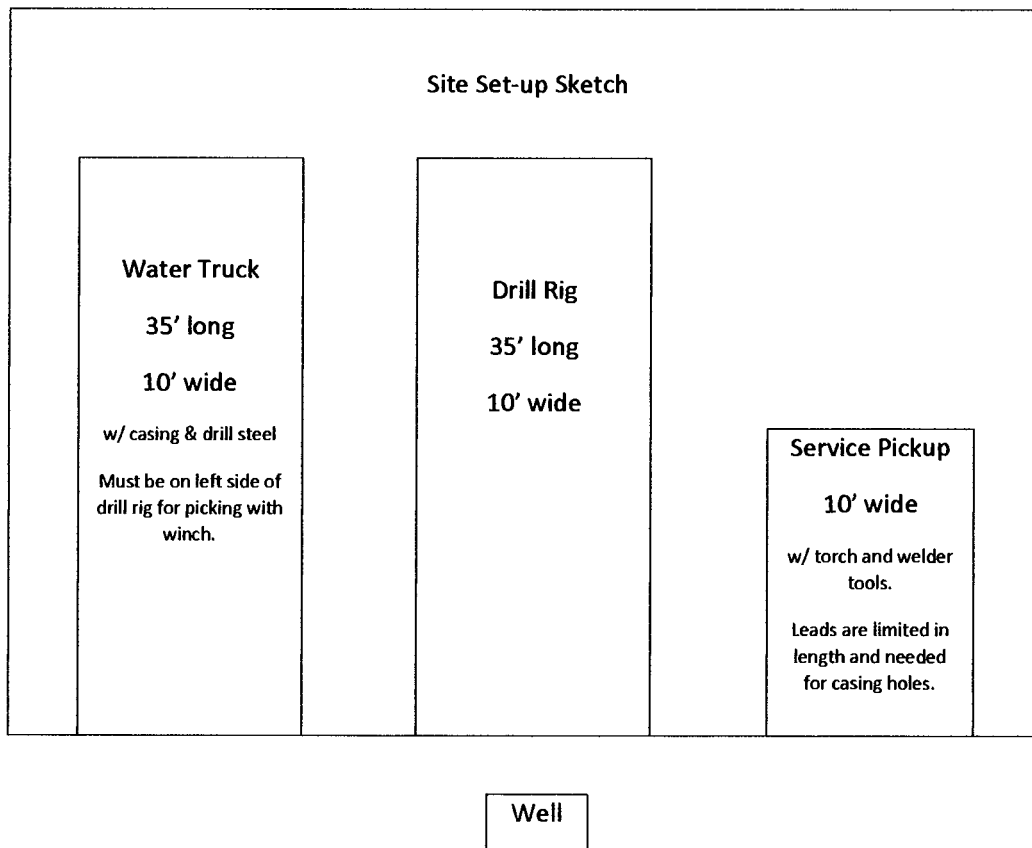
Domestic-Irrigation-Commercial Water Well Construction

13011 E. Palouse Hwy. Valleyford, WA 99036

509-928-2038

SITE SET-UP

When planning to have a water well drilled on your property, it is important to have your site accessible for the large vehicles to drive in, set up, and drive out. You will need a 10-12 foot wide, adequately leveled, road leading directly to the drilling site. The drilling equipment occupies a 40' wide x 40' deep space. The area needs to be relatively flat and cleared of any obstacles, including trees and overhead branches. We will need sufficient space to pull the vehicles in and maneuver them into position. The vehicles weigh up to 70,000 pounds so the ground must be firm. It may be necessary to put in gravel/brick. The Water Truck has to be on the left side of the Drill Rig for picking pipe. Ideally, the Service Pickup needs to be on the right side. On non-casing holes, the Pickup can be parked in front of the Drill Rig. There must also be walking space around each vehicle for the men to work safely and efficiently.



Downhill side for water run-off, flowing away from vehicles, so ground doesn't get soft.

**ATTACHMENT 4-WETLAND DELINEATION, E. WA. WETLAND STATE RATING, AND WATER TYPE
MODIFICATION FORMS**

Attachment 4

Wetland name or number Parcel #25271, 1901 Spokane Co. WA 99201 - FINAL REPORT
 5/17/2019.

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Parcel #25271, 1901 Spokane Co. WA Date of site visit: 5/2/2019
 Rated by S. Collins ECOS USA Trained by Ecology? ☒ Yes ☐ No Date of training 10/2019
SonnySalmon9@gmail.com

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☒ Yes ☐ No
N/Type IV Water Depressional + Riverine Type IV

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map USDA NALP APTC Online

GIS Servers 5/1/2019. Please See Attachments 2+3.

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐
Please See "Wetland Summary Report + Wetland Mitigation Plan"

1. Category of wetland based on FUNCTIONS PERM/R4UB3 Attached.
1.2 acres.

- ☐ Category I – Total score = 22-27
- ☒ Category II – Total score = 19-21
- ☐ Category III – Total score = 16-18
- ☐ Category IV – Total score = 9-15

Upper Indian Canyon Creek - 150' Buffer, Proposed Reduction ~ 75'.

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H M <u>L</u>	H <u>M</u> L	H <u>M</u> L	
Landscape Potential	<u>H</u> M L	<u>H</u> M L	H <u>M</u> L	
Value	<u>H</u> M L	H M <u>L</u>	H <u>M</u> L	
Score Based on Ratings	<u>7</u>	<u>6</u>	<u>6</u>	TOTAL <u>19</u>

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland N/A

CHARACTERISTIC	CATEGORY
Circle the appropriate category	
Vernal Pools	<u>II</u> <u>III</u>
Alkali	<u>I</u>
Wetland of High Conservation Value	<u>I</u>
Bog and Calcareous Fens	<u>I</u>
Old Growth or Mature Forest – slow growing	<u>I</u>
Aspen Forest	<u>I</u>
Old Growth or Mature Forest – fast growing	<u>II</u>
Floodplain forest	<u>II</u>
None of the above	

See ATTACHMENTS 1-7.
ECOS USA Photo Log + FIELD NOTES AVAILABLE UPON REQUEST.

Wetland name or number PARCEL #25271.1901 SPOKANE CO. WA. 99201

Maps and figures required to answer questions correctly for Eastern Washington
Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

✓ Prepared by S. G. ELOSUSA 5/2/2019

a Attachment 4/
Wetland name or number Parcel # 25271, 1901 Spokane Co, WA, 99201

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
☐ At least 30% of the open water area is deeper than 10 ft (3 m)

NO - go to 2

YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

2. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
☐ The water leaves the wetland **without being impounded**.

NO - go to 3

YES - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
☒ The overbank flooding occurs at least once every 10 years. *every 3 years.*

NO - go to 4

YES - The wetland class is **Riverine**

NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.* *Elevs 678m*

NO - go to 5

YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

attachment 4

Wetland name or number Parcel #25271. 1901 Spokane Co, WA. 99201

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the wetland unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression) <i>Type N.</i>	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

✓

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

- Outlet @ Gaiger/Sunset Blvd Rd Concrete Culvert elev. 678m
WP 201 N 5216600 E 463747
- Inlet (upstream) 16th Dr Culvert elev. 674m - Royale/16th Dr Junction.
WP 203 N 5276533 E 463850

678
674
 4m drop

 (This culvert may be undersized as it overburdens 16th Dr. ~ every 3 years as per pers. com w/ S. Bolding property owner. F.R Short. 5/2/2019)
- Upper Indian Canyon Creek Type N.

✓ S. Giller EOS USA
5/2/2019

Wetland name or number PARCEL #25271.1901 Spokane Co. WA, 99201**DEPRESSIONAL WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water qualityPoints
(only 1
score per
box)

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:

Wetland has no surface water outlet

points = 5

✓ Wetland has an intermittently flowing outlet Geiger / Sunset Blvd Rd

points = 3

Wetland has a highly constricted permanently flowing outlet Junction

points = 3

Wetland has a permanently flowing, unconstricted, surface outlet

points = 1

3

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)

YES = 3 NO = 0

0

D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)

Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area

points = 5

✓ Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area

points = 3

Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area Whitetail Deer

points = 1

Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area

points = 0

1

D 1.4. Characteristics of seasonal ponding or inundation:

*This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.*Area seasonally ponded is $> \frac{1}{2}$ total area of wetland

points = 3

✓ Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland

points = 1

Area seasonally ponded is $< \frac{1}{4}$ total area of wetland

points = 0

1

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland receive stormwater discharges? Geiger / Sunset Blvd Rd Junction Yes = 1 No = 0

1

D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0

1

D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions

D 2.1- D 2.3? Source With Airport Fly Zone - GEG

Yes = 1 No = 0

1

Total for D 2 See Email correspondence Attachment Add the points in the boxes above

3

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?

Hangman WRIA 56 Huc # 17010304

Yes = 1 No = 0

1

D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]? Yes = 1 No = 0

1

D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = 2 No = 0

2

Total for D 3

Add the points in the boxes above

4

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

J.S. Gills 5/2/2019
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Attachment 4
Wetland name or number PARCEL #25271, 1901 Spokane Co. WA, 99201

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland has no surface water outlet	points = 8	4
Wetland has an intermittently flowing outlet <u>Type N</u>	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing unconfined surface outlet (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).		
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding	points = 8	2
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding	points = 6	
The wetland is a headwater wetland	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 4	
Seasonal ponding: 6 in - < 1 ft <u>wetted ~3m depth 5/2/2019</u>	points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils	points = 0	
Total for D 4	Add the points in the boxes above	6

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? <u>Geiger/Sunset Blvd Rd Junction</u>	Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The wetland is in a landscape that has flooding problems.		
Choose the description that best matches conditions around the wetland being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND		
Flooding occurs in sub-basin that is immediately down-gradient of wetland	points = 2	0
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
Explain why <u>Spokane Co. Geiger/Sunset Blvd Rd Junction</u>	points = 0	0
There are no problems with flooding downstream of the wetland <u>Bridge over Type N Water</u>	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? <u>City of Spokane WA, T. Palmquist Pers. Com 5/2/2019</u>		
Yes = 2 No = 0		
Total for D 6	Add the points in the boxes above	0

Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the first page

These questions apply to wetlands of all HGM classes.

(only 1 score per box)

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the wetland have the potential to provide habitat for many species?

H 1.1. Structure of the plant community:

Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.

- ☒ Aquatic bed
- ☐ Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover
- ☒ Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover
- ☐ Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover
- ☒ Scrub-shrub (areas where shrubs have $>30\%$ cover)
- ☒ Forested (areas where trees have $>30\%$ cover)
- 4 or more checks: points = 3
3 checks: points = 2
2 checks: points = 1
1 check: points = 0

3

H 1.2. Is one of the vegetation types Aquatic Bed?

Yes = 1 No = 0

H 1.3. Surface water - New Type N not mapped in WDNR Water Type - "FPARS Mapper"

H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands. Type N Not Mapped Yes = 3 points & go to H 1.4 No = go to H 1.3.2

H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? Answer yes only if H 1.3.1 is No.

140 + 47 + 70 + 143 + 53 = ~ Linear Ft Ft Yes = 3 No = 0

3

H 1.4. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.

Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)

of species _____

Scoring: > 9 species: points = 2
4-9 species: points = 1
 < 4 species: points = 0

1

H 1.5. Interspersion of habitats

Decide from the diagrams below whether interspersions among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.

Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.



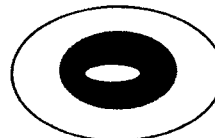
None = 0 points



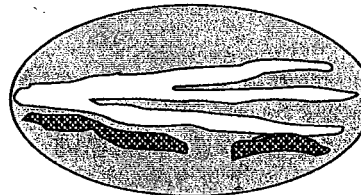
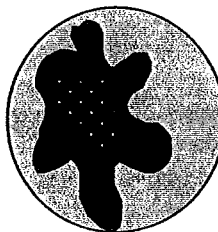
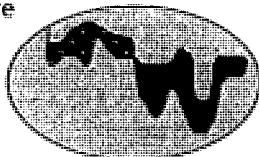
Low = 1 point



Moderate = 2 points



three diagrams in this row are High = 3 points



Riparian braided channels with 2 classes

Figure Attachment 2

2

attach ment
Wetland name or number Parcel #25271.1901 Spokane Co, WA. 99201

H 1.6. Special habitat features Check the habitat features that are present in the wetland. The number of checks is the number of points.		3
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream.		
<input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland.		
<input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.		
<input checked="" type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded.		
<input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <u>Uncovered Unstable ~3m undercut</u>		12
<input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, ^{at} <u>outlet</u> herbaceous, moss/ground cover)		
Total for H 1		
Add the points in the boxes above		
Rating of Site Potential If score is: <u>15-18 = H</u> <u>✓ 7-14 = M</u> <u>0-6 = L</u> Record the rating on the first page		

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: Calculate: % undisturbed habitat <u>20</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>20</u> % > 1/3 (33.3%) of 1 km Polygon <u>Finch Aboretum</u> points = 3 20-33% of 1km Polygon <u>Commercial Motels & Residence on <1 unit/ac.</u> points = 2 10-19% of 1km Polygon <u>High Intensity Geiger / Sunset Blvd Junction</u> points = 1 <10% of 1km Polygon points = 0		1
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. Calculate: % undisturbed habitat <u>10</u> + [(% moderate and low intensity land uses)/2] <u>90</u> = <u>90</u> % Undisturbed habitat > 50% of Polygon <u>Residential 2.5 Acres 38</u> points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>~14%</u> points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		2
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use <u>yes</u> points = (-2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs <u>City of Spokane, WA.</u> Yes = 3 No = 0		0
Total for H 2		3
Add the points in the boxes above		
Rating of Landscape Potential If score is: <u>4-9 = H</u> <u>✓ 1-3 = M</u> <u>< 1 = L</u> Record the rating on the first page		

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated		1
Site meets ANY of the following criteria: points = 2		
<input type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <u>See Attached WDFW FWS Map</u>		
<input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)		
<input type="checkbox"/> It is mapped as a location for an individual WDFW species		
<input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		points = 1 points = 0
<input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan		
<input checked="" type="checkbox"/> Site has 1 or 2 priority habitats within 100 m (see Appendix B)		
Site does not meet any of the criteria above		
Rating of Value If score is: <u>2 = H</u> <u>✓ 1 = M</u> <u>0 = L</u> Record the rating on the first page		

A Hackment
 land name or number PARCEL #25271.1901 Spokane Co. WA 99201

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p>	
<p>SC 1.0. Vernal pools N/A</p> <p>Is the wetland less than 4000 ft², and does it meet at least two of the following criteria?</p> <ul style="list-style-type: none"> — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. <p style="text-align: right;">Yes – Go to SC 1.1 No = Not a vernal pool</p> <p>SC 1.1. Is the vernal pool relatively undisturbed in February and March? Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics</p> <p>SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? Yes = Category II No = Category III</p>	<div style="border: 1px solid black; width: 100px; height: 100px; margin: auto; transform: rotate(45deg);"></div>
<p>SC 2.0. Alkali wetlands N/A</p> <p>Does the wetland meet one of the following criteria?</p> <ul style="list-style-type: none"> — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. <p>OR does the wetland unit meet two of the following three sub-criteria?</p> <ul style="list-style-type: none"> — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <p style="text-align: right;">Yes = Category I No = Not an alkali wetland</p>	<div style="border: 1px solid black; width: 100px; height: 100px; margin: auto; transform: rotate(45deg);"></div>
<p>SC 3.0. Wetlands of High Conservation Value (WHCV) N/A</p> <p>SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3</p> <p>SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV</p> <p>SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV</p> <p>SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? Yes = Category I No = Not a WHCV</p>	<div style="border: 1px solid black; width: 100px; height: 100px; margin: auto; transform: rotate(45deg);"></div>

JS. Allen 5/2/2019
 ECOS USA

a Hachment 4/
Wetland name or number PARCEL # 25271.1901 Spokane Co. WA. 99201

<p>SC 4.0 Bogs and Calcareous Fens Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> Yes – Go to SC 4.3 No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 4.3 No – Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? Yes = Category I bog No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: <ul style="list-style-type: none"> — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen </p>	<p>Cat. I</p> <p>Cat. I</p>
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<p>SC 5.0. Forested Wetlands Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <p><input checked="" type="checkbox"/> <u>WONR Unmapped Type IV</u> The wetland is within the 100-year floodplain of a river or stream</p> <ul style="list-style-type: none"> — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1) <p>Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics</p> <p><input checked="" type="checkbox"/> SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <u>< 20% Remnant Mid-Seral Aspen</u> Yes = Category I No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (see Table 7)? <u>< ¼ ac. Aspen</u> Yes = Category II No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100-year floodplain of a river or stream? <u>Just out of 100 yr floodplain</u> Yes = Category II No = Not a forested wetland with special characteristics</p> <p>Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>Yes</p> <p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p> <p>N/A</p>
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✓ J. G. EROS USA 5/2/2019.

A Hachment 4
Parcel 25271.1901
spokane Co.

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland: **NOTE: This question is independent of the land use between the wetland and the priority habitat.**

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). *No < 1/2 acre. Mid Serai*
- **Aspen Remnant Community.**
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- ✓ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. *NE Cnr Property*
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

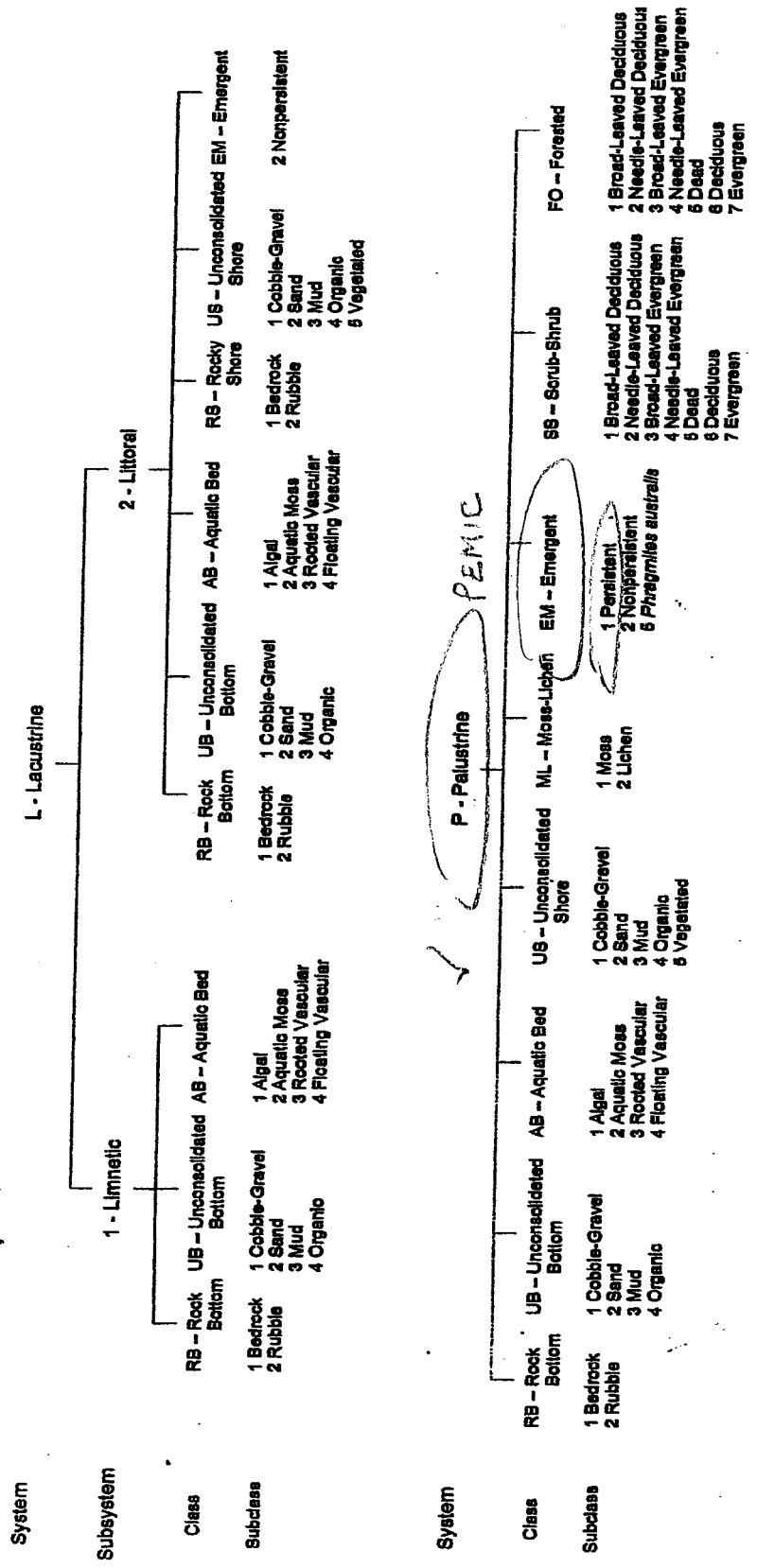
Wetland Rating System for Eastern WA: 2014 Update

Effective January 1, 2015

Appendix B

✓ SGLK - EWS USP 9/2/2019

Parcel # 25271.1901 ATTACHMENT 4 CONTINUED WETLANDS AND DEEPWATER HABITATS CLASSIFICATION
 Spokane Co. WA. 99201



MODIFIERS			
In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The named modifier may also be applied to the ecological system.			
Water Regime		Water Chemistry	
Nontidal	Saltwater Tidal	Coastal	Inland
A Temporally Flooded	L Subtidal	1 Hyperhaline	7 Hypersaline
B Saturated	M Irregularly Exposed	2 Euxaline	8 Euxaline
C Seasonally Flooded	N Regularly Flooded	3 Meso haline (Brackish)	9 Mesohaline
E Seasonally Flooded/	P Irregularly Flooded	4 Polyhaline	0 Fresh
Saturated		5 Mesohaline	
F Semipermanently Flooded		6 Oligohaline	
G Intermittently Exposed		0 Fresh	
H Permanently Flooded			
J Intermittently Flooded			
K Artificially Flooded			
Special Modifiers		Soil	
b Beaver		1 Organic	
d Partly Drained/Ditched		2 Mineral	
f Farmed			
h Diked/Impounded			
r Artificial			
s Spoil			
x Excavated			

VS. GLEN EWS US 5/2/2019

ATTACHMENT 4

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcel #25271 1901 City/County: Spokane, Spokane Co, WA Sampling Date: 5/2/2019
 Applicant/Owner: A. Chomav State: WA Sampling Point: WE-T1
 Investigator(s): S. Collins ECOS USA Section, Township, Range: 27 T25N R42E NW 4 NE 1/4
 Landform (hillslope, terrace, etc.): Terrace Riverine Local relief (concave, convex, none): flat Slope (%): 0-29%
 Subregion (LRR): N. Rockies East: 463155 Long: 5276578 Datum: NAD83/NTM
 Soil Map Unit Name: Rockly-Cocolalla 0-87% slope 3118 NWI classification: PEMIC/20rpt11N
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.) R4UB3
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>PEMIC/R4UB3 - Upper Indian Canyon Creek</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. <u>Ponderosa pine (Pipo)</u>	<u>5%</u>	<u>N</u>	<u>Upl</u>	
2. <u>Populus tremula (Aspen)</u>	<u>5%</u>	<u>N</u>	<u>Fac</u>	
3. <u>Betula papyrifera (Paper birch)</u>	<u>5</u>	<u>N</u>	<u>Obl</u>	
4. _____	<u>5</u>	<u>N</u>	<u>Upl</u>	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Rosa Nutkana - Nootka Rose</u>	<u>5</u>	<u>N</u>	<u>Fac</u>	
2. <u>Golden Currant - Ribes aureum</u>	<u>5</u>	<u>N</u>	<u>Fac</u>	
3. <u>Amelanchier alnifolia - Service berry</u>	<u>5</u>	<u>N</u>	<u>Fac</u>	
4. _____	<u>5</u>	<u>N</u>	<u>Fac</u>	
5. _____	<u>5</u>	<u>N</u>	<u>Fac</u>	
= Total Cover				
Herb Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lemna minor - Duckweed</u>	<u>5</u>	<u>N</u>	<u>Obl</u>	
2. <u>Phalaris arundinacea - Reed</u>	<u>5%</u>	<u>N</u>	<u>Obl</u>	
3. <u>Typhalatifolia - Cattails</u>	<u>1</u>	<u>N</u>	<u>Obl</u>	
4. <u>Lotium</u>	<u>5</u>	<u>N</u>	<u>Obl</u>	
5. <u>Rorip nasturtium-aquaticum</u>	<u>1</u>	<u>N</u>	<u>Obl</u>	
6. <u>(Watercress)</u>	<u>1</u>	<u>N</u>	<u>Obl</u>	
7. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
8. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
9. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
10. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
11. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
= Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
2. _____	<u>1</u>	<u>N</u>	<u>Obl</u>	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>PL of 2</u>				

Sampling Point: Wet 1

HYDROLOGY

p 2 of 2

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcel # 25271.1901 City/County: Spokane, Spokane Co. Wa. Sampling Date: 5/2/2019
 Applicant/Owner: A. Chumov State: Wa. Sampling Point: _____
 Investigator(s): S. Collins ECOS USA Section, Township, Range: 27 T 25 N R 42 E NW 1/4 NEW
 Landform (hillslope, terrace, etc.): Terrace Riverine Basalt Local relief (concave, convex, none): flat Slope (%): 0-20%
 Subregion (LRR): N. Rockies E: 463755 N: 5276578 Datum: NAD83 NITM zone 11 N
 Soil Map Unit Name: Northstar Rocky Complex 0-15% NWI classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>upper headwater Diked, Ditch + Dammed + Confined by City</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
1. <u>Pinus ponderosa (Pino)</u>					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Robinia pseudo-acacia (Black locust)</u>					
3. _____					
4. _____					
= Total Cover					
Sapling/Shrub Stratum (Plot size: <u>30' x 30'</u>)					
1. <u>Symphoricarpos albus (Snowberry)</u>				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input checked="" type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
3. _____					
4. _____					
5. _____					
= Total Cover					
Herb Stratum (Plot size: <u>30' x 30'</u>)					
1. _____					
2. <u>Balsamorhiza sagittata - Balsamorhiza</u>	15	Y	UPL		
3. <u>Lomatium grahamii - Biscuitroot</u>	10	X	UPL		
4. <u>Peridermodia gairdneri - Wild Carrot</u>					
5. <u>Ranunculus parryi - Buttercup</u>	3	N	UPL		
6. <u>Toxopneustes kentucky bluegrass</u>	20	Y	UPL		
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover					
Woody Vine Stratum (Plot size: <u>N/A</u>)					
1. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3"	10/YR						CFOM	Extremely Cobby Ash Loam
3-10"							Coarse	" " " " A1
10-11"							Coarse	" " " " A1
11-17"							Coarse	" " " " A2
17-26"							Coarse	Very gravelly ash loam
26-36"							Coarse	Extremely Gravelly Loam
								Basalt Bedrock

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Sandy Redox (S5)

☐ Histic Epipedon (A2)
☐ Stripped Matrix (S6)

☐ Black Histic (A3)
☐ Loamy Mucky Mineral (F1) (except MLRA 1)

☐ Hydrogen Sulfide (A4)
☐ Loamy Gleyed Matrix (F2)

☐ Depleted Below Dark Surface (A11)
☐ Depleted Matrix (F3)

☐ Thick Dark Surface (A12)
☐ Redox Dark Surface (F6)

☐ Sandy Mucky Mineral (S1)
☐ Depleted Dark Surface (F7)

☐ Sandy Gleyed Matrix (S4)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes _____ No ☒

Remarks:

HYDROLOGY

N/A

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)

☐ High Water Table (A2)
☐ Salt Crust (B11)

☐ Saturation (A3)
☐ Aquatic Invertebrates (B13)

☐ Water Marks (B1)
☐ Hydrogen Sulfide Odor (C1)

☐ Sediment Deposits (B2)
☐ Oxidized Rhizospheres along Living Roots (C3)

☐ Drift Deposits (B3)
☐ Presence of Reduced Iron (C4)

☐ Algal Mat or Crust (B4)
☐ Recent Iron Reduction in Tilled Soils (C6)

☐ Iron Deposits (B5)
☐ Stunted or Stressed Plants (D1) (LRR A)

☐ Surface Soil Cracks (B6)
☐ Other (Explain in Remarks)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)

☐ Drainage Patterns (B10)

☐ Dry-Season Water Table (C2)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Geomorphic Position (D2)

☐ Shallow Aquitard (D3)

☐ FAC-Neutral Test (D5)

☐ Raised Ant Mounds (D6) (LRR A)

☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?

Yes _____ No ☒

Depth (inches): _____

Water Table Present?

Yes _____ No ☒

Depth (inches): _____

Saturation Present?

Yes _____ No ☒

Depth (inches): _____

Wetland Hydrology Present?

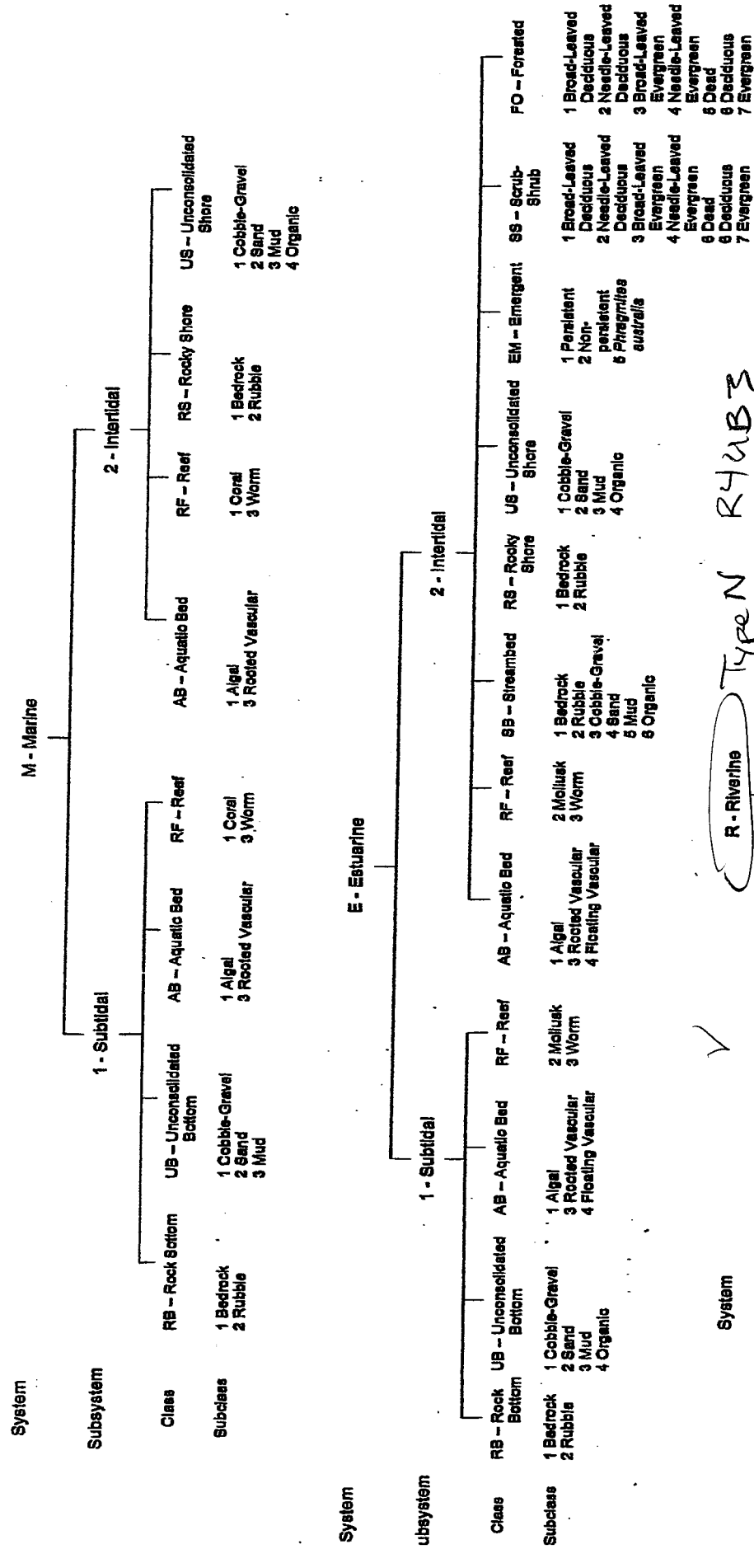
Yes _____ No ☒

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

Remarks:

Ksat value # 0.57 - 1.98 in/hr

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION



modifiers:

H-Permanently Flooded

R - Riverline

* Intermittent is limited to the Streambed Class
 ** Unknown Potential is limited to Unconsolidated Bottom
 *** Streambed is limited to Tidal and Intermittent Subsystems

✓ 2 Cells - EROS 4575/2/2019
Classified

ATTACHMENT 4- WMZ
Parcel # 25271.1901 Spokane Co, WA. 99201



Spokane Municipal Code

Search

[Home](#) [Title 17E](#) [Chapter 17E.070](#) [Section 17E.070.110](#)

Highlight Word

[Title 17E Environmental Standards](#)

[Chapter 17E.070 Wetlands Protection](#)

[Section 17E.070.110 Wetland Buffers](#)

A. Standard Buffer Zone Widths.

Wetland buffer zones shall be required for all regulated activities adjacent to wetlands. Any wetland created, restored, or enhanced as compensation for approved wetland alterations shall also include the standard buffer required for the category of the created, restored, or enhanced wetland. All buffers shall be measured from the wetland boundary as surveyed in the field pursuant to the requirements of [SMC 17E.070.030](#). The width of the wetland buffer zone shall be determined according to the rating assigned to the wetland in accordance with [SMC 17E.070.100](#) and consistent with Wetlands in Washington State, Volume 2, Protecting and Managing Wetlands, Guidance on Buffers and Ratios (Appendix 8-D) as revised, for wetland category, intensity of impacts, wetland functions, habitat scores, or special characteristics. Standard buffer widths will be determined based on an evaluation of the following:

1. conditions of the wetland;
2. conditions of the buffer;
3. proposed land uses adjacent to the buffer; and
4. the functions intended to be protected.

B. Wildlife habitat function is the most susceptible to developmental change and requires the greatest buffer protection. Protection of wildlife habitat functions require twenty five to seventy five feet for wetlands with minimal habitat functions and low intensity land uses adjacent to the wetlands, fifty to two hundred feet for wetlands with moderate habitat function and moderate or high intensity land use adjacent to the wetlands, and one hundred fifty to two hundred fifty plus feet for wetlands with high habitat functions depending on the intensity of the adjacent land use. The width of the wetland buffer zone shall be determined from one of the following two alternatives:

1. Alternative 1.

Unless [SMC 17E.070.110\(3\)](#) ([Table 17E.070.110-4](#)) applies, width based solely on wetland category as follows:

Table 17E.070.110-1	
Wetland Category	Buffer Width
Type I	250 ft
Type II	200 ft
Type III	150 ft
Type IV	50 ft

2. Alternative 2.

Alternative 2 provides three buffer widths based on habitat scores. Habitat score refers to the quality of physical structures such as vegetation, open water, and connections to other wildlife habitats that are necessary for a wide range of species, including birds, mammals, and amphibians. Where more than one width applies based on score for function or based on special characteristics, the calculation providing the widest buffer shall be used. Widths are based on wetland category, intensity of impacts from proposed changes in land use, and wetland functions or special characteristics. Land use intensity shall be determined as follows:

Table 17E.070.110-2. Types of proposed land use that can result in high, moderate, and low levels of impacts to adjacent wetlands.

Types of Land Use Based on Common Zoning Designations

Prepared by S. Geller 5/16/2019

8/10/19

Attachment 4-
PARCEL # 25271.1901 Spokane Co, WA 99201

Impact from Proposed Change in Land Use	
High	Commercial, Industrial and Institutional Residential (more than 1 unit/acre) High-intensity recreation (golf courses, ball fields, etc.) Conversion to high intensity agricultural (dairies, nurseries, greenhouses, etc.) Hobby Farms
Moderate	Residential (1 unit/acre or less) Moderate-intensity active open space (parks with biking, jogging, etc.) Conversion to moderate intensity agriculture (orchards, hay fields, etc.) Paved trails Building of logging roads Utility corridor with access/maintenance road Forestry (cutting of trees only)
Low	Passive open space (hiking, bird-watching, etc.) Unpaved trails Utility corridor without road or vegetation management.

Table 17 E.070.110-3

Category of Wetland	Land Use with Low Impact	Land Use with Moderate Impact	Land Use with High Impact
I	125 ft.	190 ft.	250 ft.
II	100 ft.	150 ft.	200 ft.
III	75 ft.	110 ft.	150 ft.
IV	25 ft.	40 ft.	50 ft.

3. If a Type I wetland is classified with at least one of the following special characteristics the following buffer table shall apply:

Table 17E.070.110-4

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)	Other Measures Recommended for Protection
Wetlands of High Conservation Value	Low - 125 ft Moderate - 190 ft High - 250 ft	No additional surface discharges to wetland or its tributaries No septic systems within 300 ft Restore degraded parts of buffer
Bogs	Low - 125 ft Moderate - 190 ft High - 250 ft	No additional surface discharges to wetland or its tributaries Restore degraded parts of buffer
Forested	Buffer size to be based on score for habitat functions or water quality functions	If forested wetland scores high for habitat, need to maintain connectivity to other natural areas Restore degraded parts of buffer
Alkali	Low - 100 ft Moderate - 150 ft High - 200 ft	No additional surface discharges to wetland or its tributaries Restore degraded parts of buffer
High level of function for habitat (score for habitat 8 - 9 points)	Low - 100 ft Moderate - 150 ft High - 200 ft	Maintain connections to other habitat areas Restore degraded parts of buffer
Moderate level of function for habitat (score for habitat 5 - 7 points)	Low - 75 ft Moderate - 110 ft High - 150 ft	No recommendations at this time
High level of function for water quality improvement (8 - 9 points) and low for habitat (less than 5 points)	Low - 50 ft Moderate - 75 ft High - 100 ft	No additional surface discharges of untreated runoff
Not meeting any of the above characteristics	Low - 50 ft Moderate - 75 ft High - 100 ft	No recommendations at this time

C. Increased Wetland Buffer Zone Width.

The City may require increased buffer zone widths on a case-by-case basis as determined by the director when a larger buffer is necessary to protect wetland functions and values. This determination shall be supported by appropriate documentation showing that it is reasonably related to protection of the functions and values of the wetland. The documentation must include but not be limited to the following criteria:

✓ Reviewed by S. Gellin ECOS USA 5/17/2019

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WASHINGTON STATE DEPT OF
**NATURAL
RESOURCES**

Region Reference Number- DNR Use Only			
Region	WRIA	Year	Number
Received Date			

WATER TYPE MODIFICATION FORM
(For changes to the Water Type Map)

sent to April.Miller@dnr.wa.gov 3/17/2020.

Proponent Name and Organization Andrey Chumov	Proponent/Organization Address 4127 E. Hartson Ave. Spokane, WA. 99202	Telephone Number 509 991-7827 Email Address andchumov@yahoo.com
Surveyor Name(s) and Organization Sondra Collins ECOS USA <input type="checkbox"/> Same as Proponent	Surveyor/Organization Address 40502 Sunset Dr Loon Lake, WA. 99148	Telephone Number 509 710-8329 Email Address Sonny.salmon7@gmail.com
Landowner Name Andrey Chumov <input checked="" type="checkbox"/> Same as Proponent	Landowner Address 1455 S. Geiger Blvd. Spokane, WA. 99202	Telephone Number 509 991-7827 Email Address andchumov@yahoo.com

Landowner Notified: ☒ Yes ☐ No

Check Applicable Boxes:

- ☒ Adding Typed Waters
☐ Removing Typed Waters
☒ Changing Location of Typed Waters

☒ Changing Water Type Type N → Type F
☐ Other; Describe: _____

(1) Water Segment ID T1, T2, T3	(2) Name of Water Indian Creek	(3) Tributary To Hangman Creek - Spokane River	(4) Legal Description (Section, Township, Range E/W) Sec 27, T27N R42E
(5) County Spokane	(6) Water Type Shown on Map N	(7) Proposed Water Type F	(8) Date(s) of Field Assessment June 18, 2019 May 2, 2019 + Dec 12, 2020
(9a) Forest Practices Application <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number: _____		(9b) Enforcement Document Number + March 12, 2020. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number: _____	
(10) Change is based on the following (check <u>all</u> that apply):			
<input checked="" type="checkbox"/> Water type does not meet WAC 222-16-031 definition. Describe: _____			
Survey Method:			
<input type="checkbox"/> Electrofishing Protocol Survey (attach survey information)			
<input type="checkbox"/> ID Team (attach Informal Conference Note)			
<input type="checkbox"/> Visual Observation			
<input type="checkbox"/> Random Measurements			
<input type="checkbox"/> Incremental Measurements			
<input checked="" type="checkbox"/> Physical Characteristics Please See Attachment 5 1-6.			
Fish Found <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		List Species (if known): _____	
<input type="checkbox"/> Channel is a Public Water Diversion		Distance from Diversion: _____	
<input type="checkbox"/> Channel is a Fish Hatchery Diversion		Water Right Reference Number: _____	
		Hatchery Name: _____	
		Distance from Hatchery: _____	

Version 03/01/2018

✓ S. Collins 3/3/2020
ECOS USA

P of -

(11) Water Levels in the Survey Area were: ☒ Above Normal ☐ Normal ☐ Below NormalWas there a drought warning issued by DNR? ☐ Yes ☒ No

If yes, describe how stream flows and fish use determinations were unaffected by drought conditions (attach pictures and other relevant information).

(12) Channel Characteristics (Use Segment Tally Sheet for multiple stream segments)

Number of Bankfull Width Measurements 3 Average Bankfull Width 3 ft Average Gradient 2% *please see attachment 3*Average Wetted Width 1.5 ft Number of Protocol Pools T1-T3 (3)Ponds and Impoundments > 0.5 acre ☒ Yes ☐ No1.2 acres(13) Water Type Break was determined by (check all that apply; use Segment Tally Sheet for multiple stream segments):☐ Electrofishing Protocol Survey (attach survey information)Last Fish detected: show on mapF/N Type Break: show on map☐ End of Harvest or Property Boundary☐ Uppermost Point of Perennial Flow (describe in Block 16)☐ Last Fish Observed☐ Upper Extent of Fish Habitat☒ Physical Characteristics☐ Other: _____Provide a description of water type break, and how it was marked in the field: T1, T2, T3Do Type F physical characteristics occur above surveyed segment? ☒ Yes ☐ No

(14) Are there any fish passage barriers downstream of the surveyed stream segment(s)?

☐ No. Continue to Block 15. ☐ Unable to Access ☐ Yes☒ Natural BarrierType: ☒ Falls☐ Cascades☐ Bedrock Chutes☐ Other: _____

Length: _____

Height: _____

Width: _____

Gradient: _____

☐ Temporary BarrierDescribe: Palisades Park 50-60' Waterfall near mouth of☐ Manmade BarrierDescribe: Indian/Hanuman Creek / Spokane RiverFish Observed Above the Barrier? ☒ Yes ☐ NoConfidenceFish Passage Barriers were Identified by: ☒ Maps; specify: _____☐ Field Observations

Describe Location of Barrier(s) Downstream: _____

(15) Is there evidence of recent mass wasting (filling in the stream channel) or scouring events?

☐ No ☒ Yes; estimate when the event occurred: 3/3/2020, Freshet Run-off TSS

Describe how this affected current stream channel conditions and fish distribution in the stream:

Sediment, Total Phosphorus.

(16) Provide any additional clarifying information and list attachments (survey cards, photos of type break, field notes, expert report, stationing, etc).

Please see ECOS USA. 3/17/2020. "Critical Area Wetland Buffer Reduction Plan (CAWBRP) and Critical Area Wetland Mitigation Plan (CAWMP) attached.

ECOS USA fieldwork log available upon request.

Attachment 4)

Parcel #

1455 S. Geiger Blvd Spokane, WA.

Appendix A. Water Type Classification Worksheet

Eastern Washington

Stream/Segment ID: T-1-T-3

Date(s) Observed: May 2, 2019

Stream/Segment ID: T-1-T-3

Date(s) Observed: Dec. 12, 2019

Stream/Segment ID: T-1-T-3

Date(s) Observed: March 3, 2020

1. Did you determine fish use as described in the Forest Practices Board Manual Section 13? Or, does the stream have waiver characteristics? [See WAC 222-16-031(3)(b)(ii)]

☒ No. Continue☐ Yes. Attach documentation or approved WTMF number:☐ Fish found.

Type F water. Stop.

☐ No fish. Continue to 6.☐ Yes. Meets waiver criteria. Continue to 6.☒ No. Continue☐ Yes. Attach documentation or approved WTMF number:☐ Fish found.

Type F water. Stop.

☐ No fish. Continue to 6.☐ Yes. Meets waiver criteria. Continue to 6.☒ No. Continue☐ Yes. Attach documentation or approved WTMF number:☐ Fish found.

Type F water. Stop.

☐ No fish. Continue to 6.☐ Yes. Meets waiver criteria. Continue to 6.

2. Were fish observed or are fish known to use the stream any time of the year?

☐ Yes. Type F water. Stop.☒ No. Continue.☐ Yes. Type F water. Stop.☒ No. Continue.☐ Yes. Type F water. Stop.☒ No. Continue.

3. Is there an impoundment (ponded water) upstream of the assessed segment that is greater than 0.5 acres?

☐ Yes. Type F water. Stop.☒ No. Continue.☐ Yes. Type F water. Stop.☒ No. Continue.☐ Yes. Type F water. Stop.☒ No. Continue.

4. Are there segments within or upstream of the assessed portion of the stream where the average bankfull width is three feet or greater? AND, is the average stream gradient less than or equal to 16%? ~ 27%

☒ Yes. Type F water. Stop.☐ No. Continue.☒ Yes. Type F water. Stop.☐ No. Continue.☒ Yes. Type F water. Stop.☐ No. Continue.

5. Are there segments within or upstream of the assessed portion of the stream where the average bankfull width is three feet or greater? AND, is the average stream gradient between 16% and 20%? AND, is the contributing basin to the stream greater than 115 acres?

☐ Yes. Type F water. Stop.☐ No. Continue.☐ Yes. Type F water. Stop.☐ No. Continue.☐ Yes. Type F water. Stop.☐ No. Continue.

6. Does the stream segment contain water at all times during a normal rainfall year?

☐ Yes. Type Np water. Go to 9.☐ No. Continue.☐ Yes. Type Np water. Go to 9.☐ No. Continue.☐ Yes. Type Np water. Go to 9.☐ No. Continue.

7. Is the stream segment downstream of a perennial source of water?

☐ Yes. Type Np water. Go to 9.☐ No. Continue.☐ Yes. Type Np water. Go to 9.☐ No. Continue.☐ Yes. Type Np water. Go to 9.☐ No. Continue.

8. Is the stream physically connected by an above-ground channel to Type S, F, or Np water?

☐ Yes, Type Ns water.☐ No, non-typed water.☐ Yes, Type Ns water.☐ No, non-typed water.☐ Yes, Type Ns water.☐ No, non-typed water.

9. Describe how you determined the uppermost point of perennial flow. Include a description of its location and show the point on a map (Use a separate piece of paper if necessary).

Stream/Segment ID: _____

Stream/Segment ID: _____

Stream/Segment ID: _____

✓ Please see ECOS USA, March 2, 2020. "CAWBRP → CAWMP attached. Field Notes available upon request." ✓ S. G. Olson ECOS USA 3/3/2020

ATTACHMENT 4-

Water Type Modification Form Map Instructions

Water Type Maps are available from the Washington State Department of Natural Resources (DNR) FPARS website via the Internet at <http://www.dnr.wa.gov/forestpractices/> or any DNR region office. Applicants need to know the section, township, and range (legal description) in order to download or request a map. Please contact the county assessor if you need help determining your legal description.

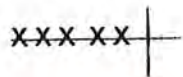
You may print these maps in color or black and white. Color maps are preferred. Use a medium point black or blue pen. Blue ink is easier to read on a black and white map; black ink is easier to read on a color map. Use the following legend to indicate information.

DNR will accept DNR's Water Type Maps or company generated GIS maps (see next page for alternate map standards).

Use the following legend to indicate information on your map.

Legend

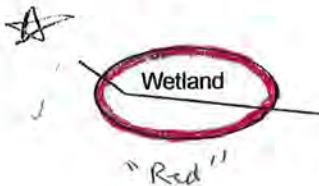
NOTE: If you choose different symbols, include your own legend



Incorrect stream location or removing a stream. Clearly mark the point on the stream where the change occurs.



New stream.

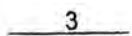


New water body (please indicate lake or wetland) Include the location of a defined channel within a wetland if one exists.

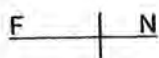
✓ PEMIC Please see new Wetland in Attachment



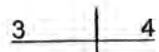
Proposed water type (Block 7 on form) in Western Washington (S, F, N). Use one (1) letter per stream segment



Proposed water type in Eastern Washington (1-5). Use one (1) number per stream segment



Break between water types within the same segment in Western Washington (S, F, N)



Break between water types within the same segment in Eastern Washington (1-5)



The start and end points of the entire surveyed reach



Natural fish passage barriers

✓ 5 Gells
ECOS USA
3/13/2020

ATTACHMENT 2- ECOS USA XY WAYPOINTS WITH DESCRIPTORS

Parcel #25271.1901

1450 Geiger Blvd. Spokane, WA 99201

S. COLLINS, ECOS USA 06_2019 Chomav

FIELDWORK SITE VISIT 1-MAY 2019

XY Waypoints with Descriptors.xls

Id	Waypoint	Northing	Easting	Elev. (m)	Description
0	194	5276595	463667	685	NW Cnr Property (BASELINE)
0	195	5276578	463755	679	Wetland Boundary 2
0	196	5276576	463759	683	WMZ 30 feet
0	197	5276565	463754	674	WMZ 75 feet
0	198	5276560	463752	686	WMZ 100 feet
0	199	5276550	463749	689	NE CNR Proposed Home
0	200	5276549	463748	689	NW CNR Proposed Home 1600sqft
0	201	5276600	463747	678	BFW Type N Stream
0	202	5276602	463748	676	BFW Type N Stream
0	203	5276533	463850	674	BFW Type N Stream
0					

*Current Undersized at
Royal Str.*

5/3/2019

ECOS USA Garmin Etrex 20x UTM NAD83 Zone 11N meters

FIELDWORK SITE VISIT 2- JUNE 18, 2019

Id	Waypoint	Northing	Easting	Elev. (m)	Description
0	218	5276588	463756	680	Wetland Boundary (WB)-1
0	219	5276593	463744	673	WB-2
0	220	5276566	463737	672	OHWM Indian Creek
0	221	5276579	463775	676	WB-3
0	222	5276583	463778	675	WB-4
0	223	5276543	463784	684	75FT WMZ 1
0	224	5276543	463785	682	100FT WMZ 1
0	225	5276534	463774	678	Proposed Septic
0	226	5276556	463756	680	NE CNR proposed Home w/attached garage
0	227	5276556	463752	674	NW cnr Att garage proposed
0	228	5276550	463763	668	NW CNR Proposed Shop
0	229	5276556	463721	680	Proposed Well

ECOS USA Garmin Etrex 20x UTM NAD83 Zone 11N meters

ECOS USA Photo Logs 37 Photos Baseline 5/1/2020
Available Upon Request

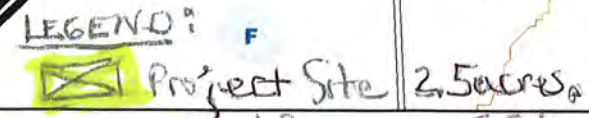
Water Type Map

1455 S. Geiger Blvd Spokane, WA.

~~Application #:~~

PARCEL # 25271.1901

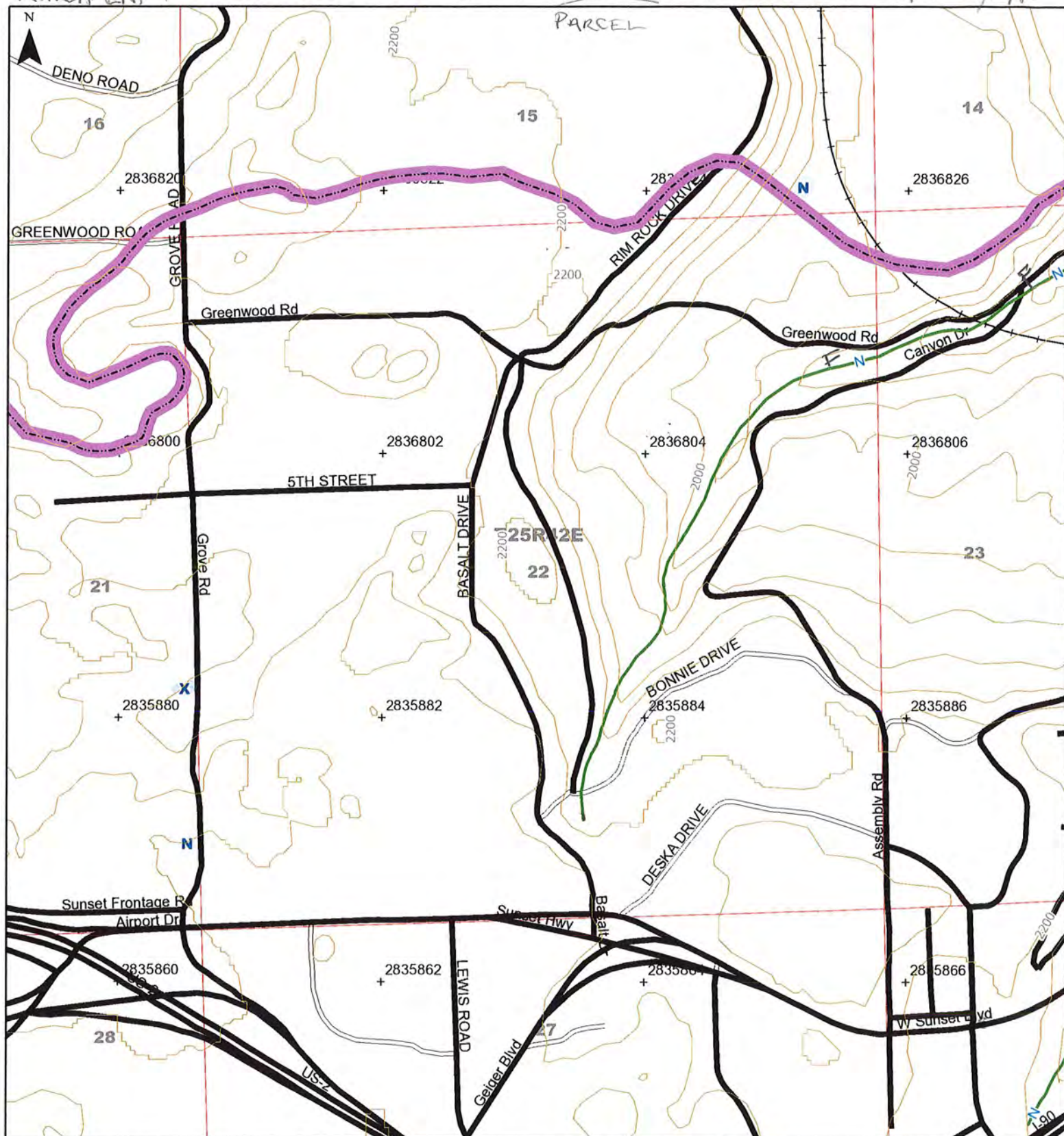
199201




Wetland ✓ Prepared by S. Colby Date: 5/2/2019
New Stream Segment - Indian Creek

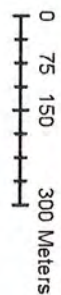
Date: 5/2/2019

Time: 3:33:51 PM



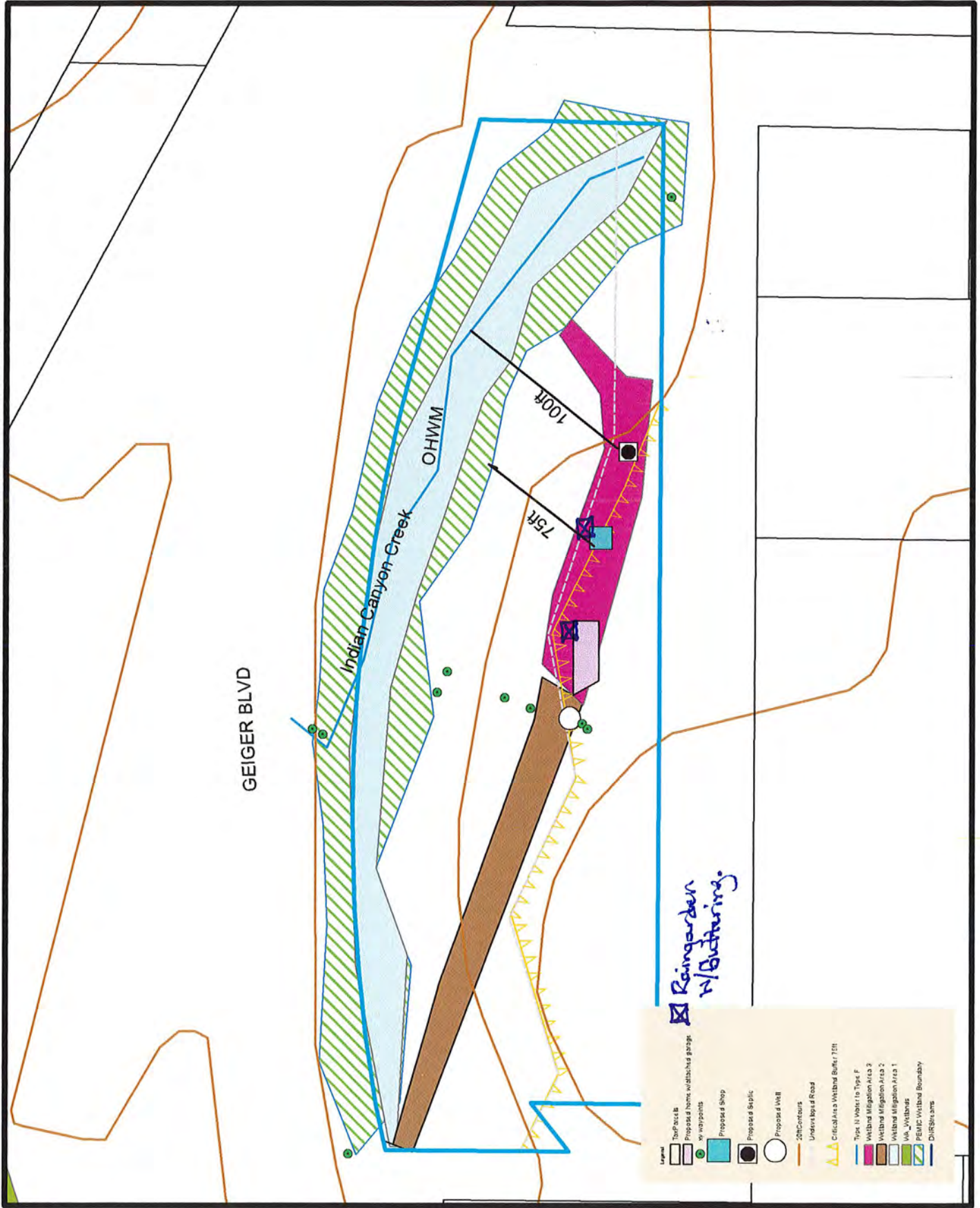
<p>Map Symbols</p> <p>--- Harvest Boundary 🌐 Landing</p> <p>- - - Road Construction ▽ Waste Area</p> <p>~ Stream</p> <p>▨ RMZ / WMZ Buffers 🌲 Clumped WRTS/GRTS</p> <p>⛏ Rock Pit 🏠 Existing Structure</p>	<p>Additional Information</p>	<p>Legal Description</p> <p>S15 T25.0N R42.0E, S27 T25.0N R42.0E S22 T25.0N R42.0E</p>
 <p>WASHINGTON STATE DEPARTMENT OF ECOLOGY</p>	<p>Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to</p>	<p>0 0.25 Miles</p>

**ATTACHMENT 5-REQUIRED AGENCY MAPS AND DOCUMENTATION FOR WETLAND RATING AND
WETLAND MITIGATION PLAN**



P26f3

P. 2 of 3





Parcel #25271.1901 Spokane Co. WA.

Write a description for your map.



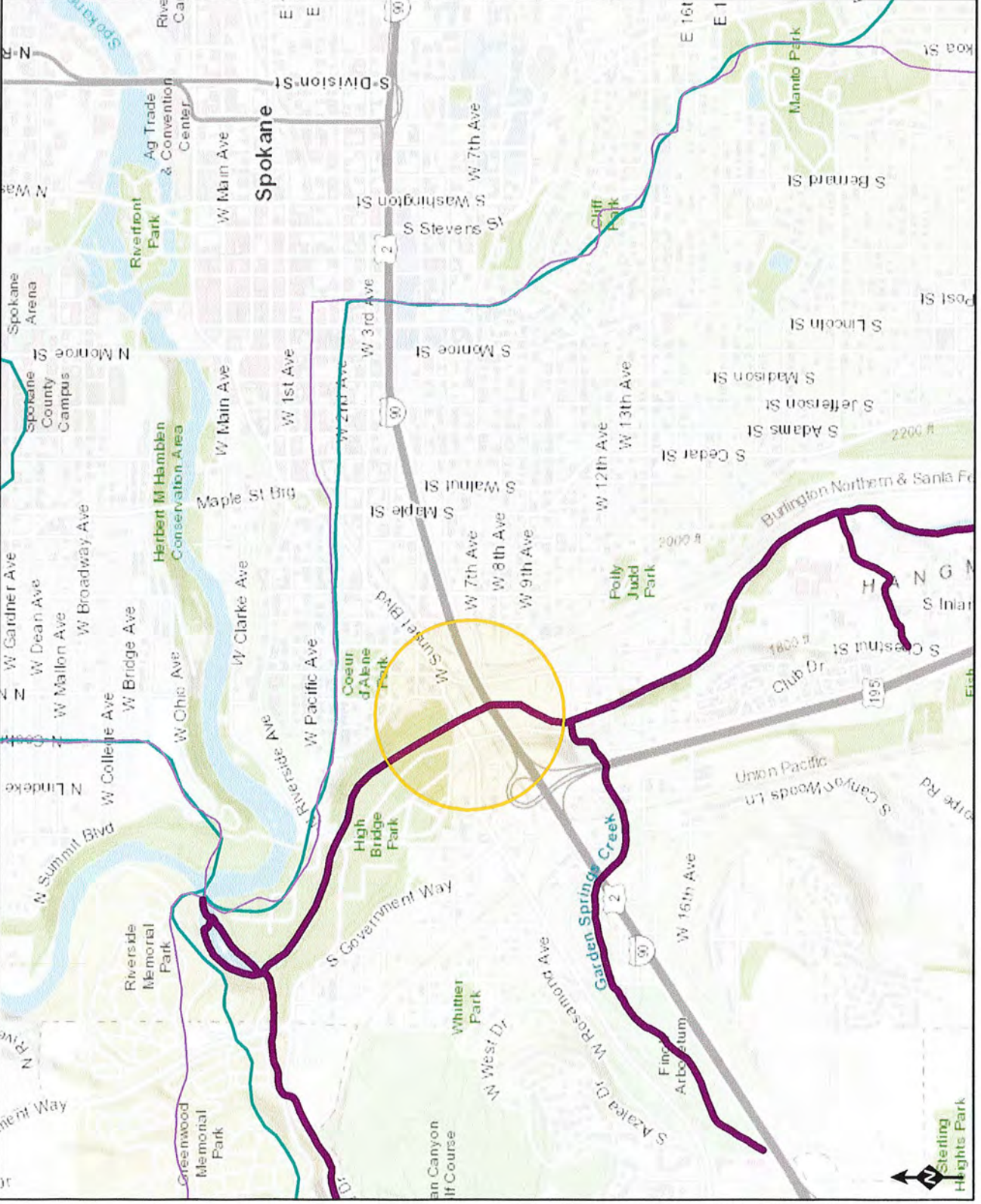
Legend

P. Lot 3

Pg Lot 3

Prepared by: S. Collins ECOS USA

1455 S. Geiger Blvd. Spokane WA. 99201. Parcel 25271.1901



- WQ Standards
- Water Resource Inven Area
- Sub-Watershed (12 di HUC)

Category 5-Listed
1. Dissolved Oxygen
2. PH

✓ SGLK
ECOS US-D
2/25/2020



Washington State Water Quality Assessment 303(d)/305(b) List

Assessment WQ Search Tool Contact Us WQ Atlas

[Back To Results](#) [Print](#)

Water Quality Listing Policy

Listing ID: 11390

Main Listing Information

Listing ID: 11390

Waterbody Name: HANGMAN CREEK

Medium: Water

Parameter: Dissolved Oxygen

WQI Project: None

Designated Use: None Assigned

Current Category: 5 ☐

2012 Category: 5 ☐

2008 Category: 5 ☐

2004 Category: 2 ☐

On 1998 303(d) List?: N

On 1996 303(d) List?: N

Assessment Unit

Assessment Unit ID: 17010306000006

Additional Location Identification

County: Spokane

Waterbody ID (WBID): None Assigned

Town/Range/Section: 25N-42E-24

WRIA: 56 - Hangman

Waterbody Class: RA

Basis

Location ID: [56A070] -- In 2009, 0 of 12 sample values (0%) showed an excursion of the criterion (8 mg/L) for this waterbody;

Location ID: [56A070] -- In 2008, 0 of 13 sample values (0%) showed an excursion of the criterion (8 mg/L) for this waterbody;

Location ID: [56A070] -- In 2007, 1 of 12 sample values (8%) showed an excursion of the criterion (8 mg/L) for this waterbody;

Location ID: [56A070] -- In 2006, 3 of 12 sample values (25%) showed an excursion of the criterion (8 mg/L) for this waterbody;

Location ID: [56A070] -- In 2005, 2 of 11 sample values (18%) showed an excursion of the criterion (8 mg/L) for this waterbody;

Location ID [56A070] -- In 2004, 2 of 11 samples (18.2%) showed an excursion of the criterion for this waterbody, (criterion = 8.0 mg/L).

Remarks

Remark

Ten percent or more of the samples collected in a single year were excursions of the criterion, and at least 3 excursions exist from all data considered.

Combined Listing: Listing IDs 47119, 15534 were rolled into this listing

EIM

User Study ID

User Location ID

[AMS001](#)

[56A070](#)

[AMS001](#)

[56A070](#)

[AMS001E](#)

[56A070](#)

[JJ0Y0005](#)

[56A070](#)

Current WQ Map Tool - WQ Atlas

[WQ Atlas](#)

Submit questions or comments about this specific Listing:

Your Name:

Your E-mail Address:

Question:

[Submit](#)

If you wish to contact us about something unrelated to this listing, please [Contact Us](#).

✓ Prepared by
J. Collins 2/25/2020

Listing ID: 70410			
Main Listing Information			
Listing ID: 70410	2014 Category: 5		
Waterbody Name: HANGMAN CREEK	2012 Category: 3		
Medium: Water	2008 Category: 3		
Parameter: pH	2004 Category: 3		
WQI Project: None Assigned	On 1998 303(d) List?: N		
Designated Use: None Assigned	On 1996 303(d) List?: N		
Assessment Unit			
Assessment Unit ID: 17010306000007			
Location Identification			
Counties: Spokane	WRIA: 56 - Hangman		
Waterbody ID (WBID): None Assigned	Waterbody Class: None Assigned		
Town/Range/Section (Legacy): 25N-42E-25			
Basis			
Location ID [56HAN-01.9] -- In 2009, 2 of 2 sample values (100%) showed an excursion of the criteria for this waterbody;			
Location ID [56HAN-01.9] -- In 2008, 1 of 1 sample values (100%) showed an excursion of the criteria for this waterbody;			
Remarks			
Remark	Modified By	Modified On	Visibility
High pH Excursions	Jessica Archer	7/23/2014	Public
At least 10 percent of samples were excursion of the criteria in at least one year and at least 3 excursions exist from all data considered.	Jessica Archer	7/23/2014	Public
EIM			
User Study ID:	User Location ID:		
JJOY0005	56HAN-01.9		

Print

ATTACHMENT 5-

Soil Map—Spokane County, Washington
(Parcel 25271.1901 Spokane Co. WA. T25N R42E Sec 27)
1455 S. Geiger Rd, Spokane, WA. 99201



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

5/6/2019
Page 1 of 3


✓ Prepared by: S. Gellin E.COS USA 5/6/2019
cited from:

ATTACHMENT 5 - SOIL MAP PROFILE PARCEL # 25271.1901

Soil Map—Spokane County, Washington
(Parcel 25271.1901 Spokane Co. WA. T25N R42E Sec 27)

MAP LEGEND

Area of Interest (AOI)	 Area of Interest (AOI)	 Spoil Area
Soils	 Soil Map Unit Polygons	 Stony Spot
	 Soil Map Unit Lines	 Very Stony Spot
	 Soil Map Unit Points	 Wet Spot
Special Point Features		 Other
 Blowout		 Special Line Features
 Borrow Pit	Water Features	 Streams and Canals
 Clay Spot	Transportation	
 Closed Depression	 Rails	
 Gravel Pit	 Interstate Highways	
 Gravelly Spot	 US Routes	
 Landfill	 Major Roads	
 Lava Flow	 Local Roads	
 Marsh or swamp	Background	
 Mine or Quarry	 Aerial Photography	
 Miscellaneous Water		
 Perennial Water		
 Rock Outcrop		
 Saline Spot		
 Sandy Spot		
 Severely Eroded Spot		
 Sinkhole		
 Slide or Slip		
 Sodic Spot		

 Project Area
Z. Sac.

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Spokane County, Washington
Survey Area Data: Version 10, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 5, 2015—Sep 19, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

✓ Prepared by S. Geller ECOS USA 5/6/2019

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1020	Cocolalla ashy silt loam, 0 to 3 percent slopes	5.6	1.5%
2046	Klickson-Speigle-Rock outcrop complex, 30 to 60 percent slopes	30.2	8.2%
3045	Rockly-Deno complex, 0 to 15 percent slopes	9.6	2.6%
3115	Northstar-Rock outcrop complex, 3 to 15 percent slopes	16.5	4.5%
3116	Northstar-Rockly complex, 0 to 8 percent slopes	0.0	0.0%
✓ 3117	Northstar-Rock outcrop-Rockly complex, 0 to 15 percent slopes	223.5	60.5%
✓ 3118	Rockly-Cocolalla complex, 0 to 8 percent slopes	49.3	13.3%
3122	Marble loamy sand, 15 to 30 percent slopes	0.0	0.0%
3126	Rock outcrop-Northstar complex, 15 to 30 percent slopes	27.1	7.3%
7107	Urban land, basalt bedrock substratum, 0 to 15 percent slopes	2.9	0.8%
7131	Urban land-Northstar, disturbed complex, 3 to 8 percent slopes	4.8	1.3%
Totals for Area of Interest		369.5	100.0%

Hydrologic Group D
Ksat 0.57 to 1.98 in/hr

Poorly Drained

✓ SIGLEC EOS USA 5/6/2019

WDFW Test Map



May 6, 2019

- PHS Report Clip Area
- POLY
- QTR-TWP
- AS MAPPED
- TOWNSHIP
- PT
- SECTION
- LN

1:19,842

0 0.15 0.3 0.55 0.6 mi

0 0.275 0.55 1.1 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPlusPublic
REPORT DATE: 05/06/2019 9.48

Query ID: P190506094815

Common Name Scientific Name	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Notes						
Freshwater Emergent	N/A NWMWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.gov	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWMWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.gov	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWMWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.gov	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Moose Alces alces	SUNSET TOWER PHSREGION 913960	Regular Concentration Regular concentration http://wdfw.wa.gov/wlm/living/moose.htm	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Mule deer Odocoileus hemionus	LINCOLN-SPOKANE MULE PHSREGION 920012	Regular Concentration Regular concentration http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Northwest white-tailed deer Odocoileus virginianus	LAKE ROOSEVELT WHITE - PHSREGION 920017	Regular Concentration Regular concentration http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

05/06/2019 9.48



Spokane Municipal Code

Search

[Home](#) [Title 17E](#) [Chapter 17E.070](#) [Section 17E.070.130](#)

Highlight Word

Title 17E Environmental Standards

Chapter 17E.070 Wetlands Protection

Section 17E.070.130 Mitigation *Option*

Wetland mitigation shall be consistent with Wetland Mitigation in Washington State, Parts 1 and 2 (2006) as amended from time to time, to provide consistency for applicants who must also apply for state and federal permits.

A. Conditions.

As a condition of any permit or approval allowing alteration of wetlands or associated buffers, the applicant will engage in the restoration, creation, rehabilitation, enhancement, or preservation of wetlands in order to offset the impacts resulting from the applicants or violators actions. The applicant will develop an appropriate mitigation plan that provides for mitigation measures as outlined below. Wetland mitigation means the use of any or all of the following action listed in descending order of preference (mitigation sequencing):

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; or
6. Monitoring the impact and the compensation project and taking appropriate corrective measures. Mitigation may include a combination of the above measures.

B. Performance Standards.

Compensatory mitigation must follow a mitigation plan which includes the components listed in subsection D of this section. All mitigation plans must meet the minimum performance standards set forth in subsection C of this section.

C. Wetlands Restoration, Creation, Rehabilitation, Enhancement, and Preservation.

1. Any person who degrades wetlands must restore, create, rehabilitate, enhance, or preserve equivalent areas or greater areas of wetlands than those altered in order to compensate for loss of wetland acreage or functions.

2. Acreage Replacement Ratio.

The following standard ratios apply to compensatory wetland mitigation that is in-kind. If a proposal seeks to eliminate a functional wetland through development, that loss must be compensated through creation or restoration mitigation. This strategy meets the no net loss standard for wetland function and value. The first number specifies the acreage of wetlands requiring replacement and the second specifies the acreage of wetlands altered.

Table 17E.070.130-1

Category and Type of Wetland Impacts	Type of Wetland Mitigation				
	Re-establishment or creation	Rehabilitation only	Re-establishment or creation (R/C) and Rehabilitation (RH)	Re-establishment or creation (R/C) and Enhancement (E)	Enhancement Only
All Category IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1
All Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II Forested	4:1	8:1	1:1 R/C and 4:1 RH	1:1 R/C and 6:1 E	16:1
Category II Vernal Pool	2:1 Compensation must be seasonally ponded wetland	4:1 Compensation must be seasonally ponded wetland	1:1 R/C and 2:1 RH	Case-by-case	Case-by-case

J.S. GLE ECOS USA 5/16/2019

P 3 of 4

PARCEL #25271.1901 Spokane Co. WA. 99201 Phase III Options

1. The wetland is used by a plant or animal species listed by the federal government or the state as endangered, threatened, sensitive, or documented priority species or habitats, or essential or outstanding potential habitat for those species, or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees; or
2. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse wetland impacts; or
3. The adjacent land has minimal vegetative cover or slopes greater than thirty percent.

✓ D. Reduction of Standard Wetland Buffer Zone Width. OPTION

The City may reduce the standard wetland buffer zone width on a case-by-case basis as determined by the director, consistent with Wetlands in Washington State, Volume 2, Protecting and Managing Wetlands, Guidance on Buffers and Ratios (Appendix 8-D) as revised, or wetlands that score:

1. Moderate or high for habitat (five points or more for the habitat functions) the width of the buffer can be reduced if the following criteria are met: Scored a 6. ✓
 - ✓ a. A relatively undisturbed vegetative corridor of at least one hundred feet in width is protected between the wetland and any other priority habitats; and
 - ✓ b. The protected area is preserved by means of easement, covenant, or other measure;
 - ✓ c. Measures identified in SMC 17E.070.110(C)(2) (Table 17E.070.110-5) are taken to minimize the impact of any proposed land use or activity
2. Less than five points for habitat, the buffer width can be reduced to that required for moderate land-use impacts by applying the following measures to minimize the impacts of the proposed land uses or activities:

Table 17E.070.110-5	
Disturbance	Examples of Measures used to Minimize Impacts
Light	Direct lights away from wetland
Noise	Locate activity that generates noise away from wetland
Toxic runoff	Route all new untreated runoff away from wetland while ensuring wetland is not dewatered, establish covenants limiting use of pesticides within 150', may apply integrated pest management
Stormwater runoff	Retrofit stormwater detention and treatment for roads and existing adjacent development, prevent channelized flow from lawns that directly enters buffer
Change in water regime	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract
Dust	Use best management practices to control dust

E. Standard Buffer Width Averaging.

Wetlands may contain significant variations in sensitivity due to existing physical characteristics that may justify buffer width averaging. Standard wetland buffer zones may be modified by averaging buffer widths or a combination of averaging and reduction. Wetland buffer width averaging shall be allowed only where the applicant demonstrates all of the following:

1. Averaging will provide the necessary biological, chemical and physical support necessary to protect the wetland in question, taking into account the type, intensity, scale and location of the proposed land use;
2. The land uses causing the least disturbance would be located adjacent to areas where buffer width is reduced and that such land uses are guaranteed in perpetuity by covenant, deed restriction, easement, or other legally binding mechanism;
3. The total area contained within the wetland buffer after averaging is not less than that contained with the standard buffer prior to averaging. In no instance shall the buffer width be reduced by more than fifty percent of the standard buffer or be less than twenty-five feet.

F. Wetland Buffer Maintenance.

Except as otherwise specified wetland buffer zones shall be retained in their natural condition and free from mowing or other cutting activity, except for the removal of noxious weeds. Where buffer disturbances have occurred before or during construction, revegetation with native vegetation shall be required.

✓ Prepared by J. Collins 5/16/2019

P. HOFB

ATTACHMENT 4 PARCEL 25271-1921 Spokane Co WA

✓ 1 G. Permitted Uses in a Wetland Buffer Zone.

Regulated activities shall not be allowed in a buffer zone except for the following:

1. Activities having minimal adverse impacts on buffers and no adverse impacts on wetlands. These may include low-intensity, passive recreational activities such as trails, non-permanent wildlife watching blinds, short-term scientific or education activities, and sport fishing or hunting. Pervious pedestrian trails may be allowed in a wetland for minor crossings only and with minimal impacts. Trails may be allowed in the outer twenty five percent of a wetland buffers and should be designed to avoid removal of significant trees. Such trails are limited to no more than five feet in width.
2. Storm water management facilities, including biofiltration swales, designed according to the City of Spokane Stormwater Management Manual as revised, and chapter 17D.060 SMC Stormwater Facilities, if no reasonable alternative on-site location is available within the meaning of subsection SMC 17E.070.130, and if sited and designed so that the buffer zone as a whole provides the necessary biological, chemical and physical protection to the wetland in question, taking into account the scale and intensity of the proposed land use. Biofiltration swales will take into account the scale and intensity of the proposed land use, be located in the outer twenty five percent of a Category III or IV wetland buffer provided that no other location is feasible, and will not degrade the functions and values of the wetland or its buffer.]

✓ H. Structural Setbacks from Buffers.

Unless otherwise provided, buildings and other accessory structures shall be set back a distance of ten feet from the edges of all delineated critical area buffers protecting fish and wildlife habitat conservation and wetland protection areas. The director may reduce the structural setback limit by up to five feet if construction, operation, and maintenance of the building do not create a risk of negative impacts on the adjacent buffer area. Approval of a reduction of the structural setback from the buffer line shall be provided in writing by the director. The following uses may be allowed in the structural setback area:

1. Landscaping;
2. Uncovered decks;
3. Roof eaves and overhangs, maximum of twenty-four inches;
4. Pervious unroofed stairways and steps;
5. Impervious ground surfaces, such as driveways and patios.

Date Passed: Monday, June 19, 2017

Effective Date: Sunday, July 30, 2017

ORD C35508 Section 10

✓ SGC
LCS 102

P 508 16

ATTACHMENTS 6-WETLAND PLANTING SPECIES LIST, PLANTING CALENDAR, AND PLANTING SPECIFICATIONS

ECOS USA Critical Area Wetland Buffer (CAWB) Planting Specifications.

Parcel #25271.1901
1455 S. Geiger Blvd.
Spokane, WA. 99201

Seeding of Wetland Grasses:

Type of Area to be Planted: Cuts, Fills, Disturbed (scarified or small slumps), or bare ground areas, and rain gardens within 150' CAWB horizontal from the Ordinary High Water Mark (OHWM) of Indian Canyon Cr.

1. **Site Preparation:** The areas will be hand grubbed with gardening tools, smoothing and racking, then leveling and smoothing to original side slope terrace grade (approx. %50) will be by hand raking to a finished grade if necessary.
2. **Seedbed preparation:** Will be accomplished during the site preparation portion as listed above. Imprints left by the hand rake, shovel and gardening tools will trap seed in crevices. Seedbed will be as firm as moisture conditions allow. Surface should be loose so that seed will cover with light irrigation, precipitation, and/or raking.
3. **Time of Seeding:** Within the two first years the seeding will be biannual seeding with seeding after October 15, as soon as the ground freezes and then in spring seeding should be by May 1-15.
4. **Method of Seeding:** Hydro-seed/ Broadcast area twice at right angel directions to insure good coverage. Hydro-seed Broadcast seeding rates are double the amount of seed recommended for drill rates. Broadcast rates are list below.
5. **Species: (SEE Planting Table for full list of SEED species and appropriate seeding rates)**
Precipitation Ranges 18"-20"
6. **Organic Fertilizer/Ecology Mix.**
7. **Mulch:** None Application Rate: N/A
8. **Temporary Cover:** Add 2 lbs. of blue wild rye (*Elymus glaucus*) to the mix for quick cover of disturbed sites if needed.
9. **Noxious Weed Control:** The project will be in compliance with the local Stevens County Noxious Weed Control Board procedures. The predominant method will be the use of hand tools within the 75' CAWB and then Round-up (Glyco-phosphate mix) and spot application treatment which will be used in only areas where noxious weeds such as BURWEED, thistle, and mullein are prolific within the 75-150' CAWB. These species were noted onsite.

ATTACHMENTS 6 CONTINUED....

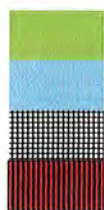
ECOS USA WETLAND PLANTING

Management Calendar

2020-2024

	January	February	March	April	May	June	July	August	September	October	November	December
<u>Riparian Seed Mixture</u>												
Seeding												
Overseeding												
Fertilization												
Noxious Weed Control												
Watering												
Monitoring												
<u>Shrubs Planting</u>												
Planting												
Fertilization												
Noxious Weed Control												
Watering												
Mulching												
Monitoring												
<u>Trees Planting</u>												
Planting												
Fertilization												
Noxious Weed Control												
Watering												
Mulching												
Monitoring												
Reporting												

Key:



Optimum time to perform management procedures or control procedures.

Can perform management practices or control procedures at this time.

Fieldwork Inventory and Monitoring- (Mid May to Mid June and Late August and Early September)

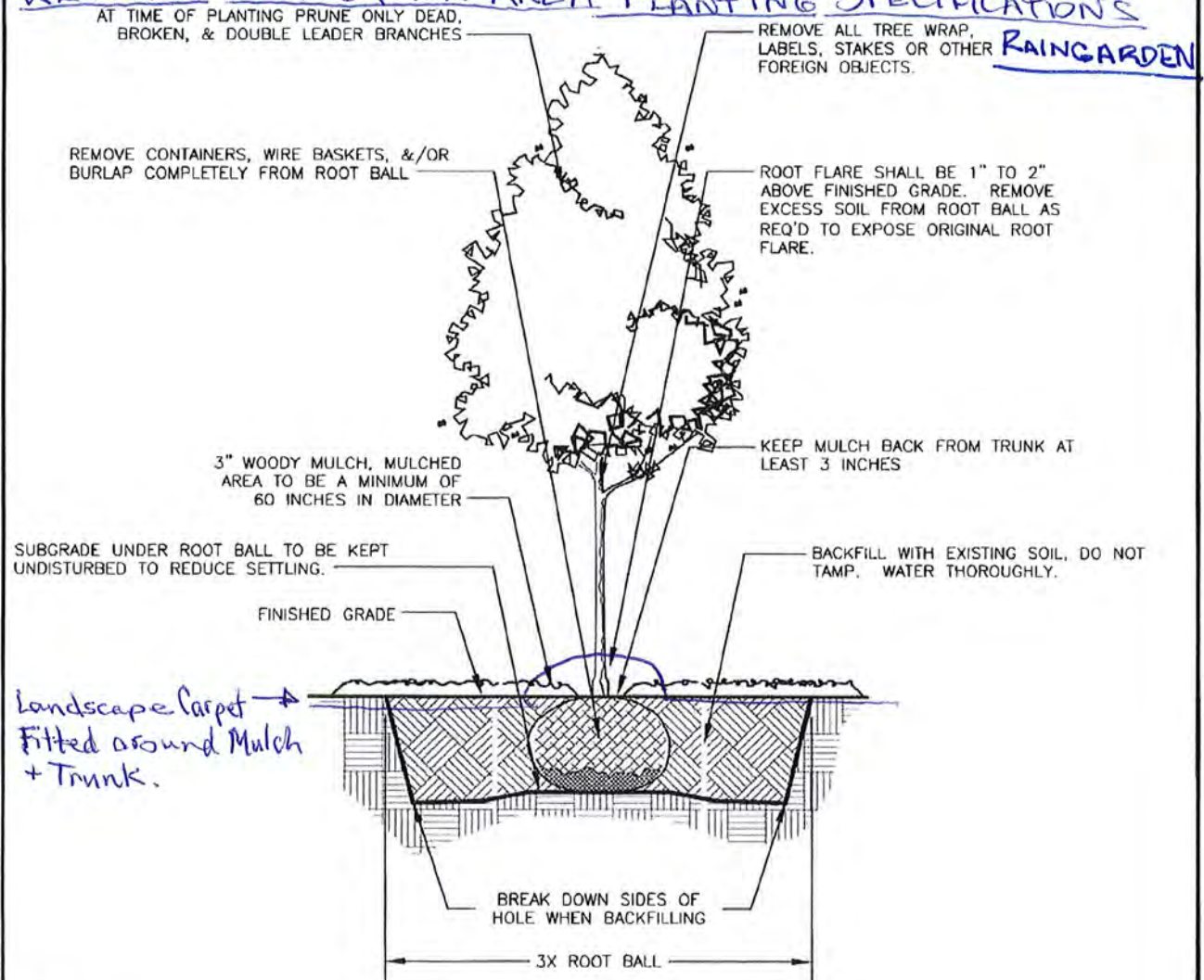
Annual Report Deadline

1455 S. Geiger Blvd Spokane WA. 99201 Parcel 25271.1901

Spring 2020- Fall 2024

MA-1			Spring 2020	Fall 2020		
	<u>Species</u>	<u>Code</u>	<u>Lbs Seeds or # 12" plugs</u>	<u>Lbs Seeds or # 12" plug</u>	RATIO:	
						Common name
Native Wetland Grass seed mixture						
2x rate =TBD RAINIER SEEDS DAVENPORT, WA.	Calamagrostis rubescens	Caru			2x	Pinegrass
	Bromus marginatus	Brma			2x	Mountain brome
	Lolium perenne	Lope			2x	Perennial rygrass
	Festuca brevigila	Febr			2x	Hard feescue or Idaho fescue
	Thinopyrum ponticum	Thpo			2x	Tall wheatgrass
NOTES:						
*F1-Transplant plugs from onsite trees only.						
			Prepared by. S.Collins			ECOS USA 02/25/2020

WETLAND MITIGATION AREA PLANTING SPECIFICATIONS



NOTES:

1. TREES BURIED TOO DEEP, OR WITHOUT EXPOSING ROOT FLARE WILL BE REJECTED & SHALL BE REMOVED & REPLANTED AT PROPER DEPTH.
2. ALL 'ADVENTITIOUS ROOTS' AND 'SUCKERS' SHALL BE PRUNED AWAY PRIOR TO PLANTING.
3. DEVIATIONS FROM THIS DETAIL SHALL ONLY BE ALLOWED WITH PERMISSION FROM THE CITY ARBORIST.
4. TREES NOT PLANTED IN CONFORMITY WITH THIS DETAIL WILL BE REJECTED BY THE CITY ARBORIST. REPLACEMENT OF REJECTED TREES WILL BE DONE AT THE CONTRACTOR'S EXPENSE & NOT BY THE CITY OF SPOKANE.
5. LOCATIONS OF TREES TO MEET THE REQUIREMENTS OF DESIGN STANDARDS 3.5-2. ≥ 15 FT FROM DRIVEWAYS, ≥ 10 FT FROM DRAINAGE INLETS, ≥ 20 FT FROM DRYWELLS, NOT OBSTRUCT TRAFFIC SIGNS OR SIGHT TRIANGLES, AND 15 FT FROM UNDERGROUND UTILITIES
6. AFTER PLANTING, IF TREES ARE UNSTABLE, STAKING MAY BE USED BUT ONLY AS NECESSARY. AT 6 MONTHS, ALL STAKING MATERIAL SHALL BE REMOVED. IF TREE IS STILL UNSTABLE, AFTER 6 MONTHS, TREE MAY NEED TO BE REPLACED.

1 Sella EOS USA

APPROVED BY ENGINEERING OPERATIONS MANAGER KYLE TWOHIG		ADOPTED: 2/1986 REVISED: 05/2015 SUPERSEDES: 04/2012 CHECKED BY: SJS SCALE: NTS REVISED BY: MLD		TREE PLANTING DETAILS ALL TYPES, FORMS AND SPECIES	
PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.				ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON	
				STANDARD PLAN No. V-101	

Cited From: City of Spokane Standard Plans Table of Contents
Section V: V-101. Online <standard-plans-V-2013-11-29.pdf>

ATTACHMENT 7

ECOS USA SILT FENCES CONSTRUCTION SPECIFICATION

LOCATION: 1455 S. Geiger Blvd Spokane, WA. 99201

PARCEL: 25271.1901

DATE: 02/25/2020

DEFINITION:

Silt fences consist of a length of specially developed filter fabric of different geotextile specifications, properties, and tensile strengths, (i.e. pH, Grab, Elongation, Grad, UV resistance, Flow rate, and minimum average roll Value), which is staked and stretched between anchoring posts spaced at regular intervals along the site at low/down slope locations between the construction site and wetland and riparian buffer areas. When properly installed and maintained the sedimentation control fabric in silt fence structures functions as a filter and a runoff flow velocity check. They may remove as much as 80 to 90% of stormwater and sediment run-off from construction sites. A standard measurement instrument for water quality impairment; i.e. Turbidity and Total Dissolved Solids (TDS) may be used to measure if silt fence is properly functioning and protecting water quality onsite.

PURPOSE:

Silt Fences are used as an effective barrier to sediment leaving the site in stormwater runoff from relatively small areas. Once installed, the silt fence should remain in place until all areas upslope have been permanently stabilized by native riparian vegetation or approved biotechnical structure.

MEHTOD OF PLACEMENT:

- Metal "T" posts –(5'H) and no more than approximately 30' above the original ground surface. Posts shall be placed at no more than 10' intervals and are attached with low gauged wire or hog ring to the silt fence at the top and bottom of entrenched silt fence.
- Silt fences shall be entrenched in the ground between the support post a minimum of 6" depth.
- Erect silt fence in a continuous fashion from a single roll of fencing to eliminate gaps. If this is not possible overlap at least 6".
- They are appropriate where the drainage area is less than ¼ acre per 100 'of fence length.
- They slope length above the silt fence shall not exceed 100'.

MAINTENANCE:

- The silt fence shall remain in place until all areas upslope have been permanently stabilized by native riparian vegetation or other means.
- Inspect fences regularly and frequently, especially after each rainfall event, to make sure they are built to specification and intact and functioning on site.

Retail Companies Internet sites for Silt Fence Products:

- ✓ www.HanesGeo.com
- ✓ www.WhiteCap.com

The standard approved Silt Fence is the TerraTex SF-D or the TerraTex G-S for very fine (silt-loam) soils.

Prepared by: S.Collins, ECOS USA

ATTACHMENT 8 USDA NRCS Practice Code, Standards, and Implementation Requirements #342.

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CRITICAL AREA PLANTING

(Ac.)

CODE 342

DEFINITION

Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

PURPOSE

Stabilize stream and channel banks, and shorelines.

Stabilize areas with existing or expected high rates of soil erosion by wind or water.

Rehabilitate and revegetate degraded sites that cannot be stabilized using normal establishment techniques.

Stabilize coastal areas, such as sand dunes and riparian areas.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to highly disturbed areas such as:

- active or abandoned mined lands;
- urban conservation sites;
- road construction areas;
- conservation practice construction sites;
- areas needing stabilization before or after natural disasters such as floods, hurricanes, tornados and wildfires;
- eroded banks of natural channels, banks of newly constructed channels, and lake shorelines;
- other areas degraded by human activities or natural events.

CRITERIA

General Criteria Applicable To All Purposes

Site Preparation. A site investigation shall be conducted to identify any physical, chemical, or biological conditions that could affect the successful establishment of vegetation.

Areas to be planted will be cleared of unwanted materials and smoothed or shaped, if needed, to meet planting and landscaping purposes.

A suitable seedbed shall be prepared for all seeded species. Compacted layers will be ripped and the soil re-firmed prior to seedbed preparation.

Species Selection. Species selected for seeding or planting shall be suited to current site conditions and intended uses, and be resistant to diseases or insects common to the site or location.

Selected species will have the capacity to achieve adequate density and vigor to stabilize the site within an appropriate period.

No plants on the Federal or state noxious weeds list shall be planted.

Establishment of Vegetation. Seeds will be planted using the method or methods best suited to site and soil conditions.

Sod placement shall be limited to areas that can naturally supply needed moisture or sites that can be irrigated during the establishment period.

Sod will be placed and anchored using techniques to ensure that it remains in place until established.

Species, rates of seeding or planting, minimum quality of planting stock (e.g. pure live seed (PLS) or stem caliper), method of seedbed

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service State Office or visit the Field Office Technical Guide.

**NRCS-WA
March 2013**

preparation, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

Seeding or planting shall be done at a time and in a manner that best ensures establishment and growth of the selected species. What constitutes successful establishment (e.g. minimum percent ground/canopy cover, percent survival, stand density) shall be specified before application.

Planting shall be done during approved times for the species to be used.

Apply soil amendments (e.g. lime, fertilizer, compost) according to the requirements in the local Field Office Technical Guide.

Plantings shall be mulched as necessary to ensure establishment. Other disturbed areas shall be mulched as necessary to prevent erosion.

Additional Criteria to Stabilize Stream and Channel Banks and Shorelines

When slopes are modified for seeding, topsoil will be stockpiled and spread over areas to be planted as needed to meet planting and landscaping needs.

Bank and Channel Slopes. Channel side slopes shall be shaped so that they are stable and allow establishment and maintenance of desired vegetation.

Slopes steeper than 2:1 shall not be stabilized using vegetation alone. A combination of vegetative and structural measures will be used on these slopes to ensure adequate stability.

Species Selection. Plant material used for this purpose shall:

- adapted to the hydrologic zone (see Fig. 1) into which they will be planted.

- be adapted and proven in the regions in which they will be used.
- when mature, produce plant communities that are compatible with those in the area.
- protect the channel banks but not restrict channel capacity.

Establishment of Vegetation. The species used, planting rates, spacing, and methods and dates of planting shall be based on plant materials program trials or other technical guidance, such as local planting guides or technical notes.

Identify, mark, and protect desirable existing vegetation during practice installation.

A combination of vegetative and structural measures using living and inert material shall be used when flow velocities, soils, and bank stability preclude stabilization by vegetative establishment alone.

If the existing vegetation on a site will compete with species to be established vegetatively (e.g. bare-root, containerized, ball-and-burlap, potted), it will be controlled in a manner that ensures the successful establishment of the planted species.

Site Protection and Access Control.

Grazing animal access to planted areas will be controlled for a minimum of two growing seasons during the establishment period.

All areas to be grazed will have a grazing plan that meets the criteria in the local Field Office Technical Guide.

Grazing shall be permanently excluded on high hazard sites, such as cut banks, areas of seepage or other potentially unstable areas.

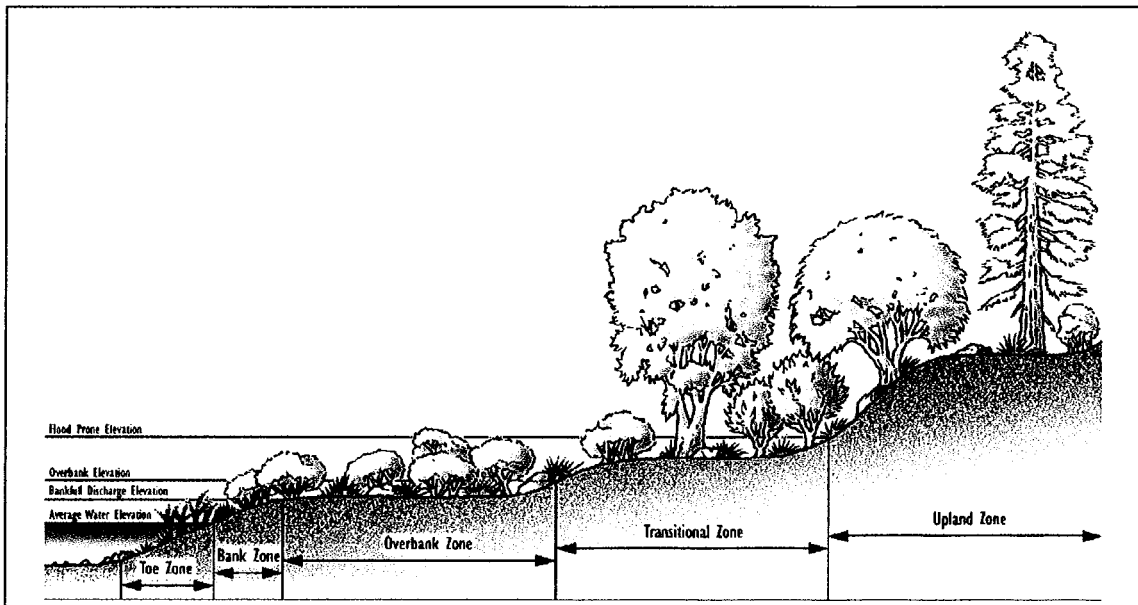


Figure 1. Location of hydrologic zones along a channel or shoreline.

Definitions and descriptions of hydrologic zones used for channels and shorelines:

Bankfull Discharge Elevation - In natural streams, it is the elevation at which water fills the channel without overflowing onto the flood plain.

Bank Zone - The area above the Toe Zone located between the average water level and the bankfull discharge elevation. Vegetation may be herbaceous or woody, and is characterized by flexible stems and rhizomatous root systems.

Overbank Zone - The area located above the bankfull discharge elevation continuing upslope to an elevation equal to two thirds of the flood prone depth. Vegetation is generally small to medium shrub species.

Toe Zone - The portion of the bank that is between the average water level and the bottom of the channel, at the toe of the bank. Vegetation is generally herbaceous emergent aquatic species, tolerant of long periods of inundation.

Transitional Zone - The area located between the overbank zone, and the flood prone width elevation. Vegetation is usually larger shrub and tree species.

Upland Zone - The area above the Transitional Zone; this area is seldom if ever saturated.

Note: some channels or shorelines have fewer than four hydrologic zones because of differences in soils, topography, entrenchment and/or moisture regime.

Additional Criteria to Rehabilitate and Revegetate Degraded Sites that Cannot Be Stabilized through Normal Farming Practices.

If gullies or deep rills are present, they will be filled and leveled as necessary to allow equipment operation and ensure proper site and seedbed preparation.

Based on a soil test and other appropriate site evaluations, soil amendments will be added as necessary to ameliorate or eliminate physical

or chemical conditions that inhibit plant establishment and growth.

Additional Criteria to Restore Coastal Areas, such as Sand Dunes and Riparian Areas

Plants for sand dunes and coastal sites must be able to survive being buried by blowing sand, sand blasting, salt spray, salt water flooding, drought, heat, and low nutrient supply.

Local plant lists including appropriate species shall be developed and utilized.

Sand trapping devices such as sand fences or brush matting shall be included in the revegetation/ stabilization plans where applicable.

CONSIDERATIONS

Species or mixes that are adapted to the site and have multiple values should be considered. Native species may be used when appropriate for the site.

To benefit pollinators and other wildlife, flowering shrubs and wildflowers with tough root systems and good soil holding capacity also should be considered for incorporation as a small percentage of a larger grass-dominated planting. Where appropriate consider a diverse mixture of legumes and forbs to support pollinator habitat.

Avoid species that may harbor pests. Species diversity should be considered to avoid loss of function due to species-specific pests.

Planning and installation of other conservation practices such as Diversion (code 362), Obstruction Removal (code 500), Subsurface Drain (code 606), or Underground Outlet (code 620) may be necessary to prepare the area or ensure vegetative establishment.

Areas of vegetation established with this practice can create habitat for various type of wildlife. Maintenance activities, such as mowing or spraying, can have detrimental effects on certain species. Perform management activities at the times and in a manner that causes the least disruption to wildlife.

PLANS AND SPECIFICATIONS

Prepare plans and specifications for each field or management unit according to the criteria and operation and maintenance sections of this standard. Record practice specifications using approved specification sheets, job sheets or other acceptable documentation.

The following elements shall be addressed in the plan, as applicable, to meet the intended purpose.

- Site preparation
- Topsoil requirements
- Fertilizer application
- Seedbed/planting area preparation
- Methods of seeding/planting
- Time of seeding/planting
- Selection of species
- Seed/plant source
- Seed analysis
- Seeding rate/plant spacing
- Mulching
- Supplemental water needed for establishment
- Protection of plantings

OPERATION AND MAINTENANCE

Use of the area shall be managed as long as necessary to ensure the site remains stable.

Plantings shall be protected from pests (e.g. weeds, insects, diseases, livestock, or wildlife) as necessary to ensure long-term survival.

Inspections, reseeding or replanting, and fertilization may be needed to ensure that this practice functions as intended throughout its expected life. Observation of establishment progress and success should be performed at regular intervals until the practice has met the criteria for successful establishment and implementation.

REFERENCES

- Federal Interagency Stream Restoration Working Group. 1998. Stream corridor restoration: principles, processes, and practices. National Engineering Handbook, Part 653.
- USDA-NRCS. 2007. National Engineering Handbook, Part 654. Stream restoration guide.
- USDA-NRCS. 2010. The PLANTS Database (<http://plants.usda.gov>, checked September 2010). National Plant Data Center.



Producer: [Click here to enter text.](#)

Project or Contract: [Click here to enter text.](#)

Location: [Click here to enter text.](#)

County: [Click here to enter text.](#)

Farm Name: [Click here to enter text.](#)

Tract Number: [Click here to enter text.](#)

Practice Location Map

(showing detailed aerial view of where practice is to be installed on farm/site, showing all major components, relative location to any landmarks, and survey benchmarks)

Provide documentation of permits (federal, state, tribal, local, etc.)

Benchmark Condition

Enter benchmark condition narrative (include photos, size of treatment area, weed pressure, top soil present?, etc.)

[Click here to enter text.](#)

Index

- ☐ Enviro Eval CPA-52
- ☐ Assistance Notes
- ☐ Practice Location Map
- ☐ Soils Map
- ☐ Win-PST (if chemicals are used)
- ☐ Specifications
- ☐ Operation & Maintenance
- ☐ Client's Acknowledgement
- ☐ Practice Certification (with supporting docs. if necessary)

Site Conditions

Slope range	pH range	Soil type/soil texture
Click here to enter text.	Click here to enter text.	Click here to enter text.
Soil drainage class		Current vegetation or site condition
Click here to enter text.		Click here to enter text.

Soil Test (Optional), Attach lab report or enter important test findings.

[Click here to enter text.](#)

Utility Safety/
One-Call System
Information

342 – Critical Area Planting Implementation Requirements

Practice Purpose(s):

- ☐ Stabilize areas with existing or expected high rates of soil erosion by wind or water.
- ☐ Stabilize stream and channel banks, pond and other shorelines, earthen features of structural conservation practices.
- ☐ Stabilize areas such as sand dunes and riparian areas.

Resource Concerns:

[Click here to enter text.](#)

Desired Condition (Goals and Objectives):

(Describe the goals/objectives of this planting and the desired site conditions after treatment. Description of successful establishment (e.g. minimum percent ground/canopy cover, percent survival, stand density).)

Specifications

(Refer to Critical Area Planting (342) Planner's Guide for Implementation Requirement Guidance; *FOTG Section IV*)

Description of Work

Enter objectives and a brief narrative of proposed work to be done.

[Click here to enter text.](#)

Site preparation earthmoving (if applicable), etc.:

[Click here to enter text.](#)

Seedbed preparation (include all cultivation, mechanical (e.g. mowing) and chemical treatments, and timing of the treatments)

[Click here to enter text.](#)

Top soiling requirements (if applicable):

[Click here to enter text.](#)

Seeding/Planting time/date:

[Click here to enter text.](#)

Seeding/Planting method/s (include seeding depth)

342 – Critical Area Planting Implementation Requirements

[Click here to enter text.](#)

Rates and Species

Permanent Seed/Plant Species Mixture	Acres	Lbs/ac PLS, Or plants spacing in feet	Total lbs needed or total plants needed
1. seed/plant mixture	acres	lbs/ac	lbs or plants needed
2. seed/plant mixture	acres	lbs/ac	lbs or plants needed
3. seed/plant mixture	acres	lbs/ac	lbs or plants needed
4. seed/plant mixture	acres	lbs/ac	lbs or plants needed
5 seed/plant mixture	acres	lbs/ac	lbs or plants needed
6. seed/plant mixture	acres	lbs/ac	lbs or plants needed
Totals			

Description of Plant Materials

For trees and shrubs describe the plant materials to be used (stock type, bareroot, container, plugs, (size of containers or plugs), minimum seedling diameter, root to shoot ratios, height, etc.)

[Click here to enter text.](#)

Fertilizers, Amendments, and/or Mulch (as needed)

Fertilizer requirements	Source	Lbs/acre	Total	Notes
Nitrogen	source	lbs/acre	total	notes
Phosphate (P ₂ O ₅)	source	lbs/acre	total	notes
Potash (K ₂ O)	source	lbs/acre	acre	notes

	Source	Tons/acre	Total	Notes
Lime (If needed)	source	tons/acre	total	notes
Method of seeding/planting/sodding:	enter seed method			
Mulch requirements (type, rate/ac)	enter mulch requirements or see 484 Mulch IR			
Other notes (e.g., inoculants, irrigating, management, plant protection, etc.)	enter notes			

Associated Practices:

List other practices that are part of this conservation system.

[Click here to enter text.](#)

342 – Critical Area Planting Implementation Requirements

Critical Area Planting Layout Drawing:

Attach any additional layout drawings as needed.

Operation and Maintenance: (check all that apply)

- ☐ Control access to the area to ensure the site remains stable.
- ☐ Plantings shall be protected from pests (e.g. weeds, insects, diseases, livestock, or wildlife) as necessary to ensure long-term survival.
- ☐ Inspections, reseeding or replanting, and fertilization may be needed to ensure that this practice functions as intended throughout its expected life.
- ☐ Observe establishment progress and success at regular intervals until the practice has met the criteria for successful establishment and implementation.
- ☐ Description of successful establishment (e.g. minimum percent ground/canopy cover, percent survival, stand density).

Site Specific Operation & Maintenance and Post Planting Weed Control (*e.g. mow site in June before weeds make seed*)

Enter site specific maintenance activities here.

342 – Critical Area Planting Implementation Requirements

Client's Acknowledgement *(signed after Implementation Requirements are completed but before practice installation):*

By Signing below, I acknowledge that:

- I have reviewed & understand the specific installation specs, and operation & maintenance requirements for this site
- I will install, operate and maintain in accordance to these specifications
- I will make no changes to the planned design and installation without prior written approval from the Natural Resource Conservation Service
- I will obtain all necessary permits prior to the start of installation of this conservation practice
- I will also comply with all ordinances and laws pertaining to the installation of this conservation practice
- I assume responsibility for notifying all Utilities affected by the installation, operation and maintenance of this conservation practice

Client's Signature

Date:

NRCS Design Review Only

Designed By:	JAA Level :	Date:
--------------	-------------	-------

If designer does not have appropriate JAA then design needs to be approved and signed by someone with adequate JAA for the 342 practice scope of work.

Approved By:	JAA Level :	Date:
--------------	-------------	-------

Practice Installation and Certification *(sign after practice completion and check out)*

By signing below, I certify that:

- ☐ I have the required Job Approval Authority for this conservation practice installed.
- ☐ This practice has been installed according to the implementation Requirements listed above.
- ☐ Any modifications are documented and were pre-approved by NRCS.
[Click here to enter text.](#)
- ☐ Seedbed conditions just prior to seeding operation are documented and met the above IR:
[Click here to enter text.](#)
- ☐ Seed tags are attached.
- ☐ Operation and Maintenance Plan was reviewed with operator.
- ☐ Any appropriate photo documentation is attached.
- ☐ Any applicable stand evaluation worksheets are included.

NRCS Installation and Certification Only

Inspected and Certified By:	JAA Level :	Date:
--------------------------------	-------------	-------

If the inspection and certifier does not have appropriate JAA then certification needs to be approved and signed by someone with adequate JAA for the 342 practice scope of work.

Approved By:	JAA Level :	Date:
--------------	-------------	-------

ATTACHMENT 9. WA Dept of Ecology Stormwater Best Management Practices BMP1-C150E “Materials on Hand”.

BMP C150E: Materials on Hand

Purpose

Quantities of erosion prevention and sediment control materials can be kept on the project site at all times to be used for emergency situations such as unexpected heavy rains. Having these materials on-site reduces the time needed to replace existing or implement new BMPs when inspections indicate that existing BMPs are not meeting the Construction Stormwater Pollution Prevention Plan (SWPPP) requirements. In addition, contractors can save money by buying some materials in bulk and storing them at their office or yard.

Conditions for Use

- Construction projects of any size or type can benefit from having materials on hand. A small commercial development project could have a roll of plastic and some gravel available for immediate protection of bare soil and temporary berm construction. A large earthwork project, such as highway construction, might have several tons of straw, several rolls of plastic, flexible pipe, sandbags, geotextile fabric and steel “T” posts.

2019 Stormwater Management Manual for Eastern Washington

Chapter 7 - Page 829

- Materials should be stockpiled and readily available before any site clearing, grubbing, or earthwork begins. A large contractor or developer could keep a stockpile of materials that are available to be used on several projects.
- If storage space at the project site is at a premium, the contractor could maintain the materials at their office or yard. The office or yard must be less than an hour from the project site.

Design and Installation Specifications

Depending on the project type, size, complexity, and length, the materials and quantities will vary. A good minimum list of items that will cover numerous situations includes the following:

- Clear plastic, 6 mil
- Drainpipe, 6- or 8-inch-diameter
- Sandbags, filled
- Straw bales for mulching
- Quarry spalls
- Washed gravel
- Geotextile fabric
- Catch basin inserts
- Steel “T” posts
- Silt fence material
- Straw wattles

Maintenance Standards

- All materials with the exception of the quarry spalls, steel “T” posts, and gravel should be kept covered and out of both sun and rain.
- Restock materials as needed.

BMP C151E: Concrete Handling

Purpose

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. This BMP is intended to eliminate concrete process water and slurry from entering waters of the state.

Conditions for Use

Any time concrete is used, implement these management practices. Concrete construction project components include, but are not limited to, the following:

2019 Stormwater Management Manual for Eastern Washington

Chapter 7 - Page 830

Cited from: Washington State Department of Ecology, February 2019, Stormwater Manual for Eastern Washington, DOE Pub#18-10-044.
<https://fortress.wa.gov/ecy/publications/SummaryPages/1810044.html>

Prepared by: S. Collins ECOS USA, 11/25/2019.

ATTACHMENT 10 ECOS USA BASELINE PHOTO LOG AVAILABLE UPON REQUEST.

ATTACHMENT 11 LANDOWNER SIGNATURES.

1455 S. Geiger Blvd. Spokane, WA. 99201

PARCEL #25271.1901

LANDOWNER SIGNATURE(S)

LANDOWNER AND PREPARERS APPROVAL SIGNATURE (REQUIRED)

I/we approve of the contents of this plan and intend to implement the described management activities to best of my/our ability and to manage the property in a manner consistent with applicable regulatory requirements. If there is a change of landowner of the property This Site Plan Review "Critical Area Buffer Reduction and Critical Area Wetland Buffer Mitigation Plan" will be transferred the new landowner, as the principal responsible party.

Audrey Cremo 06-02-2020 Audrey Cremo

Landowner Signature and Date Signed

Landowner Signature and Date Signed

Soncha J. Collins 6/02/2020

Preparers Signature and Date Signed

ECOS USA.