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Request of: JONI HAWTHORNE AND DAVID GILPIN

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Natural Resources Assessment Report: Buffer Mitigation Plan

REFERENCE NUMBER(S) of Documents assigned or released:

[✓] Additional numbers on page 13 of document.

GRANTOR(S):

1. David Gilpin
2. Joni Hawthorne
3.
4.

[✓] Additional names on page — of document.

GRANTEE(S):

1. Skamania County
2.
3.
4.

[✓] Additional names on page — of document.

LEGAL DESCRIPTION (Abbreviated: i.e. Lot, Block, Plat or Section, Township, Range, Quarter):

112 Girl Scout Rd. T3N, R8E, Section 36, Parcel 400 and Portions of 103, 200, 500

[✓] Complete legal on page 1 of document. Skamania County, Washington

Assessor's Property Tax Parcel # 03-08-36-0-0-0400-00

[ ] Additional parcel numbers on page — of document.

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SCHOTT & ASSOCIATES
Ecologists & Wetlands Specialists
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NATURAL RESOURCE ASSESSMENT REPORT

112 Girl Scout Road

T3N, R8E, Section 36,
Parcel 400 and Portions of 102, 200, 500
Skamania County, Washington

Prepared for

David Gilpin and Joni Hawthorne
PO Box 300
Stevenson, WA 98648

Prepared by

Kim Cartwright
of
Schott & Associates, Inc.

Date:

November 2022

Project #: 3016

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APPENDICES

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I. Introduction

Schott & Associates (S&A) was contracted to conduct wetland delineation and natural resource assessment for the project site at 112 Girl Scout Rd, Skamania County, Washington (T3N, R8E, Section 36, Parcel 400 [project site] and Portions of 102, 200, 500; Figure 1). These properties were located within the Columbia River Gorge National Scenic Area and contain water resources that are subject to regulation under Chapter 22.28 of the Skamania County Code (SCC). Water resources may also be regulated under the Clean Water Act (CWA) by the U.S. Army Corps of Engineers (Corps) and under the Shoreline Management Act and Water Pollution Act by the Washington State Department of Ecology (Ecology). The purpose of this report is to document existing conditions with regards to regulated natural resources and meet County water resource protection approval criteria for the after-the-fact project. The applicants have filed a land use application with the County which was deemed incomplete on May 9, 2022 (NSA-22-18).

All work on this natural resource assessment has been completed by a qualified natural resource specialist. Onsite assessment and reporting were conducted by Kim Cartwright, a wetland ecologist with over 10 years of experience in conducting natural resource assessments, including wetland and other water delineations, habitat and functional assessments, natural resource permitting, and mitigation planning.

A. Site Description and Land Use

The study site consisted of the 1.85-acre project site (parcel 400) owned by the applicant, as well as all areas within 200 feet, including portions of 102 to the north, 500 to the east and south, and 200 to the west. Parcel 400 included residential development in the west-central portion of the property including a single-family home, detached garage, accessory building, gravel access and parking areas, and yard area. Girl Scout Road bordered the parcel to the west. The remainder of the parcel was undeveloped and vegetated by mixed Douglas fir (*Pseudotsuga menziesii*)- big-leaf maple (*Acer macrophyllum*) forest. Site topography consisted of steep south-facing hillslope in the northern portion of the site, which flattened out somewhat in the center of the site, then descended in the southern portion of the site. A deep, steep-sided ravine formed the eastern property boundary. The ravine contained an unnamed perennial tributary to Collins Creek.

Areas within 200 feet consisted of privately-owned land to the east and south, and U.S. Forest Service land to north and west. All surrounding areas were generally well-forested and steeply sloped except for a large topographical depression located on parcel 200, just west of Girl Scout Road. The ravine and stream continued to the northwest and southeast of parcel 400.

II. Methods

Assessment methods included both desktop review and onsite data collection. Prior to the field investigation, the following existing data and information was reviewed:

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- Skamania County MapSifter (https://skamaniawa-mapsifter.publicaccessnow.com/)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (WDNR) forest practices wetland and stream mapping
- U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS) gridded Soil Survey Geographic (gSSURGO) database for Skamania County
- WDNR LiDAR data available from https://www.dnr.wa.gov/lidar (Wasco County, 2015)
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) online mapper (https://geodataservices.wdfw.wa.gov/hp/phs/)
- Washington Natural Heritage Program (WNHP) rare plant and high-quality ecosystem GIS data available at https://www.dnr.wa.gov/natural-heritage-program
- Site plans prepared by the applicant

Schott & Associates visited the study site on October 11, 2022. Delineation data were collected according to methods described in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2* (USACE 2010). Seven sample plots were established throughout the site to determine the presence or absence of wetlands (Appendix C). Plant indicator status was determined using the 2020 National Wetland Plant List (Corps 2020). Onsite streams were delineated via the ordinary high-water mark (OHWM) according to Ecology's publication *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Ecology 2016).

All identified wetlands and waters were classified according to the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) and rated by hydrogeomorphic (HGM) class according to the western Washington wetland rating system (Hruby 2014).

Wetland/stream buffer widths were determined according to Section 2.28.010(B) of the SCC.

Representative ground level photographs were recorded to document site conditions (Appendix B; Figure 2).

A. Mapping Method

Wetland, OHWM, photo point, and sample plot locations were recorded with a handheld Trimble GPS unit capable of sub-meter accuracy following differential correction with Pathfinder Office desktop software. These data were converted to ESRI shapefile and mapped using ArcMap 10.6 desktop software. The project site tax lot boundary was

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sourced from Skamania County MapSifter. Wetland/stream buffers and the 200-ft. survey area were mapped using ArcMap's buffer function.

III. Results and Discussion

A single soil series was mapped within the study site according to the USDA NRCS soil survey for Skamania County: St. Martin gravelly silty clay loam at slopes of 2-30%. This soil series is very deep, moderately well-drained, and occurs on mountain slopes. It is rated nonhydric and not subject to flooding or ponding.

WDNR hydrography data show the unnamed tributary to Collins Creek classified as Type F: potentially fish-bearing and perennial. The NWI also depicts the stream as a seasonally flooded, intermittent riverine stream bed (R4SBC).

According to PHS mapping, the site is within the Wind River/Bear Creek winter range for mule and black-tailed deer. The entire township which the site is in is mapped as potential habitat for western pond turtle and northern spotted owl. No WHNP species or habitats were mapped onsite or within the vicinity.

A. Water Resources

Based on soils, vegetation, hydrology, and OHWM data gathered in the field, two wetlands totaling 0.33 acre and one stream were identified within the study site. Wetlands, OHWM, sample plots, and photo point locations are shown on Figure 2. The identified features are described in detail below.

Wetland 1 occurred on parcel 200, southwest and across Girl Scout Road from the project site on U.S Forest Service land. It occupied a broad, deep depression bound by the road to the east and steep slopes to the north and west. It sloped south along the road, eventually draining into a roadside ditch offsite; 0.32 acre occurred within the study site. Wetland hydrology was assumed sustained primarily due to groundwater discharge along with runoff from upslope areas. Several inches of surface water were observed in the lower-lying portions of the wetland at the time of fieldwork. The wetland was assessed as a depressional HGM class and a semi-permanently flooded palustrine emergent (PEMF) Cowardin class. The wetland was vegetated primarily by field horsetail (*Equisetum arvense*; FAC) and lady fern (*Athyrium cyclosorum*; FAC). Oregon ash (*Fraxinus latifolia*; FACW) and bigleaf maple (FACU) provided canopy but were not rooted within the wetland.

The soil samples met the Corps hydric soil indicator for redox dark surface (F6). Soil layers were black (10 YR 2/1) in matrix color with common yellow-red redoximorphic concentrations occurring as soft masses. Soil texture was silt loam with high organic content (sapric material). Corps hydrological indicators observed included surface water (A1), high water table (A2), and soil saturation (A3).

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Wetland 2 occurred on the southern corner of parcel 400, extending onto parcel 500 along the eastern Girl Scout Road right-of-way. The wetland occupied a shallow swale that appeared to route runoff from the road and areas upslope and drained into a culvert at the lower end of the wetland. The outlet of this culvert could not be located, but it was assumed to outlet on the west site of the road, likely into Wetland 1. The wetland was bound to the west by the road prism and to the east by steep hillslopes. A few inches of surface water were observed in the lower-lying portions of the wetland at the time of fieldwork. The wetland was assessed as a slope HGM class and a PEMF Cowardin class. The wetland was vegetated primarily by watercress (*Nasturtium officinale*; OBL) and field horsetail.

The soil samples met the Corps hydric soil indicator for redox dark surface. Soil layers were 10 YR 2/1 in matrix color with common yellow-red redoximorphic concentrations occurring as soft masses. Soil texture was silty clay loam with high organic content (sapric material). Corps hydrological indicators observed included surface water (A1), high water table (A2), and soil saturation (A3).

Collins Creek Tributary flowed south-southeast along the western margin of the project site within a deep, steep-sided ravine. The channel reach within the site was moderate gradient and ranged from 8-45 feet wide and several feet deep with steep banks and a small boulder substrate; one foot or more of flowing water was present at the time of fieldwork. The stream extended to the northwest and southeast of the site. The stream was a perennial tributary to Collins Creek, which was located approximately 0.5 mile southeast of the project site. The river was assessed as a Cowardin class of permanently flooded, upper perennial, riverine unconsolidated bottom (R3UBH).

Soil samples established in upland areas throughout the site were generally 10 YR 2/1 to very dark grayish brown (10 YR 3/2) cobbly silt loam with no redoximorphic features. Soils were underlain by rock at 0-10 inches of depth. No wetland hydrological features were present.

1. Wetland Rating

Wetland 1 was rated as a Category IV depressional wetland according to the western Washington wetland rating system (forms included as Appendix D). It was rated moderate for water quality function and hydrologic function due to presence of persistent, ungrazed vegetation, a constricted outlet, and depth of water storage. The landscape potential to support the functions was rated moderate as the nearby road and residential development contribute pollutants and stormwater discharge into the wetland. Site value was rated low as downstream flooding is not a concern. Habitat function was rated low due to low species richness, low habitat interspersion and habitat type, and lack of special habitat features. Habitat landscape potential was rated high due to presence of surrounding relatively undisturbed habitat or low/moderate land use intensity and accessible habitat.

Wetland 2 was rated as a Category IV slope wetland according to the western Washington wetland rating system. It was rated moderate for water quality function due

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to presence of persistent, ungrazed vegetation and gradual slope. The landscape potential to support the functions was rated moderate as the nearby road and residential development contribute pollutants and stormwater discharge into the wetland. Hydrologic functions were rated low due to lack of rigid plant cover. The landscape potential was rated low as only a small area of pollutant generating land use exists and site value was also rated low as downstream flooding is not a concern. Habitat function was rated low due to low species richness, low habitat interspersion and habitat type, and lack of special habitat features. Habitat landscape potential was rated high due to presence of surrounding relatively undisturbed habitat or low/moderate land use intensity and accessible habitat.

B. Buffers

According to Skamania County Code Water Resource Protection Ordinance Section 22.28.010(B), a minimum 200-foot buffer width is accorded to each wetland, pond, lake, and perennial or fish-bearing stream. Buffer covers most of the project site except for a small area along Girl Scout Road in the north-central portion of the site.

The buffer within the project site outside of the residential development and yard areas was generally vegetated with mature, native Douglas-fir-bigleaf maple forest with an understory of vine maple (*Acer macrophyllum*), Indian plum (*Oemleria cerasiformis*), Oregon grape (*Mahonia nervosa*), snowberry (*Symphoricapos albus*), thimbleberry (*Rubus parviflorum*), western swordfern (*Polystichum munitum*), lady fern, and trailing blackberry (*Rubus ursinus*). The buffer area along the road and in front of the residential development had few trees and featured noxious species including Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*).

IV. Project Objectives

The applicant made improvements to an existing accessory building in 2018, adding 258 sq. ft. of porch and roof along the western and southern sides of the building as shown in Figure 3 and Appendix A. All areas of improvement occurred within the 200-ft. wetland/stream buffer. No impacts occurred to water resources. No trees or native vegetation were removed to construct the improvements; the construction occurred within the existing development envelope.

A. Impacts to Natural Resources

New construction within the wetland/stream buffer totaled 258 sq. ft.; no trees or native vegetation were removed as a result. The new porch and roof were located on the west and south side of the existing accessory building, between the accessory building and the existing home, so the new development does not encroach any closer to wetlands or waters than the existing development. Based on topography, stormwater runoff contributed by the new roof area drains west toward Girl Scout Road, where it is collected in a shallow vegetated swale along the road (starting at Sample Plot 3 and sloping southeast toward the driveway). At this point, it is assumed to drain under the driveway via a culvert (though no culvert could be found) and into Wetland 2, which drained into Wetland 1 via a culvert under Girl Scout Road.

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Stormwater runoff from impervious surfaces can contain pollutants and contribute to downslope erosion and sedimentation, as well as flooding and increased water temperature of affected waterways. The very small surface area of impervious surface created by the roof and porch addition likely contributes very little additional stormwater runoff, and the rural, largely undeveloped character of the surroundings likely adds few pollutants of concern such as fertilizers, heavy metals, and pathogens more common to urbanized or industrial areas. Overall, impacts to functions and values water resources from the porch and roof addition are estimated to be very low. Impacts to wetland/stream buffer is also estimated to be low since the new construction was contained within the area of existing residential development. The buffer mitigation plan described below has been developed to address any potential impact from stormwater inputs contributed to the wetlands by the addition.

B. Buffer Mitigation Plan

The buffer mitigation plan is intended to meet the requirements of Section 22.28.040 of the SCC. The applicant proposes to enhance 400 sq. ft. of buffer area south of the development that receives stormwater runoff from the existing development and new addition. The applicant has horticultural expertise and is qualified to implement, maintain, and monitor the mitigation plan. The proposed planting area consists of an existing shallow swale that slopes southeast, draining into Wetland 2, and indirectly, Wetland 1. The swale was verified as upland (Sample Plot 3) and did not feature a defined bed or bank or other characteristics of a stream. Currently, the area proposed for planting is vegetated by invasive species including Himalayan blackberry and English ivy. Enhancement would consist of invasive species removal and installation of native woody and groundcover species. Because this area is underlain by rock, some excavation may need to take place and additional soil added to facilitate plant installation and support growth. Rocky soils are present throughout the project site and this constraint cannot be avoided. The purpose of the planting would be to improve buffer water quality protection function by slowing stormwater runoff velocity and allowing infiltration, settling of sediment, and uptake of nutrients by native plants. Shrubs and groundcover species are proposed as they are more suited than trees at slowing velocity of stormwater runoff and won't pose potential hazards to the road or residential development. The proposed mitigation planting area is shown on Figure 3 and the planting plan is described in the following section.

1. Planting Plan

The buffer mitigation planting area includes 400 sq. ft. of existing swale located along the road, south of the existing development. The buffer mitigation planting area will be planted with 16 shrubs, and 6 groundcovers, along with seeding of herbaceous species. The planting palette is included in the table below. Plants were selected based on site conditions. Any bare ground will be seeded with Protime 470 native dry area mix (https://ptlawnseed.com/collections/native-seeds/products/clean-water-dry-area) at a rate of 1 lb/1,000 sq. ft. This mix includes native red fescue (*Festuca rubra var. rubra*),

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California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), and large leaf lupine (*Lupinus polyphyllus*).

Table 1. Buffer Mitigation Planting Area Palette (400 sq. ft.)

Species	Type	Minimum Size	Spacing	Quantity
Indian plum *Prunus emarginata*	Shrub	1 gal	5'OC	4
Oregon grape *Mahonia nervosa*	Shrub	1 gal.	5'OC	4
Snowberry *Symphoricarpos albus*	Shrub	1 gal.	5'OC	4
Vine maple *Acer circinatum*	Shrub	1 gal.	5'OC	4
Western swordfern *Polystichum munitum*	Groundcover	1 gal.	4'OC	6
Protime 470	Groundcover	1 lb/1,000 sq. ft.		0.4 lbs

Enhancement efforts will occur no later than one year following approval of the mitigation plan. Plant installation will occur in winter-early spring and include the following best practices:

- Invasive non-native or noxious vegetation will be removed from the planting area.
- The planting area will be prepared via removal of rock and addition of suitable planting substrate to create a minimum soil depth of 12 inches.
- Plants shall be mulched a minimum of three inches in depth and 18 inches in diameter.
- Any bare ground will be seeded with the Protime 470 native seed mix or equivalent.
- Irrigation will be applied regularly during for the first 2-3 growing seasons or until plants are established.

2. Monitoring and Maintenance

Monitoring and maintenance of the mitigation planting area will be the responsibility of the applicant and consist of the following:

- Weeds will be controlled, and any failed plantings will be replaced in kind to ensure that a minimum of 80% of the shrubs survive by the third year following installation.
- Photographic monitoring stations shall be established, and photographs used to monitor all mitigation progress.
- The applicant will provide a written progress report every three years minimum that documents milestones, successes, problems, and contingency actions. A final

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monitoring report shall be submitted for review upon completion of the enhancement activity.

V. Literature Citations

Environmental Laboratory, 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS.

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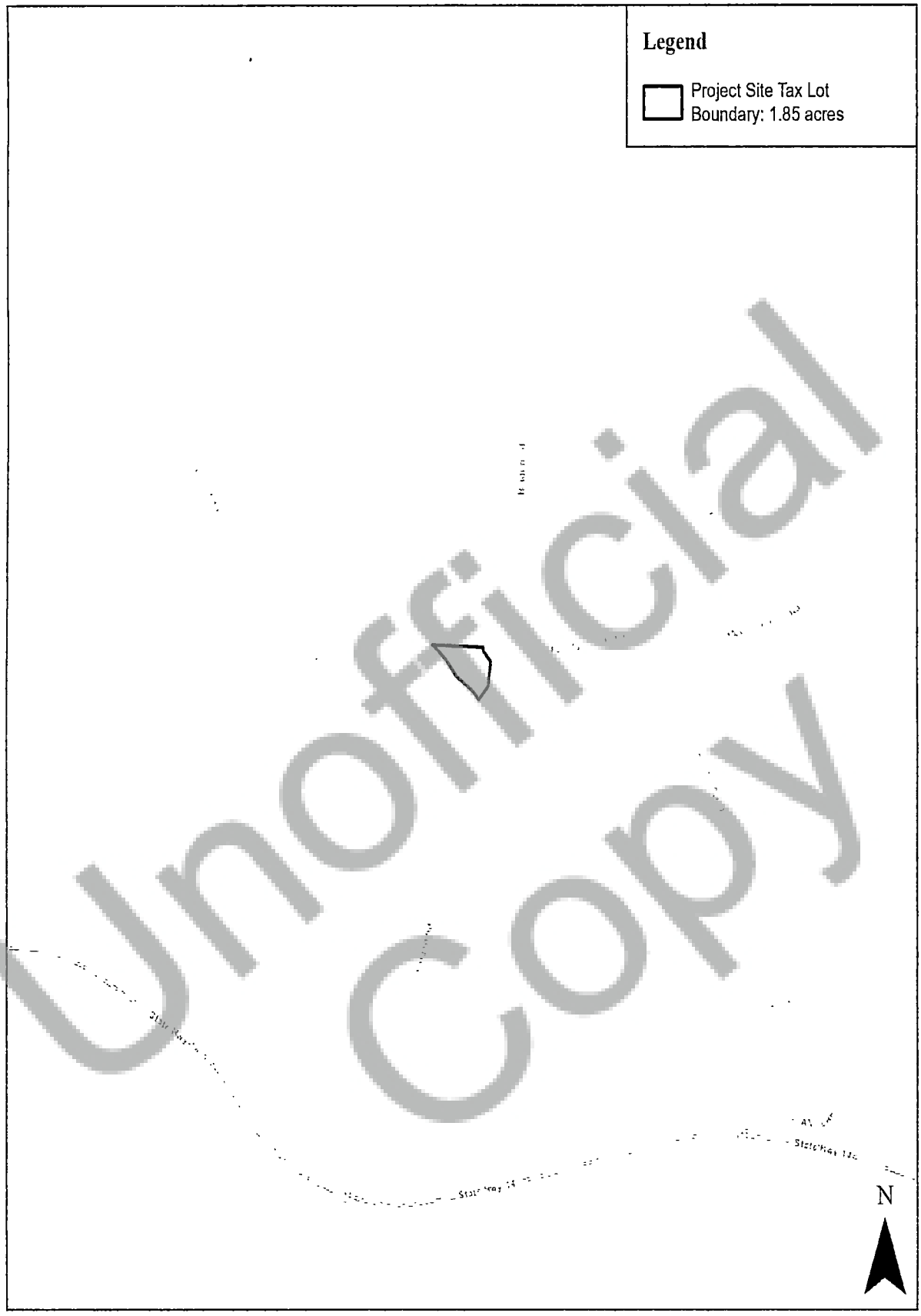

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Date: 11/7/2022

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Figure 1. Location

Girl Scout Road Project Site: S&A # 3016

0 400 800 1,600 Feet

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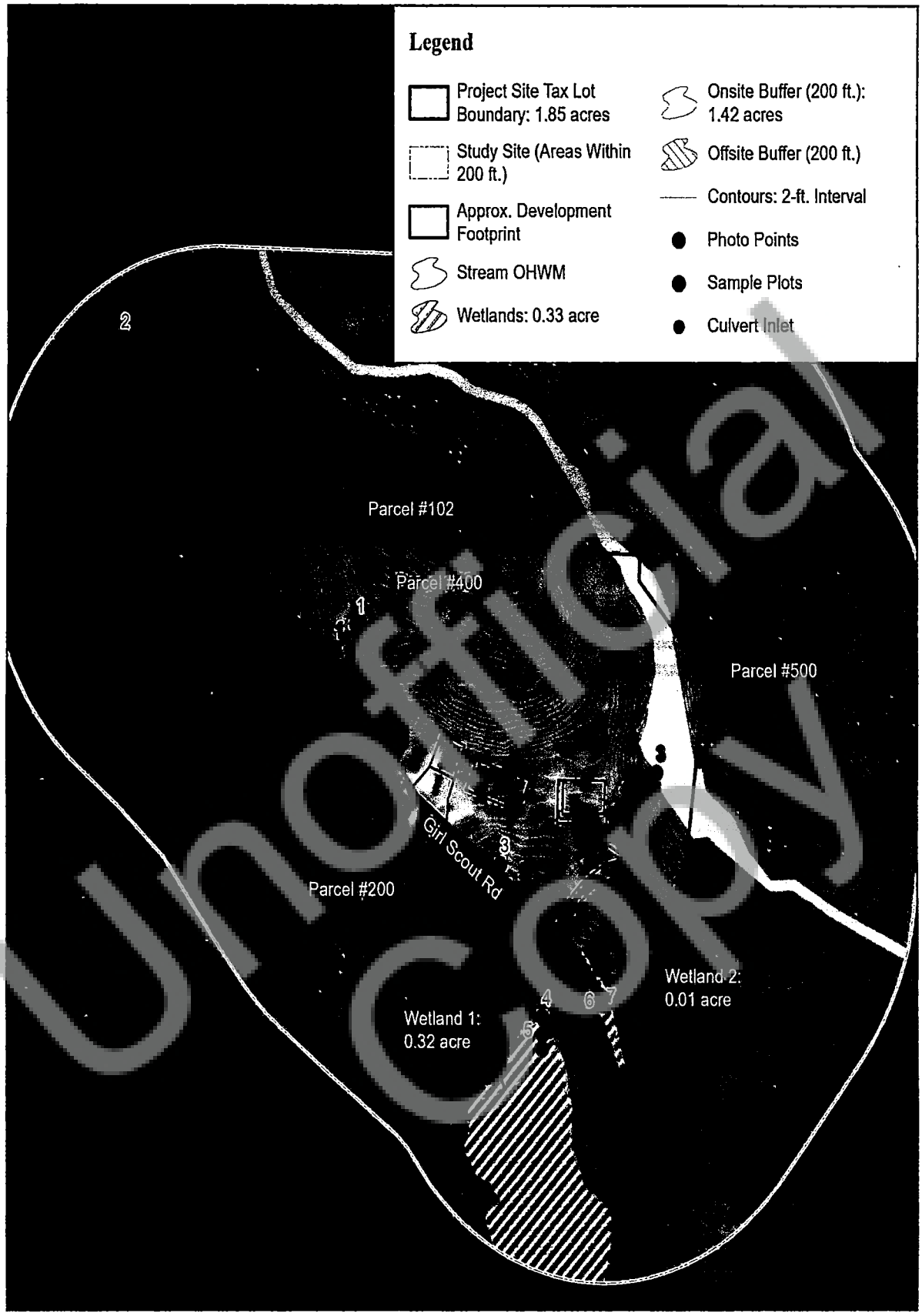

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Date: 11/7/2022

Data Source: ESRI, 2022; Skamania County GIS Dept, 2022; WDNR, 2015

Figure 2. Existing Conditions - Water Resources and Buffers

Girl Scout Road Project Site: S&A # 3016

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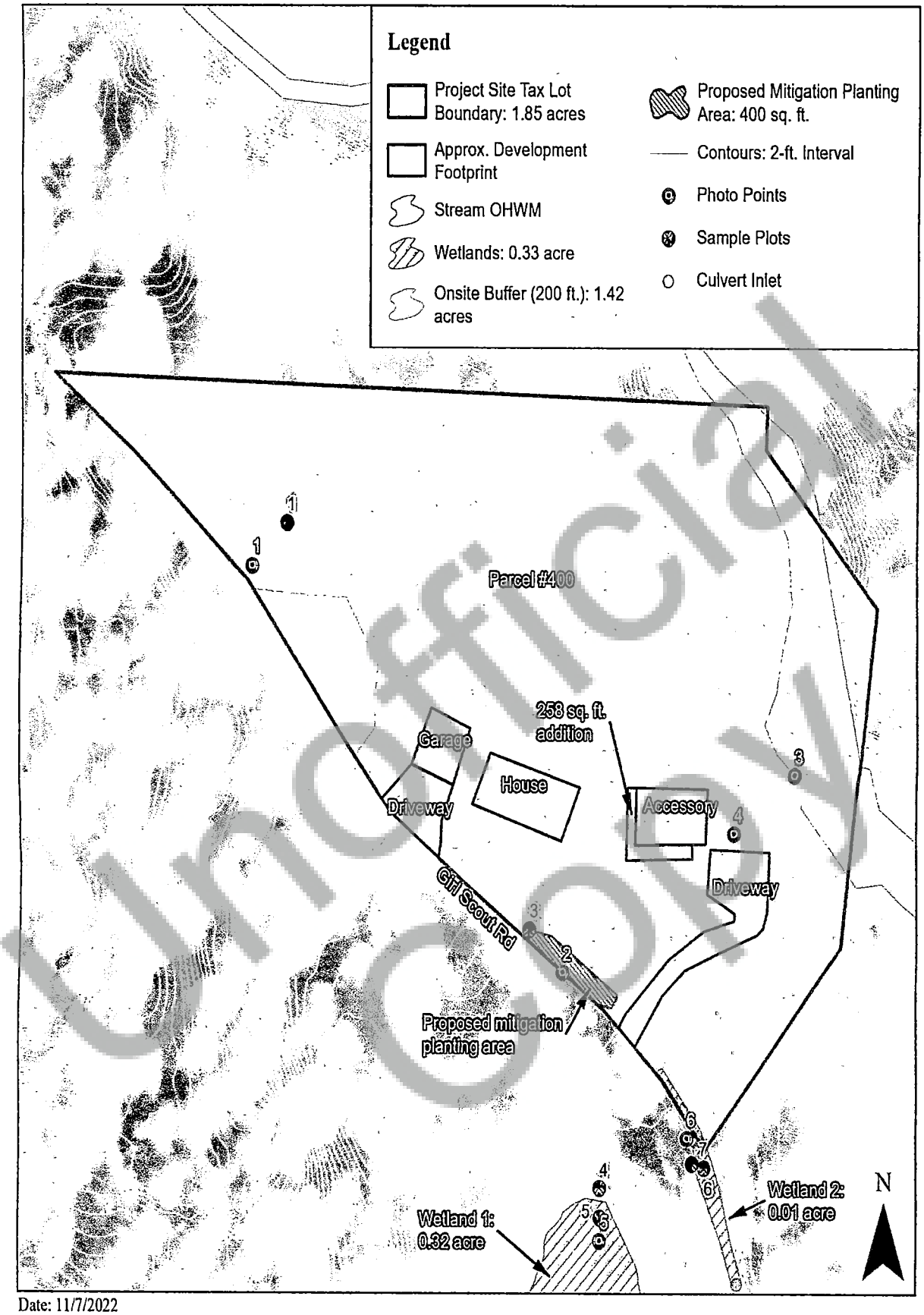
0 50 100 200 Feet



Date: 11/7/2022

Data Source: ESRI, 2022; Skamania County GIS Dept, 2022; WDNR, 2015

Figure 3. Proposed Buffer Mitigation Planting Area

Girl Scout Road Project Site: S&A # 3016

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0 30 60 120 Feet

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