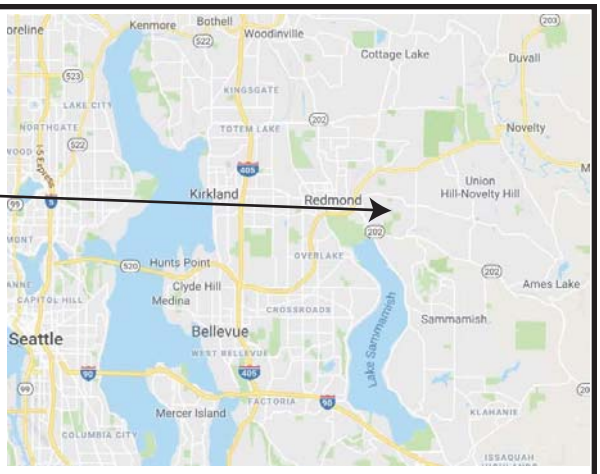
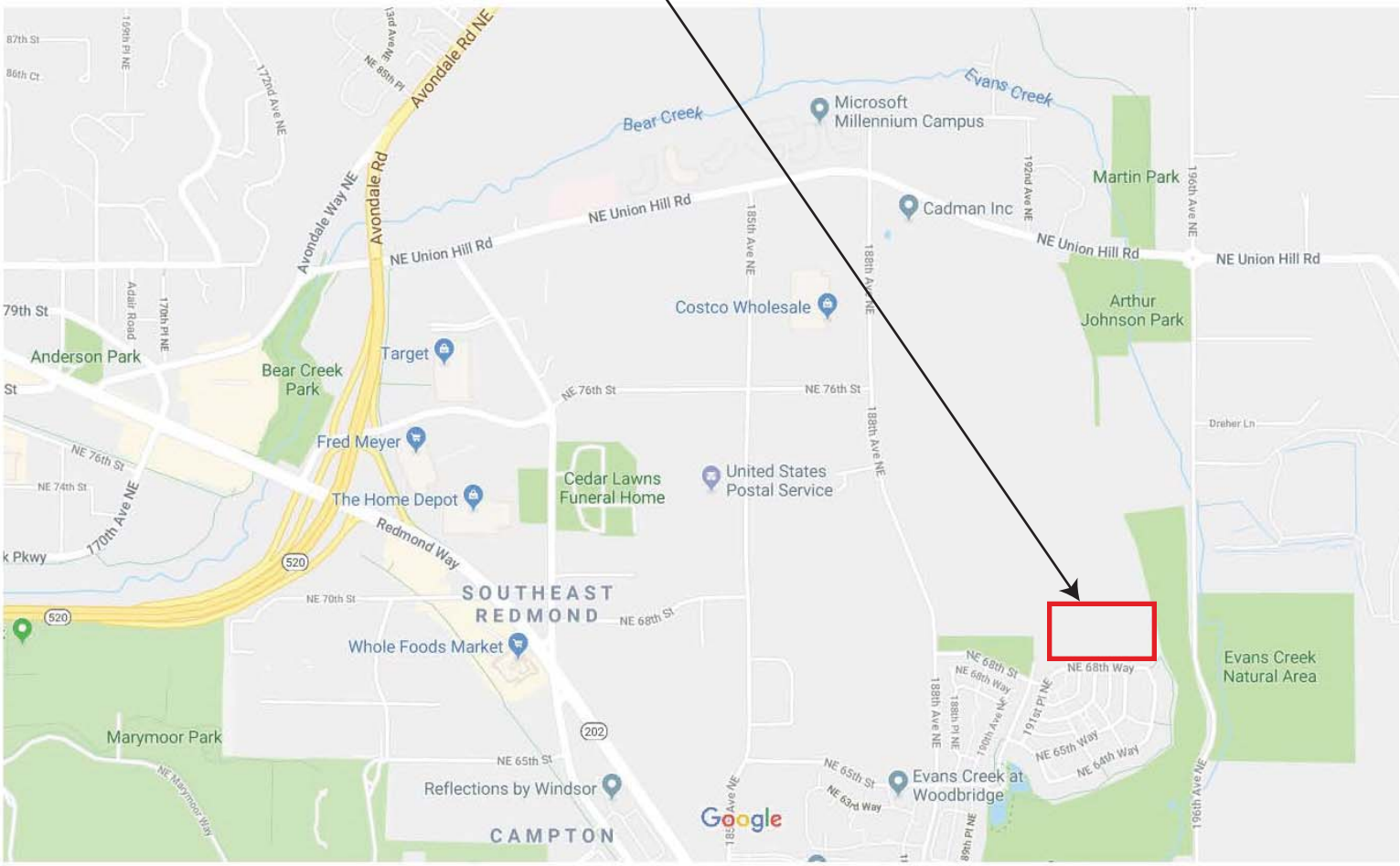
PROJECT LOCATION
(APPROX.)





N

FIGURE 1

REGIONAL & VICINITY MAP

WOODSIDE
REDMOND, WA

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

RAI # 2018-115

Raedeke Associates, Inc.

Wetland & Aquatic Sciences
Wildlife Ecology
Landscape Architecture

Report To:	Mr. Nick Abdelnour Polygon Northwest 11624 SE 5th Street, Suite 100 Bellevue WA 98005
Title:	Critical Areas Report for the Woodside Redmond Property, Redmond, Washington
Project Number:	2018-115-001
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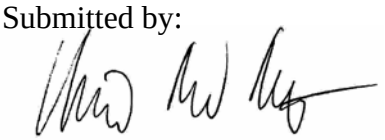
	Anne Cline, P.L.A. Landscape Architect

Submitted by:



Signature

Christopher W. Wright
Printed Name

April 5, 2019
Revised October 17, 2019

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1.0 INTRODUCTION

1.1 PURPOSE

Raedeke Associates, Inc. was retained by Polygon Northwest to provide a critical area evaluation for the Woodside Redmond project site. As part of this assessment we conducted a site visit to investigate wetlands and streams within the project site and immediate vicinity, in addition to providing a characterization of wildlife habitat and use that may occur on the project site. As part of our site visit, we investigated the site for wetland and stream boundaries, and collected information to be able to characterize and rate them using the Washington Department of Ecology (Hruby 2014) Wetland Rating System for Western Washington.

This report presents the findings of our background information review and our investigations of the project site on October 10, 2018. The report follows the City of Redmond (2016) critical areas reporting requirements. The report also provides a discussion of impacts of the proposed project on any identified critical areas.

1.2 PROJECT LOCATION

The Woodside Redmond study area consists of one parcel totaling of 11.94 acres located in the City of Redmond, Washington (Figure 1). The property is identified by Tax Parcel No. 0725069033. This places the project site in a portion of Section 7, Township 25 North, Range 6 East, W.M. Parcel maps retrieved on-line from King County depict the property boundaries, and base map information provided by Core Design, Inc. (Figure 10).

The project site is bordered to the north and west by an active gravel mine owned by Cadman Inc. It is bordered by undeveloped land to the east and by a residential development of single-family homes to the south of the site. Access to the project site is from 195th Place NE via a walking trail between two residences.

1.3 PROJECT DESCRIPTION AND SITE CONDITIONS

The proposed Woodside Redmond project would involve development of townhomes, roadways, sidewalks, pedestrian trails, and stormwater detention facilities. Based on our site visit, the project site currently consists mostly of a disturbed area which was once an active gravel mine but has been retired. There are no buildings or other structures within the proposed project area. A chain link fence runs along the border of the site to the east, south, and west. The site is positioned on mostly flat land with steep slopes to the east, south, and west. The site ranges from an approximate elevation of 100 feet above mean sea level near the lowest portions of the site located in the southeast corner to elevation 160 near the center of the study area (Figure 10). The undeveloped portions of the property to the east are currently vegetated by shrub-scrub and forest.

2.0 METHODS

2.1 DEFINITIONS AND METHODOLOGIES

Wetlands and streams are protected by federal law as well as by state and local regulations. Federal law (Section 404 of the Clean Water Act) prohibits the discharge of dredged or fill material into "Waters of the United States," including certain wetlands, without a permit from the U.S. Army Corps of Engineers (COE 2017). The COE makes the final determination as to whether an area meets the definition of a wetland and whether the wetland is under their jurisdiction.

2.1.1 Wetland Investigation

The COE wetland definition was used to determine if any portions of the project area could be classified as wetland. A wetland is defined as an area "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Federal Register 1986:41251).

We based our investigation upon the guidelines of the U. S. Army Corps of Engineers (COE) Wetlands Delineation Manual (Environmental Laboratory 1987) and subsequent amendments and clarifications provided by the COE (1991a, 1991b, 1992, 1994), as updated for this area by the regional supplement to the COE wetland delineation manual for the Western Mountains, Valleys, and Coast Region (COE 2010). The COE wetlands manual is required by state law (WAC 173-22-035, as revised) for all local jurisdictions, including the City of Redmond. Hydrophytic vegetation is defined as "macrophytic plant life growing in water, soil or substrate that is at least periodically deficient in oxygen as a result of excessive water content" (Environmental Laboratory 1987). The U.S. Army Corps of Engineers National Wetland Plant List wetland indicator status (WIS) ratings were used to make this determination (Lichvar et al. 2016). The WIS ratings "reflect the range of estimated probabilities (expressed as a frequency of occurrence) of a species occurring in wetland versus non-wetland across the entire distribution of the species" (Reed 1988:8). Plants are rated, from highest to lowest probability of occurrence in wetlands, as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL), respectively. In general, hydrophytic vegetation is present when the majority of the dominant species are rated OBL, FACW, and FAC.

A hydric soil is defined as "a soil that is formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (Federal Register 1995: 35681). The morphological characteristics of the soils in the study area were examined to determine whether any could be classified as hydric.

According to the 1987 methodology, wetland hydrology could be present if the soils were saturated (sufficient to produce anaerobic conditions) within the majority of the rooting zone (usually the upper 12 inches) for at least 5% of the growing season, which in this area is usually at least 2 weeks (COE 1991a). It should be noted, however, that areas having saturation to the surface between 5% and 12% of the growing season may or may not be wetland (COE 1991b). Depending on soil type and drainage characteristics, saturation to the surface would occur if

water tables were shallower than about 12 inches below the soil surface during this time period. Positive indicators of wetland hydrology include direct observation of inundation or soil saturation, as well as indirect evidence such as drift lines, watermarks, surface encrustations, and drainage patterns (Environmental Laboratory 1987). Hydrology was further investigated by noting drainage patterns and surface water connections between wetlands and streams within and adjacent to the project area.

2.1.2 Stream Ordinary High Water Mark

The Ordinary High Water Mark (OHWM) of streams are determined based on definitions provided under the Washington State Shoreline Management Act of 1971. The Washington State definition for the OHWM is as follows:

> *"Ordinary high water line" or "OHWL" means the mark on the shores of all waters that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland, provided that in any area where the ordinary high water line cannot be found, the ordinary high water line adjoining saltwater shall be the line of mean higher high water, and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood."*…(RCW 90.58.030(2)(b) and WAC173-22-030(6); WDOE 1994).

As outlined in the WDOE (1994) Shoreline Administrators Manual, the general guidelines for determining the OHWM include: (1) a clear vegetation mark; (2) wetland/upland edge; (3) elevation; (4) a combination of changes in vegetation, elevation, and landward limit of drift deposition; (5) soil surface changes from algae or sediment deposition to areas where soils show no sign of depositional processes; and/or (6) soil profile changes from wetter conditions (low chroma, high soil organic matter, and lack of mottling) to drier conditions (higher chroma, less organic matter, or brighter mottles).

2.2 BACKGROUND RESEARCH

2.2.1 Wetlands and Streams

Prior to conducting our site visit, we reviewed existing background maps and information for the project site from the U.S.D.A. Natural Resource Conservation Service (NRCS 2018) Web Soil Survey, the U.S. Fish and Wildlife (USFWS 2018) National Wetland Inventory (NWI), and King County (2018) iMap in order to assist in our determination of whether wetlands were present within the property or its vicinity. In addition, we also reviewed the City of Redmond (2011) Critical Area Map for wetlands and City of Redmond (2016) Critical Area Map for streams to determine if any wetlands or streams were identified on or within the immediate vicinity of the project site. We also reviewed Washington Department of Fish and Wildlife (WDFW 2018b) SalmonScape maps, Fish Passage maps (WDFW 2018c), and Washington Department of Natural Resources (WDNR 2018) Forest Practices Application Mapping Tool for water typing and fish use.

The USDA NRCS (2018) Web Soil Survey (Figure 2) identifies Everett soil series in the study area. Everett soils are not listed as a hydric soil on either the state or national hydric soils list but does contain the following inclusions: Alderwood and Indianola soils (NRCS 2017; U.S.D.A. Soil Conservation Service 1991, Federal Register 1995). Soil series boundaries or mapping units are mapped from aerial photographs with limited field verification. Thus, the location and extent of boundaries between mapping units may not be accurate for a given parcel of land within the survey area.

The USFWS (2018) NWI shows no wetlands on the project site, but depicts a palustrine, forested (PFO) wetland located more than 240 feet east of the project site (Figure 3). According to City of Redmond (2018) code (20D.140.30-020) the greatest potential buffer is 300 feet for a Category I wetland with a high level of habitat function. The potential buffer of the off-site wetland immediately east of the proposed project site on tax parcel no. 0725069034 could extend onto the Woodside project site. Wetlands shown on the NWI are general in terms of location and extent, as they are determined primarily from aerial photograph interpretation. Thus, the number and extent of existing wetlands located within the project area may differ from those marked on the NWI map.

The King County (2018) iMap does not show any wetlands on the Woodside Redmond property (Figure 4). The iMap depicts erosion and seismic hazards along the eastern property boundary consistent with the location of the steep slopes depicted on Figure 10. The City of Redmond (2011) wetlands map also does not depict wetlands or streams on the Woodside Redmond property; however, it does depict a wetland near the southeast property boundary (Figure 5). The depicted wetland corresponds to the wetland we identified off-site to the east. The City of Redmond (2016) streams map does not depict any streams on the Woodside Redmond property (Figure 6).

Evans Creek is not on site and is shown to be approximately 280 feet east of the easternmost project site boundary. Evans Creek is mapped by SalmonScape as fish passable and potentially containing salmon. The WDFW (2018b) maps (Figure 8) show Evans Creek as a Type-F perennial stream as defined in Washington Administrative Code (WAC) 222-16-031(2). Specifically, Type F streams are recognized as modeled fish habitat further defined by Washington Administrative Code's water typing system WAC 222-16-030. Review of Washington Department of Ecology (WDOE 2016) Water Quality Atlas mapping indicates Evans Creek is a 303-d listed stream with aquatic life uses as core summer salmonid habitat. We also reviewed current and historical aerial photographs (Google Earth 2018) to assist in the definition of existing plant communities, drainage patterns, and land use.

2.2.2 Wildlife

We also accessed the online priority habitats and species (PHS) database maintained by Washington Department of Fish and Wildlife (WDFW 2018a) for documented information on the potential occurrence of federal- or state-listed endangered, threatened, sensitive, candidate, other priority, or monitor wildlife species (hereafter "species of concern"), or priority habitats on the project site and vicinity. State priority species are defined as those fish and wildlife species "requiring protective measures and/or management actions to ensure their survival", and State priority habitats are defined as habitat types "with unique or significant value to many species"

(WDFW 2008). We reviewed database information maintained by the Washington Natural Heritage Program (2018) for occurrence of endangered, threatened, and sensitive plants in the vicinity of the project site.

Reference lists maintained by WDFW (2008) were consulted for information on the status of wildlife species of concern that could use the site during at least some part of the year. Species accounts and management recommendations provided by WDFW (e.g., Rodrick and Milner 1991, Larsen 1997, Azerrad 2004, Larsen et al. 2004) were consulted to determine habitat associations of such species and to evaluate the likelihood of their occurrence on the project site. During the field investigation, we searched for the presence of these species, or signs thereof, which could be found on the property.

The WDFW (2018a) PHS database map shows no known occurrences of species of concern, including endangered, threatened, sensitive, or other priority species or habitats on or immediately adjacent to the project site. The eastern portions of the property are forested and contain steep slope areas that connect to forested areas that continue off-site to the east. The City of Redmond's (2005) map of Fish and Wildlife Habitat Conservation and Core Preservation Areas does not show any Core Preservation Areas mapped on or near the project site (Figure 7). The Washington State Department of Natural Resources contains no records of Natural Heritage Preserves or Conservation Areas on or near the project site.

2.3 FIELD STUDY

We conducted site visits on October 10, 2018 to identify and delineate wetland and stream boundaries within the site assemblage and accessible vicinity of the project site, and to collect data to characterize and rate them. During our site visit, we also collected information sufficient to describe the general site conditions and potential priority habitats per WDFW.

2.3.1 Wetlands and Streams

We investigated vegetation, soils, and hydrology in representative portions of the study area according to the procedures described in the Regional Supplement (COE 2010). Plant communities were inventoried, classified, and described during our field investigation. We estimated the percent coverage of each species. Plant identifications were made according to standard taxonomic procedures described in Hitchcock and Cronquist (1976), with nomenclature as updated by the U.S. Army Corps of Engineers National Wetland Plant List (Lichvar et al. 2016). Wetland classification follows the USFWS wetland classification system (Cowardin et al. 1992). We determined the presence of a hydrophytic vegetation community using the procedure described in the Regional Supplement (COE 2010), which requires the use of the dominance test, unless positive indicators of hydric soils and wetland hydrology are also present, in which case the prevalence index or the use of other indicators of a hydrophytic vegetation community as described in the Regional Supplement (COE 2010) may also be required.

We excavated pits to at least 18 inches below the soil surface, where possible, in order to describe the soil and hydrologic conditions throughout the study area. We sampled soil at locations that corresponded with vegetation sampling areas and potential wetland areas. Soil colors were determined using the Munsell Soil Color Chart (Munsell Color 2009). We used the

indicators described in the Regional Supplement (COE 2010) to determine the presence of hydric soils and wetland hydrology.

We also investigated the study area for the presence of streams. Although no streams were encountered on the site, we evaluated the presence of streams based on the definition of the OHWM described earlier in this report.

2.3.2 Wildlife

During our field investigation, we documented wildlife presence, sign, and habitat while inventorying and describing plant communities. We recorded information regarding reproduction, habitat use, and activities of all wildlife species observed. In addition, we noted special habitat features such as large and/or hollow trees, snags [standing dead or partly dead trees at least 4 inches diameter at breast height (DBH) and 6 feet tall], and large down logs. Historic and present land-use of the site and immediate vicinity were noted from direct observations in the field and analysis of aerial photographs.

We also searched specifically for the presence, sign, or habitats of any wildlife species of concern that may occur on the project site or vicinity. In particular, we searched for the presence of large stick-type nests, hollow trees, tree cavities, and pileated woodpecker foraging signs. Large stick nests are built and used by several species of concern, including hawks, eagles, and great blue herons. Tree cavities are created and used by woodpeckers, including species of concern such as the pileated woodpecker, and can provide habitat for a host of bird and mammal species, including species of concern such as purple martins, various cavity-nesting duck species, and various bats. Hollow trees are used as daytime roost for priority species including various bat species, as well as Vaux's swifts.

3.0 EXISTING CONDITIONS

3.1 GENERAL SITE DESCRIPTION

The Woodside Redmond project site consists of single parcel of disturbed land that was previously mined for sand and gravel. Most of the property is relatively flat and higher in elevation that the surrounding parcels. A berm runs along the west, south, and east portions of the property and then steeply slopes away.

The central flat area of the site was previously worked as a mine and consists of highly disturbed fill and compact soils with some large areas of bare ground. Water occasionally ponds in the areas of compact soil due to slow infiltration rates. Volunteers and weedy species have formed sparse herbaceous and shrub-scrub vegetation communities throughout the disturbed areas. Vegetation is dominated by sandspurry, Queen Anne's Lace (*Daucus carota*, FACU), field horsetail (*Equisetum arvense*, FAC), Himalayan blackberry (*Rubus armeniacus*, FAC) and Scotch broom (*Cytisus scoparius*).

The west, south, and eastern areas of the property slope steeply downhill away from the property at greater than a 40% slope. The western and southern slopes consist mostly of a shrub-scrub vegetation community dominated by Himalayan blackberry (*Rubus armeniacus*, FAC). Several conifer trees, approximately 10 to 15 feet tall, are growing along the top edge of the southern slope.

The eastern slope of the property consists of forested and shrub-scrub habitat communities dominated by Himalayan blackberry (*Rubus armeniacus*, FAC), big-leaf maple (*Acer macrophyllum*, FACU), red alder (*Alnus rubra*, FAC), Scotch broom (*Cytisus scoparius*), and various grass species.

Soils in the flat central portion of the site consisted of compact dark grayish brown (10YR 4/2) loams and silt loams to a depth of 8 inches without redoximorphic features and refusal at 8 inches. We observed areas of inundation or surface saturation, but soils beneath were dry and we concluded surface hydrology was the result of very compact soils throughout most of the site.

3.2 WETLANDS AND STREAMS

3.2.1 Onsite Observations

During our October 10, 2018, site investigation we verified that the project site study area did not contain any wetlands. In locations appearing to be dominant with facultative (FAC) or wetter species, we investigated soils and site conditions further to confirm the absence of wetlands on site. Specifically, we investigated areas of ponded water or saturated soils. Sample Plots 3 and 4 are in areas of the site were soils were disturbed and water ponded. Areas observed to be dominant with FACU or UPL plant species and/or lacking positive indications of hydric soils and/or wetland hydrology also did not meet the criteria to be classified as a wetland.

Vegetation

Vegetation on the site as previously mentioned consists primarily of species typical to facultative or upland conditions. In the locations that exhibited marginal wetland characteristics and met the criteria for hydrophytic vegetation (wetland plants), vegetation communities consisted of broad-leaf cattail (*Typha latifolia*, OBL), lesser poverty rush (*Juncus tenuis*, FAC), reed canary grass (*Phalaris arundinacea*, FACW), and marsh meadow-foxtail (*Alopecurus geniculatus*, OBL). Although positive indications of wetland vegetation were observed in these locations, these areas did not meet the criteria to be called a wetland because they lacked positive indications of hydric soil (Refer to Sample Plots 3 and 4; Appendix A).

Soils and Hydrology

Site soils are generally described in previous sections of this report. In locations exhibiting wetland vegetation, we investigated soils for the presence of hydric soil conditions. Soils generally consisted of dark grayish brown (10YR 4/2) loams or silt loams with no redoxomorphic features and not meeting criteria of hydric soils (Refer to Sample Plots 3 and 4; Appendix A).

Hydrologic input primarily comes from surface sheet flow, direct precipitation, and potential seepage from the slopes. In places were soils were disturbed and very compact, water was ponding to a depth less than six inches at the time of our October 10, 2018, site investigation. In areas where water ponded, however, we observed dry soils within 4 inches of the surface and no hydrology in deeper soils. We determined this, along with the absence of other wetland hydrology indicators, to be a sufficient indicator of the absence of wetland hydrology per criteria of the COE wetland delineation manual (Environmental Laboratory 1987) and regional supplement (COE 2010).

Classification and Determination

Positive indicators for each of the three wetland parameters on site were not present at the time of our site investigation. Therefore, the site does not meet the necessary criteria for designation as a wetland according to the guidelines of the COE wetland delineation manual (Environmental Laboratory 1987) and the Regional Supplement (COE 2010).

3.2.2 Off-site Wetlands

At the time of our site investigation, we had permission to access and investigate the property immediately east of the proposed project site (Tax Parcel No. 0725069034). On this property, we observed a wetland sloping downhill and we recorded the westernmost wetland boundary with a handheld GPS unit. The nearest edges of the off-site wetland are located approximately 20-30 feet from the southeast property corner based on site maps and GPS points we took in the field.

East of the delineated wetland boundary, there is also a depressional wetland at the bottom of the slope which is hydrologically connected to the Evans Creek wetland complex. The westernmost portion of the wetland areas we delineated appear to be located on a slope bench and may not be

hydrologically connected to the larger wetland complex below, while other delineated wetland areas may be connected. For purposes of rating, we assumed an overall connection to the larger depressional wetland located at the bottom of the slope.

Figure 10 depicts the wetland buffer line, set back 150 feet from the off-site wetland based on our preliminary determination of a Category II with moderate habitat score (see rating sections below).

Vegetation

Red osier (*Cornus alba*, FACW), Oregon ash (*Fraxinus latifolia*, FACW), reed canary grass (*Phalaris arundinacea*, FACW), pacific willow (*Salix lucida*, FACW), and other hydrophytic vegetation were observed within the off-site wetland. Facultative wetland (FACW) plant species often occur in wetlands and have a 67-99% probability of being found in wetlands versus uplands (Tiner 2005).

Soils and Hydrology

Soils within the off-site wetland consisted of dark grayish brown (10YR 4/2) sandy loams to a depth of greater than eight inches, with 15% dark yellowish brown (10YR 4/6) redox starting anywhere from the surface to a depth of eight inches. The soils therefore met the criteria of a depleted matrix (F3) and would be considered hydric.

Hydrologic input to the off-site wetland appeared to come primarily from surface sheet flow and direct precipitation. Groundwater also likely discharges to the surface along the slope as well. We did not observe soil saturation, inundation, or a water table at the time of our October 10, 2018 site visit. We did observe drainage patterns (B10) and water-stained leaves (B9) within the wetland, which were used to determine the presence of wetland hydrology.

Classification and Determination

Based on aerial interpretation, the off-site wetland appears to connect to a much larger wetland complex downhill in the valley below. We observed only a portion of the palustrine, forested (PFO) slope wetland that we had access to on Tax Parcel No. 0725069034, the property east of the proposed project site. The wetland appears to be palustrine and as a whole consists of forested (PFO), shrub-scrub (PSS), and emergent (PEM) vegetation classes according to the USFWS wetland classification system (Cowardin et al. 1992). The wetland appears to range in width from approximately 100 to 400 feet, from east to west, and appears to be up to 1800 feet long, from north to south. Based on the observations made during our site visit, it is unlikely that special characteristics exist to classify this as a Category I wetland.

Wetland Ratings

We rated the off-site wetland using the 2014 WDOE Wetland Rating System for Western Washington (Hruby 2014), as required by City of Redmond (2018) code for determination of wetland buffer widths and mitigation ratios. This rating is based on characteristics we observed while on the property, as well as from online data sources and aerial photographs.

The off-site wetland appeared to consist of both slope and depressional hydrogeomorphic (HGM) wetland classes, and therefore was rated as depressional. Based on our field observations and online data sources, it is our best professional opinion that the off-site wetland area would meet the criteria to be classified as a Category II wetland. We determined the off-site wetland would score moderate in habitat points, maintaining a City of Redmond (2018) code requirement of moderate level of function for habitat per the wetland buffer requirements. The rating form is attached in Appendix C.

3.2.3 Off-site Streams

During our October 10, 2018 site investigation, we noted that a stream, mapped as Evans Creek, is located off-site east of the project site. At its nearest point, the stream is approximately 280 feet from the southeast property corner. The greatest potential stream buffer listed in City of Redmond code is 200 feet (150 foot inner buffer plus 50 foot outer buffer) (City of Redmond 2018; 21.64.020B.3). Evans Creek is a Class I stream and therefore has a 200-foot-wide buffer. It is approximately 280 feet from the proposed project site and therefore the stream buffer is located outside the property boundaries and do not impact the proposed project. No other streams were observed on or near the Woodside Redmond property.

3.3 WILDLIFE

3.3.1 Wildlife Use and Observations

A wide variety of wildlife species may be expected to inhabit lowland deciduous or mixed forest and shrub-scrub communities in the Pacific Northwest, such as those found along the eastern property boundary and further downhill on the adjacent property to the east. Of the more than 300 vertebrate wildlife species expected to occur in west side forests of Oregon and Washington, over 230 species occur within west side lowland mixed coniferous and deciduous forests (Johnson and O'Neil 2001). A more limited number of species are expected to occur within lowland deciduous or mixed forests of western Washington, particularly King County: over 80 species, nearly 60% of which are birds, about 25% are mammals, and the rest are amphibians and reptiles (King County 1987). The number of species expected to inhabit a particular forest stand depends on its size, landscape context, and surrounding uses.

Relatively few wildlife species or their sign were observed within the project site during our field reconnaissance on October 10, 2018. We observed a snipe near the center of the site as well as a few small songbirds. The number of species that we observed is likely limited by the relatively small size of the site and the surrounding suburban land uses and the time of year (after the breeding season). We did not observe any species of concern or critical habitat within the proposed project site. On the property east of the project site, we observed crows and a potential crow nest. Also, near the eastern property boundary, we saw a large live conifer (greater than 20 inch DBH) with a snapped off top that could become a priority snag in the future. A variety of other bird species are likely to inhabit the site and vicinity at different times of the year. Many of these are spring and summer residents that migrate out of the area for the fall and winter, as well as year-round residents. We did not observe raptors (eagles, hawks, or falcons) or raptor nests on any of the trees within the project site or on the adjacent properties.

We observe signs of deer on the adjacent property at the time of our investigation, but we did not observe any other mammals or their sign during on that property or the project site. Several species of small and medium-sized mammals likely use the adjacent property, though many are secretive and/or nocturnal and are therefore unlikely to be observed during a general site reconnaissance. On-site trees provide potential cover and breeding locations for medium-sized mammals such as raccoons and squirrels. The presence of domestic dogs and cats in the area may limit the suitability of the forest habitat, as they can act as highly effective predators on native wildlife species in urban and suburban areas, particularly those that nest or inhabit the ground (Penland 1984, Maestas et al. 2003, Odell and Knight 2001, Leu et al. 2008).

We did not observe any reptiles or amphibians during our field visit, though a small number of species of each group may be present. The minimal amount of down woody debris on the project site and the steep slopes down to the wetland limit the number of Puget Sound lowland terrestrial-breeding amphibians that could occupy the site. Amphibians would most likely be expected to center activities in cool and moist areas protected from frequent activity. Potential cover and foraging habitat are present in the vegetated areas of the project site for some reptiles, including garter snakes, and some amphibians.

3.3.2 Endangered, Threatened, Sensitive, or Other Priority Species

We did not observe any species listed as endangered, threatened, or sensitive within the project site or immediate vicinity, nor are any of these species considered to have a primary association with the project site. We did observe snags on the adjacent property to the east that are potentially large enough to provide suitable nesting or roosting habitat for some woodpecker species. However, we did not see woodpeckers or observe evidence of foraging excavations nor nesting cavities at the time of our investigation. No other priority or other species of concern were observed or likely to occur within the project site.

3.3.3 Wildlife Habitat Movement Corridors and Networks

Wildlife habitat networks or corridors can take different forms, depending on the landscape. Corridors can be in the form of hedgerows or fencerows connecting woodlots in an agricultural landscape. In a fragmented forested landscape, corridors are linear patches of forest or forested riparian zones connecting larger patches of forest. They can also be non-forested linear patches, such as utility easements, or wetland and stream systems, in a landscape that is forested. In an urbanizing environment, open space or native forestland can act as corridors connecting otherwise disjointed habitat for wildlife species.

Corridors can provide (1) habitat for certain species; (2) movement pathways; (3) extensions of foraging ranges for large, wide-ranging species; and (4) escape from predators (Harris 1984, Levenson 1981, Noss 1987, Noss and Harris 1986, Simberloff and Cox 1987). Corridors may also have disadvantages, such as (1) providing conduits for disease, fire, pests, and exotic species; (2) increasing exposure to predation; and, (3) potentially having negative genetic impacts on a population (Noss 1987, Simberloff and Cox 1987).

The Woodside Redmond project site is situated generally within a larger area of residential and commercial development. The forested habitat in the eastern portion of the site is contiguous with similar forest stands, as well as wetlands and Evans Creek, that extend off-site to the north,

south, and east. These habitats are constricted by roads and are limited by existing development in the area. Nevertheless, the forested habitats that encompass the off-site wetland observed to the east are contiguous with remaining forested habitat. The Woodside Redmond project site scored a total of 14 points on the City of Redmond Habitat Unit Assessment Form (attached in Appendix B).

3.4 GEOLOGIC HAZARDS

The property has steep slopes to the east, west, and south that exceed 40%. In the eastern portion of the property, the steep slopes are mapped as a landslide hazard on the King County iMap (2018). The adjacent property to the east, downslope of the project site, is mapped as a landslide, seismic, and steep slope hazard area on the King County iMap.

On the slope near the east property boundary there is a small landslide area. The proposed trail will potentially be constructed near this area. A detailed description of the landslide area and other geologic hazards is contained in the geotechnical report in Appendix D (GeoDesigns, Inc. 2019).

4.0 REGULATORY CONSIDERATIONS

Wetlands are protected by Section 404 of the Federal Clean Water Act and other state and local policies and ordinances including City of Redmond (2018) code. Regulatory considerations pertinent to wetlands identified within the study area are discussed below; however, this discussion should not be considered comprehensive. Additional information may be obtained from agencies with jurisdictional responsibility for, or interest in, the site. A brief review of the U.S. Army Corps of Engineers regulations and City of Redmond policy, relative to wetlands, is presented below.

4.1 FEDERAL CLEAN WATER ACT (U.S. ARMY CORPS OF ENGINEERS)

Federal law (Section 404 of the Clean Water Act) discourages the discharge of dredged or fill material into the nation's waters, including most wetlands and streams, without a permit from the U.S. Army Corps of Engineers (COE). The COE makes the final determination as to whether an area meets the definition of "Waters of the U.S." as defined by the federal government (Federal Register 1986:41251), and thus, if it is under their jurisdiction.

We should caution that the placement of fill within wetlands or other "Waters of the U.S." without authorization from the COE is not advised, as the COE makes the final determination regarding whether any permits would be required for any proposed alteration (COE 2017). Because the COE makes the final determination regarding permitting under their jurisdiction, a jurisdictional determination from the COE is generally recommended prior to any construction activities, if any modification of wetlands is proposed. However, no direct wetland impacts are proposed under the current site plan.

4.2 WASHINGTON STATE

Under Section 401 of the Clean Water Act, an activity involving a discharge in waters of the U.S. authorized by a federal permit must receive certification by the affected certifying agency. In Washington State, the certifying agency is WDOE, which has regulatory authority over waters of the state, including streams and isolated wetlands, under the state Water Pollution Control Act (90.48 RCW) and the Shoreline Management Act (90.58 RCW).

4.3 CITY OF REDMOND

4.3.1 Wetlands

The City of Redmond (2018) regulates wetlands and streams under Chapter 21.64 of its Zoning Code (RZC). The city classifies wetlands as Category I, II, III, or IV based on the Washington Department of Ecology's (WDOE) Wetland Rating System for Western Washington (publication #14-06-029) (Hruby 2014). The City of Redmond (2018) determines wetland buffer widths based on their classifications, proposed land use, and habitat function. Standard buffer widths may be modified by averaging or be reduced or increased as evaluated on a case by case basis by the City of Redmond. Streams are also classified as Class I, II, III, or IV based on definitions in the City of Redmond Code.

The off-site wetland observed downhill to the east of the project site is a Category II wetland with high intensity land use and moderate level of function for habitat use, and would require a 150-foot buffer under City of Redmond (2018) regulations. The proposal is to develop the site as a residential development with density greater than 1 unit per acre and therefore the intensity of the proposed adjoining land use is considered high. Consequentially, a standard 150-foot-wide buffer would be required under City of Redmond (2018) regulations.

4.3.2 Streams

There are no streams on or within 200 feet of the proposed project site. The nearest stream, Evans Creek, is approximately 280 feet east of the southeast property corner. Per the City of Redmond Critical Areas Map 64.3 Streams Classification (Figure 6) the stream described herein as Evans Creek meets the criteria as a Class I stream. Class I streams per City of Redmond (2018) code are those streams identified as "Shorelines of the State" under the City of Redmond Shoreline Master Program. The City of Redmond (2018) code provides a 200-foot-wide total buffer for Category I streams. Evans Creek is approximately 280 feet from the southeast corner of the proposed project site and therefore the stream buffer has no impacts to the project.

4.4 WILDLIFE

4.4.1 State of Washington

State law provides protections for wildlife species listed as endangered (WAC 232-12-014), as well as threatened, sensitive, or "other protected" species (WAC 232-232-011). Recently, bald eagles have been de-listed at the State and Federal levels. However, in Washington, bald eagles are still protected by the Bald Eagle Protection Act of 1984 (RCW 77.12.655), and the Bald Eagle Protection Rules (WAC 232-12-292). The Bald Eagle Protection rules have been recently amended such that state bald eagle management plans are no longer required unless bald eagles are listed as Threatened or Endangered in Washington State.

The WDFW (2018a) PHS database does not show any known nest or roost sites of eagles or other listed raptor species (such as hawks or owls) in the vicinity of the project site. In addition, we found no raptor nests or potentially suitable raptor nest trees on the project site or in the vicinity.

In addition, the WDFW (2008) has developed management recommendations for "species of concern," which include state listed and other priority species, as well as priority habitats. Occurrences or signs of priority species or habitats in the vicinity of the project site are noted above. These management recommendations are often referenced in local critical area ordinances, such as the City of Redmond in protection of "Fish and Wildlife Habitat Conservation Areas," or FWHCA.

4.4.2 City of Redmond

Redmond (2018) regulates wildlife habitat as "Fish and Wildlife Habitat Conservation Areas" (hereafter, FWHCA's) under Chapter 21.64 of its Zoning Code (RZC). The Redmond Zoning Code generally identifies the following as FWHCA's: (1) federal endangered and threatened species, (2) state endangered, threatened, sensitive, and state candidate species, (3) WDFW priority habitats and species, (4) Habitats and Species of Local Importance, which in Redmond are identified as great blue herons, (5) natural ponds less than 20 acres in size, (6) waters of the state, (7) lakes, ponds, streams, and rivers planted with game fish, and (8) land essential for preserving connections between habitat blocks and open spaces.

As noted above, no federal or state endangered or threatened species were observed on site, nor are they considered to inhabit or have a primary association with the site. Off-site to the east, we observed a potential crow (*Corvus brachyrhynchos*) nest in a large balsam poplar (*Populus balsamifera*) tree. Near the eastern property boundary, we observed a large live conifer tree with a broken top that may transition over time into a priority snag. We found no evidence of use of the site by great blue herons, which are identified as a species of local importance by the City.

5.0 IMPACTS

The following discussion of wetland and stream impacts below is based on our review of site plans provided by CORE Design, Inc. on February 13, 2019 (CORE Design, Inc. 2018).

5.1 IMPACTS TO VEGETATION

A residential development of townhouses would be developed across the majority of the parcel, with areas of the western, southern, and eastern property boundaries remaining intact. Areas of proposed development currently consist of herbaceous and shrub-scrub vegetation patches across the center of the site. This vegetation would all be cleared as part of the construction process. Pedestrian trails are proposed throughout the project site and some would traverse the western, southern, and eastern sloped areas of the property (Figure 10). Shrub-scrub and herbaceous vegetation will be cleared within the pathway of the pedestrian trails.

Per the City of Redmond (2018) code (21.72) significant trees are protected because they "perform a variety of functions that provide aesthetic, ecological and economic benefits to those who reside, conduct business, and work in Redmond." Removal of significant trees requires a tree removal permit (RZC 21.72.020A) that must be applied for with the City of Redmond. In addition, the City requires significant trees be replaced, typically on-site, or the Administrator may allow a fee be paid to the City in lieu of tree replacement (RZC 21.72.080E). In the proposed site plan (Figure 10), a pedestrian trail runs through the eastern area of the property. Construction of this trail may require the removal of several red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*) trees which were determined to be non-significant by the project arborist.

5.2 WETLAND AND STREAM IMPACTS

5.2.1 Direct Impacts

Direct impacts to the off-site wetland located east of the eastern property boundary would be avoided under the proposed Woodside Redmond site development plan (Figure 10). The off-site wetland is located downhill to the east on the adjacent property. Based on the information described herein and review for preparation of this report, no direct impacts to wetlands are anticipated with the proposed Woodside Redmond project depicted on Figure 10.

5.2.2 Hydrologic Impacts

Development of the project site would include construction of stormwater infrastructure that would collect runoff and direct it to a stormwater detention facility. The project will avoid direct impacts to the potential wetland areas and the majority of their buffers by development of a stormwater plan that will avoid any increase in direct runoff from new impervious surfaces to wetlands and streams. Most of the development is located on top of and set back from the steep slopes. No significant alterations to wetland or stream hydrology are expected from the development of the Woodside Redmond project site.

5.2.3 Wetland and Stream Buffer Impacts

Based on the proposed site plan, Figure 10, the majority of proposed development is outside of the 150-foot wetland buffer. The development proposes to construct a pedestrian trail in the

eastern portion of the property. Portions of this trail would be located within the outer 25 percent of the standard 150-foot buffer of the wetland. The development plan proposes to average the 150-foot standard wetland buffer in order to accommodate the trail, which is discussed in greater detail below.

The dimensions of the trail were determined by pre-existing dimensional needs of the regional trail to which this trail extension will connect. The location of the trail was determined in part to minimize impact to the project area and in part to connect to the existing regional trail southeast of the project area. The location along the slope was determined by the need to stabilize the steep slope, which includes manmade fill placed by unknown methods and a small landslide area (GeoDesigns, Inc. 2018; Appendix D).

Construction of this trail would require the removal of herbaceous and shrub-scrub vegetation, as well as several non-significant trees. In addition, the land is this area is steeply sloped and, in order to construct a level walking trail, some soil grading will be required. In addition, a small portion of the wetland buffer may also need to be cleared for temporary construction access. Impacted areas east of constructed trail will be replanted with appropriate native species as needed.

Section 21.040.030 of the City of Redmond (2018) code allows for construction of pedestrian trails within wetland buffers if they are permeable, the maximum width is no greater than six feet, and the trail is located in the outer 25 percent of the buffer. As shown in Figure 10, the proposed trail will be located in the outer 25 percent of the buffer. However, the trail will be greater than six feet wide. The proposed trail will be constructed to a width of 12 feet to match that of the pre-existing regional trail and will require clearing a 16-foot wide corridor. Thus, the trail does not meet the above criteria and buffer averaging is proposed, as further discussed below.

5.3 IMPACTS TO WILDLIFE

Direct alteration (reduction) to the distribution, composition, and amount of native vegetation resulting from the proposed residential development would affect the distribution and composition of native wildlife on the property. In addition, impacts to the wetland buffer such as vegetation removal and increased recreational use by residents may decrease suitability for some species of wildlife currently utilizing the off-site wetland habitat to the east.

Upon completion, the proposed residential development would remove herbaceous and shrub-scrub habitat on the site and forested habitat in the eastern portion of the site. This habitat is currently available for native wildlife usage and removal may result in slight reduction of local populations of most native species on or associated with the property. Grading and construction activities associated with the proposed development, as well as increased levels of human activity on-site, would also result in increased short- and long-term disturbance to wildlife species using the retained habitat areas. This would further reduce the suitability of the on-site habitats to some wildlife species, particularly those vulnerable to predation by domestic cats and dogs (Penland 1984). Some species adapted to urban environments and fringes, including many non-native plant and animal species, would find suitable habitat on-site, and may become

established and/or increase in numbers. Some species less adapted for urban environments, however, would be expected to decrease in numbers, and some wildlife species may be eliminated from the site entirely.

Impacts to Endangered, Threatened, Sensitive, or Other Priority Species or Habitats

Because endangered, threatened, and sensitive wildlife species are not known or likely to occur on or in the site or have a primary association with any impacted habitats, no impacts to these species are expected.

The proposed site plan would have no impacts to the off-site Category II wetland or the Class I stream known as Evans Creek. The site contains no habitats designated as fish and wildlife conservation areas, so the proposed development would not affect such habitats. Consequently, no habitats or habitat features known or suspected to be used by other priority species or species of local importance would be affected by the proposed site plan.

6.0 BUFFER AVERAGING

The development plan proposes to average the 150-foot wide standard buffer for the off-site wetland in order to accommodate the proposed trail. The wetland buffer width would be reduced in areas along the west buffer edge where proposed trail intersects the buffer (Figure 10).

Approximately 3,109 square feet (sf) of buffer would be eliminated in the outer 25 percent of the western buffer width. As compensation, approximately 5,240 sf of buffer would be added along the western buffer boundary. Thus, the total area of buffer provided for the wetland would increase by 2,131 sf under the proposed buffer averaging plan than would be provided if the standard 150-foot buffer were applied.

The proposed development plan would provide additional protection to the wetland in areas where buffer width reduction is proposed through use of appropriate construction and facility management BMP's.

The following discusses how the proposed development plan meets buffer averaging criteria listed in Section 21.64.030B.7 of the City of Redmond (2018) code, as well updates included in the 2019 proposed amendment:

(a) It will not reduce the functions or values;

(b) The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from increased buffers adjacent to the higher functioning area of habitat or more sensitive portion of the wetland and would not be adversely impacted by a decreased buffer adjacent to the lower-functioning or less-sensitive portion of the wetland;

(c) The total area contained in the buffer area after averaging is equal to the area required in the standard buffer;

(d) The buffer width is not reduced more than 25 percent of the width or 75 feet for Category I and II wetlands, 50 feet for Category III wetlands, and 25 feet for Category IV wetlands, whichever is greater; and

Specifically, the proposed buffer averaging plan meets the City of Redmond (2018 & 2019 proposed amendment) requirements listed above in the following ways:

a) The width averaging will not adversely impact the wetland. Implementation of appropriate construction and facilities management BMP's would protect existing wetland functions and values. Specific construction techniques and recommendations are contained in *Report of Geotechnical Engineering Services, Woodside* prepared by GeoDesign Inc. October 4, 2019;

b) The wetland will not be negatively impacted by narrowing the western buffer boundary in some areas and increasing it in other areas. Buffer addition and reduction is located along steeply sloped areas, and increasing the overall total buffer area in this location provides additional protection to the wetland;

c) The total buffer area after averaging will be 2,131 sf larger than prior to averaging;

d) The buffer width will not be reduced by more than 25 percent or 75 feet of the standard 150-foot buffer width. Buffer impacts are confined to the outer 25 percent (outer 37.5 feet) of the buffer (Figure 10); and

7.0 MITIGATION

Mitigation has been defined by the State Environmental Policy Act (SEPA) (WAC 197-11-768; cf. Cooper 1987), and more recently in a Memorandum of Agreement between the Environmental Protection Agency and the U.S. Army Corps of Engineers (Anonymous 1989). In order of desirability, mitigation may include:

1. ***Avoidance*** - avoiding impacts by not taking action or parts of an action;

2. ***Minimization*** - minimizing impacts by limiting the degree or magnitude of the action and its implementation;

3. ***Compensation*** - which may involve:

    a) repairing, rehabilitating, or restoring the affected environment;

    b) replacing or creating substitute resources or environments; and

    c) mitigation banking.

7.1 AVOIDANCE AND MINIMIZATION

Conversion of a portion of the Woodside Redmond project site to a residential development would incorporate mitigating measures that would avoid or reduce impacts to on-site habitat. Direct impacts to the off-site wetland would be avoided and no residential structures would be located within the wetland buffer.

The proposed development plan for the Woodside Redmond property would incorporate a number of design features that would avoid or minimize impacts to the buffer of the off-site wetland. The proposed development would route storm water runoff from new impervious surfaces to a stormwater detention facility located in the southwest corner of the project site. In addition, temporary erosion and sediment control (TESC) measures would be installed during construction and would utilize appropriate best management practices (BMPs) designed to prevent sediment deposition to on-site open space tracts and off-site areas.
A proposed amendment to City of Redmond Critical Area Regulation includes a list of specific requirements that must be incorporated to any development plans in an effort to minimize impacts to wetlands (Table 21.64.030A.3). In the table below, we summarize each required measure from the City of Redmond's proposed amendment and answer how the development plan meets the requirement.

Table 21.64.030A.3 **Requirement Measures to Minimize Impacts to Wetlands (All Measures Required)**	
Disturbance:	**Required Measure to Minimize Impacts:**
Lights	Direct lights away from wetland. Any lighting that may be required along the trail or on the backs of the 2 adjacent buildings will be shielded or directed away from the wetland.
Noise	Locate activity that generates noise away from wetland. The proposal locates 2 buildings along the eastern property line just up slope of the wetland and buffer. This will help block other onsite noise. The main active park will be located on the west edge of the property, as far from the wetland as is possible. If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source. The proposal will call for enhanced plantings on the east side of the trail along the buffer. For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer. There is no call for additional 10' buffer.
Toxic Runoff	Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered. Nearly all onsite runoff, including all that is subject to vehicular traffic, will be intercepted and conveyed to a vault in the southwest

	corner of the site to be treated and infiltrated. The only runoff tributary to the wetland will be from the existing slope area and the trail, similar to the area that currently drains to the wetland. <u>Establish covenants limiting use of pesticides within 150 feet of wetland.</u> Covenants will be put in place to restrict pesticides along the east edge on the site along the wetland. <u>Apply integrated pest management.</u> Covenants will be put in place to integrate the management of pests.
Stormwater Runoff	<u>Retrofit stormwater detention and treatment for roads and existing adjacent developments.</u> Does not apply. <u>Prevent channelized flow from lawns that directly enters the buffer.</u> The east slope will sheet flow evenly through native vegetation and not be concentrated. <u>Use Low Impact Development techniques.</u> Infiltration will be used to treat nearly all onsite runoff. Bioretention swales will be used for some of the roof runoff, and any overflows will be directed to the infiltration vault, not the wetland.
Change in Water Regime	<u>Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns.</u> Runoff from the slope and trail adjacent to the buffer and wetland will naturally disperse and infiltrate as it sheet flows down the slopes to the east, mimicking the current runoff patterns.

Pets and Human Disturbance	Use fencing or plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion. Fencing is proposed along the east edge of the trail, which is along or just uphill from the edge of the buffer. Place wetland and its buffer in a separate tract. An NGPE easement can be placed over the buffer area on this site.
Dust	Use best management practices to control dust. Required BMPs for dust control will be implemented during construction.

7.2 COMPENSATORY MITIGATION

As outlined above, the proposed site plan avoids direct impacts to the off-site wetland located to the east of the project site. However, the proposed site plan would cause impacts to the wetland buffer within the eastern portion of the project site where a pedestrian trail would be created. Buffer averaging is proposed to allow for construction of the pedestrian trail within the wetland buffer, as discussed above. The proposed buffer averaging will increase the total area of buffer provided for the wetland by approximately 2,100 sf than would be provided if the standard 150-foot buffer were applied.

In addition, if construction of the trail requires removal of any significant trees, a permit must be granted by the City of Redmond and each tree must be replaced or the City may allow a fee be paid instead (RMZ 21.72.080). However, the proposed plan does not require the removal of significant trees and no other impacts to the buffer are proposed.

8.0 LIMITATIONS

We have prepared this report for the exclusive use of Polygon Northwest and its consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from Polygon Northwest.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such determinations. Therefore, the conclusions of this report should be reviewed by the appropriate regulatory agencies.

We warrant that the work performed conforms to standards generally accepted in our field, and prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this report represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.

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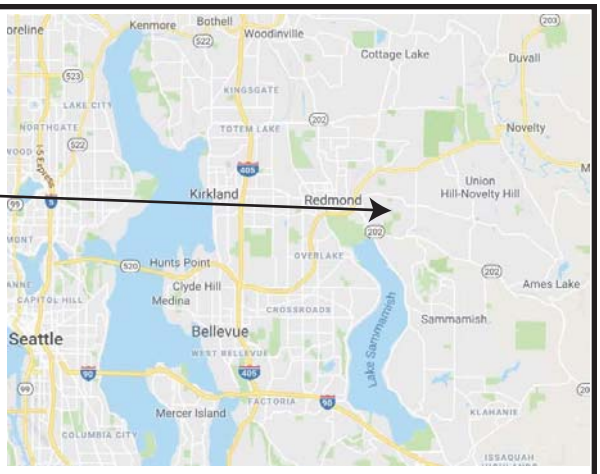
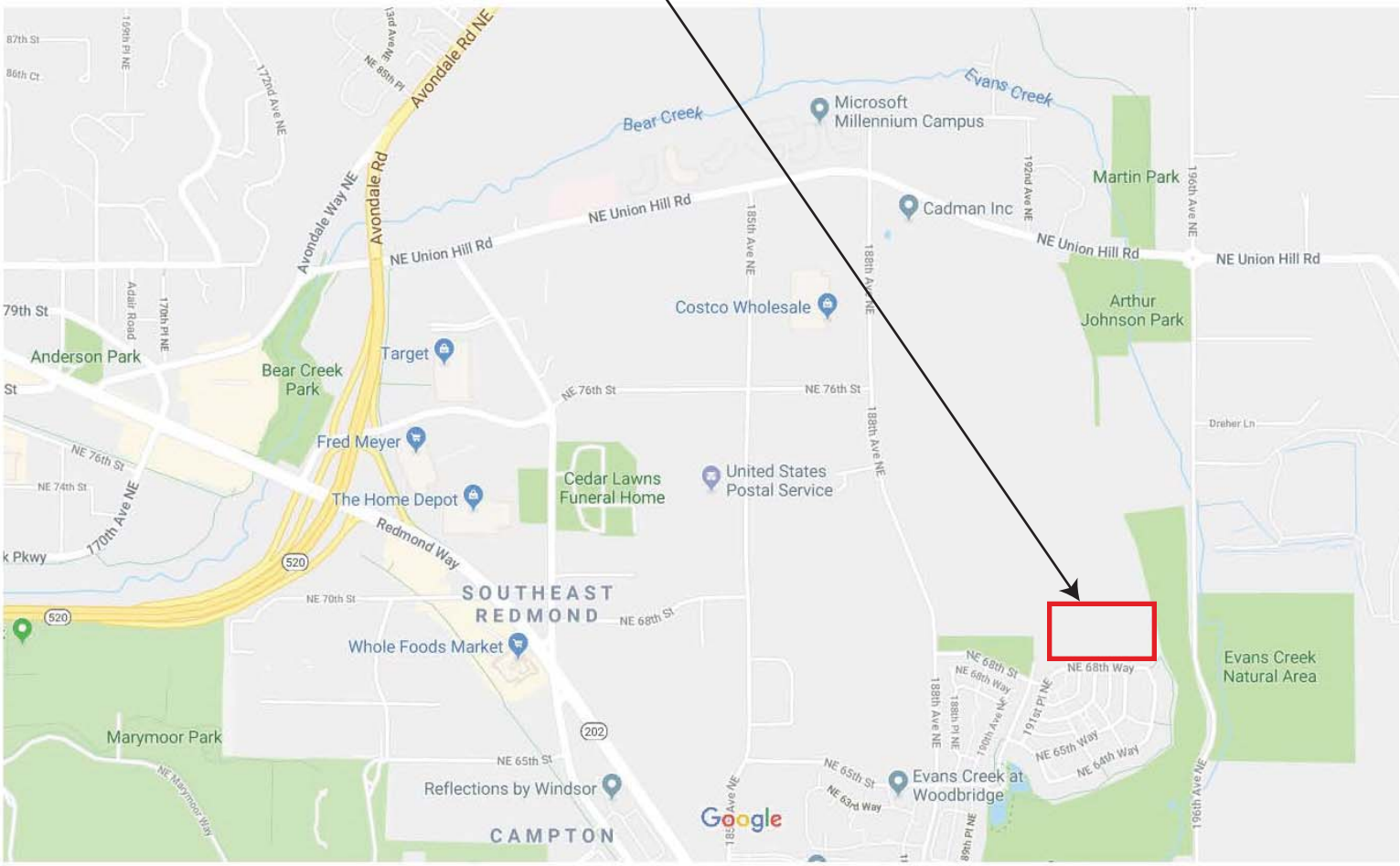
FIGURES

PROJECT LOCATION
(APPROX.)





N

FIGURE 1

REGIONAL & VICINITY MAP

WOODSIDE
REDMOND, WA

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

RAI # 2018-115

PROJECT LOCATION
(APPROX.)

Source: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [2018/10/10].

SOILS KEY:

EvC: Everett very gravelly sandy loam, 8 to 15% slopes
PITS: Pits
KpB: Kitsap silt loam, 2 to 8% slopes
No: Norma sandy loam

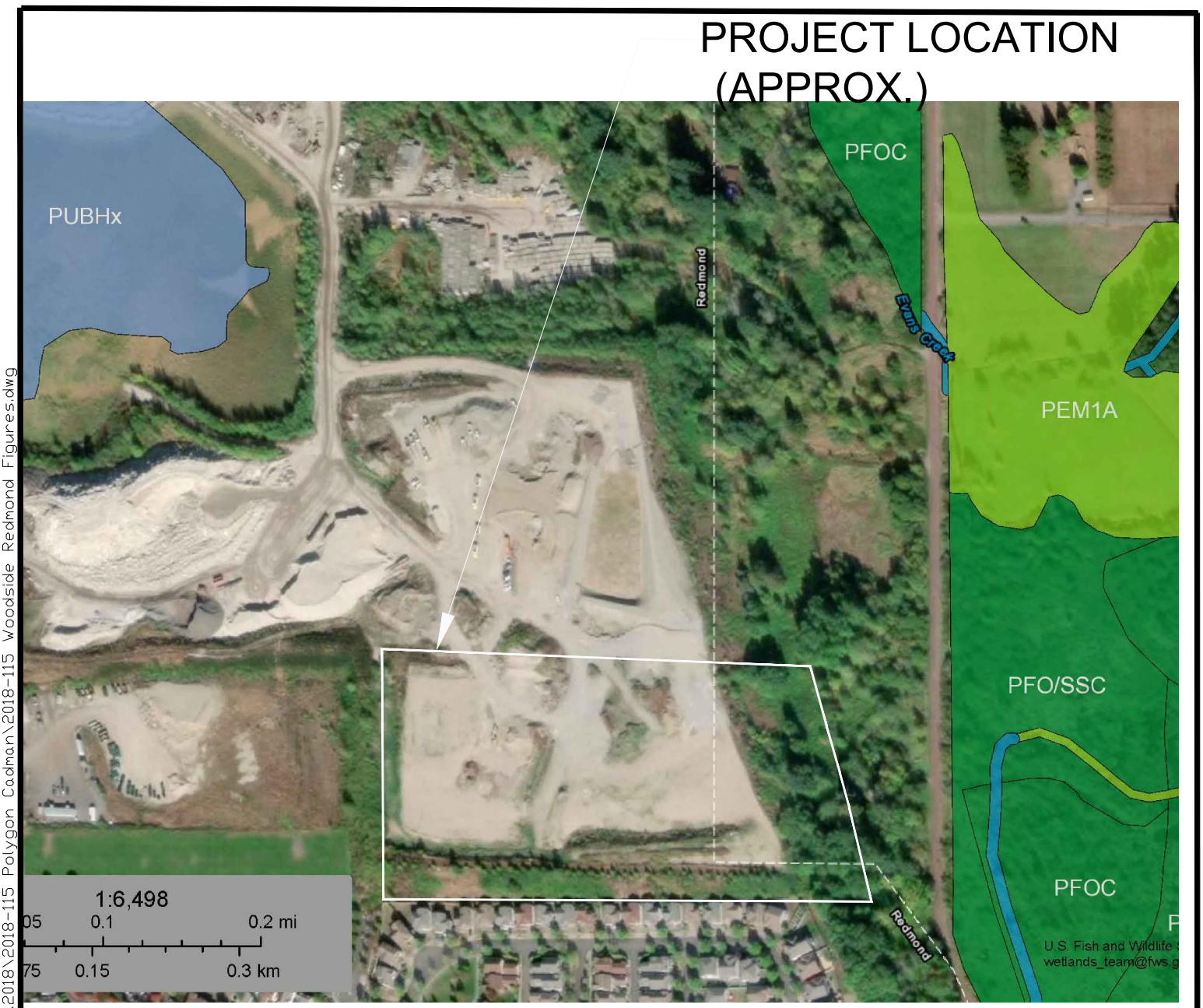
N

0 100 200 400
SCALE 1"=200'

FIGURE 2
SOILS MAP
WOODSIDE
REDMOND, WA

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

RAI # 2018-115



Source: US Fish and Wildlife Service National Wetlands Inventory, Wetlands Mapper. Available at http://www.fws.gov/wetlands/data/mapper.HTML. Accessed on 2018/10/10.

T:\2018\2018-115 Polygon Codman\2018-115 Woodside Redmond Figures.dwg

NWI WETLAND KEY:

PFOC: Palustrine, Forested, Seasonally Flooded
PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded
PFO/ SSC: Palustrine Forested / Scrub Shrub, Seasonally Flooded
PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated

N

0 250 500 1000
SCALE 1"=500'

FIGURE 3
NWI MAP
WOODSIDE
REDMOND, WA

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

RAI # 2018-115

FIGURE 4

King County iMap

The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

Date: 10/22/2018 Notes:

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

King County GIS Center

2018-115

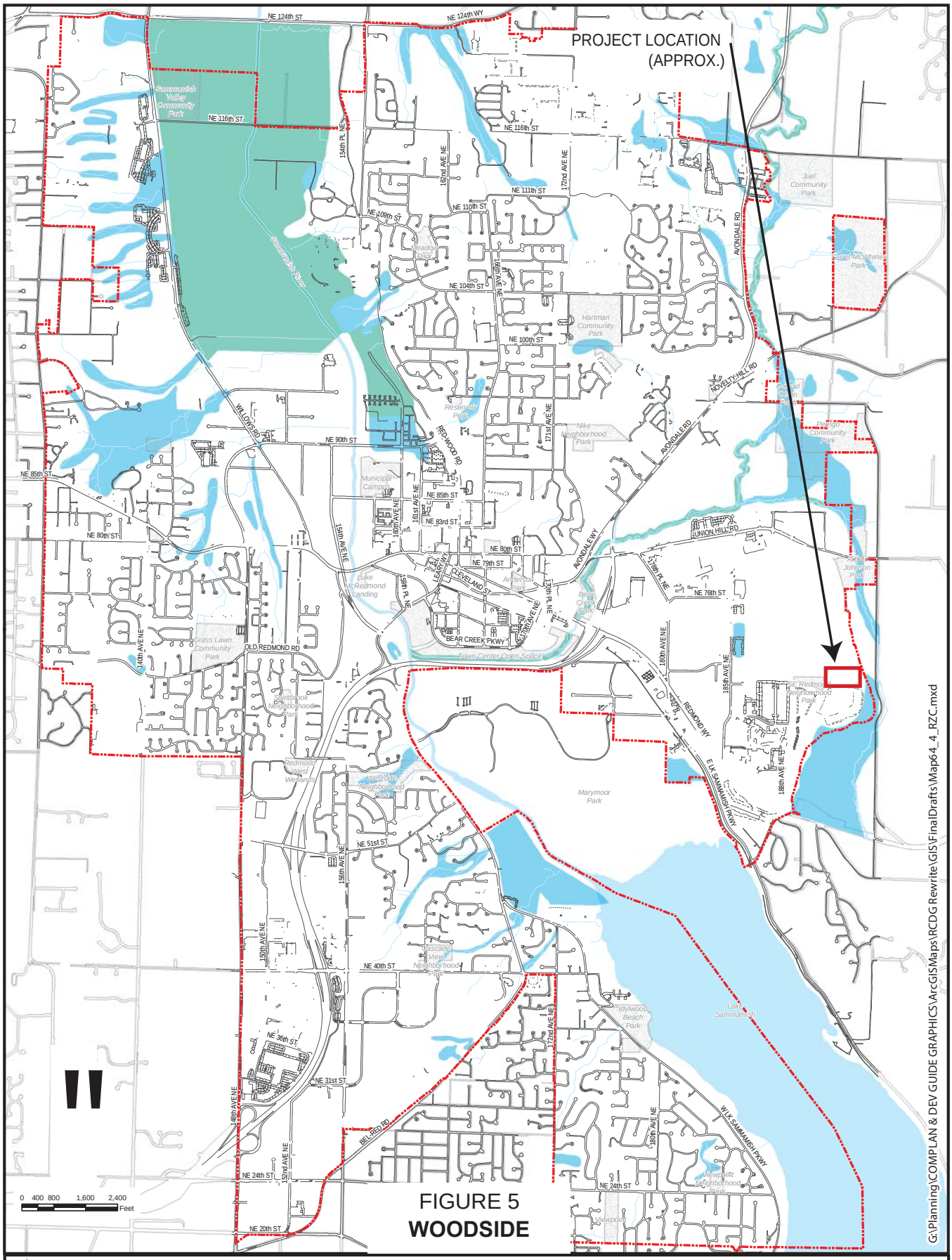


FIGURE 5
WOODSIDE

City of Redmond

Critical Areas Map
Effective: April 16, 2011

Map 64.4 Wetlands

Legend:

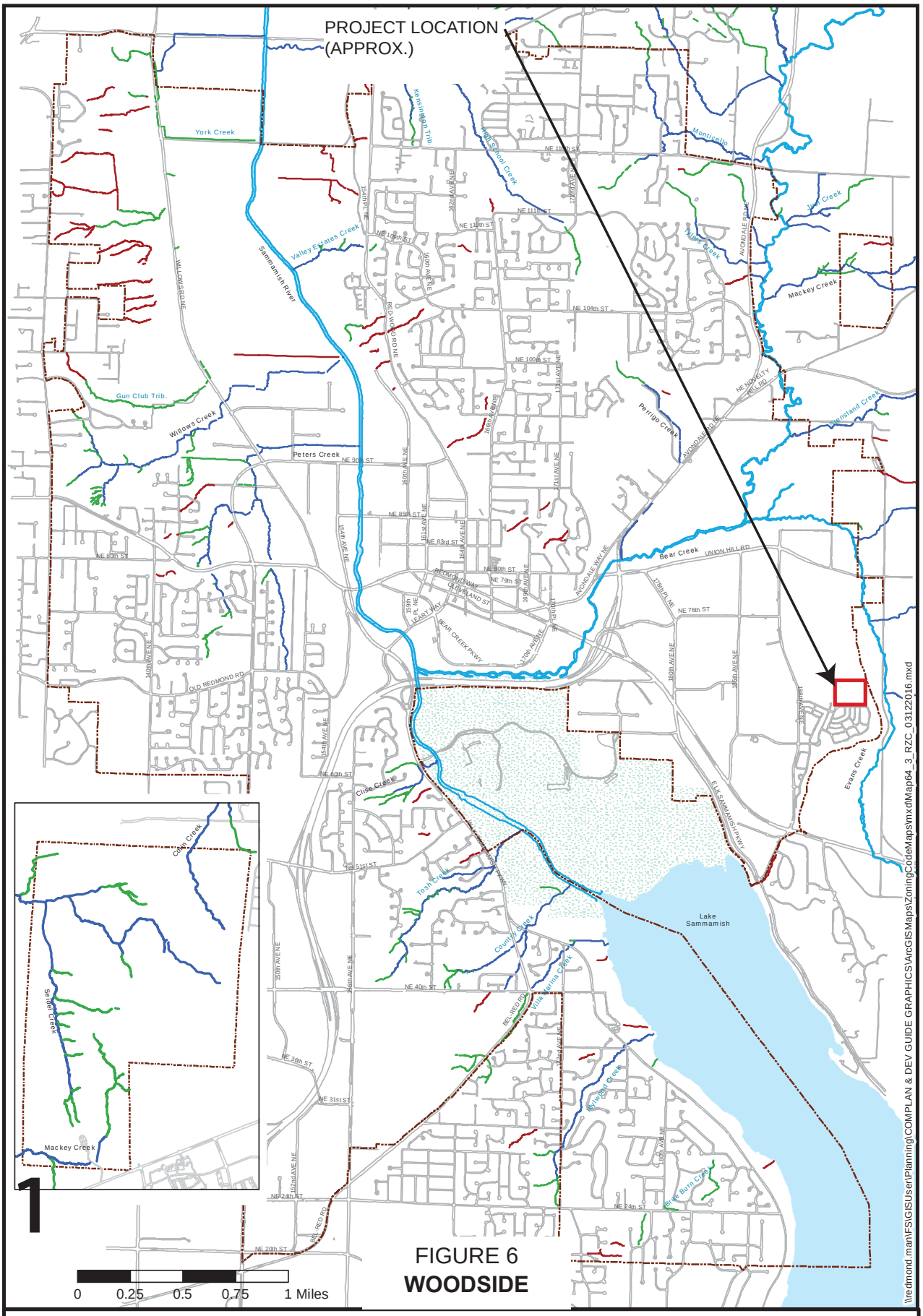
- Mixed Wetland/Upland
- Wetland
- Redmond City Limits

Sources:
USGS National Wetland Inventory
Aerial Photo Interpretation
SCS Soil Survey
City of Redmond

Note:
This map shall be used as a general guide. It represents approximate locations. Consult the Critical Areas Ordinance (CAO) for reporting requirements. In the event there is a conflict between the map and the criteria or standards of the CAO, the criteria shall prevail.

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

2018-115



City of Redmond

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

2018-115

Critical Areas Map
Effective: 3/12/2016

Map 64.3 Streams Classification

Stream Official USGS Stream Name
Stream Informal Stream Name

Class I Stream
Class II Stream
Class III Stream
Class IV Stream

Sources:
City of Redmond Public Works, Natural Resources Division
City of Redmond GIS Services
Washington Trout / Wild Fish Conservancy
King County GIS

Note: This map shall be used as a general guide representing the approximate location of streams, per RZC 21.64.010(E)(2). The map does not necessarily ensure the presence or absence of streams. In the event of a conflict between the map and the criteria of the Critical Areas Ordinance (CAO), the criteria shall prevail. Consult the CAO (RZC 21.64) for reporting requirements

Note: Gaps in illustrated streams may indicate culverts, pipes, etc.

Note: Informal stream names may not conform to USGS policies and may change in the future.

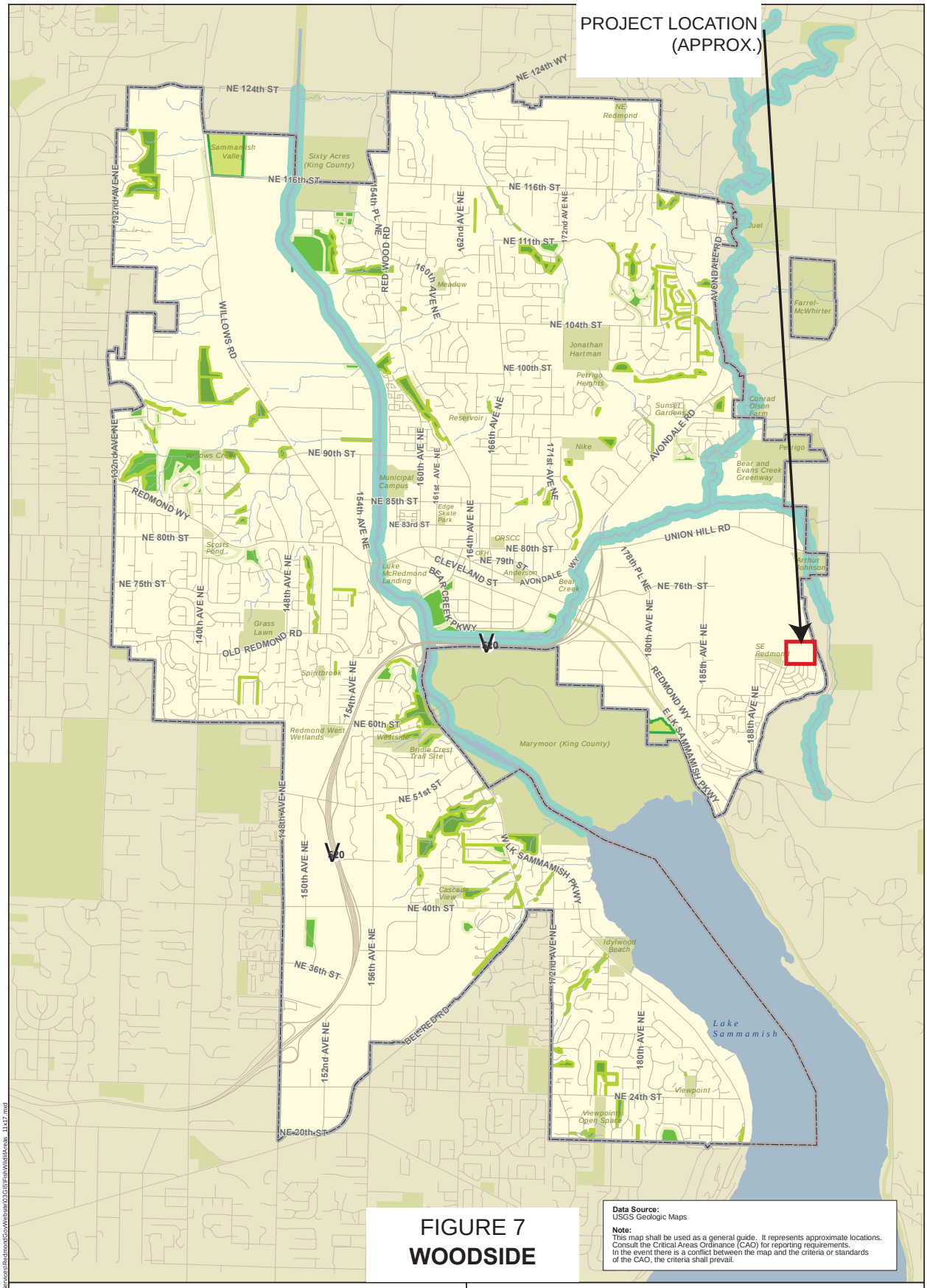


FIGURE 7
WOODSIDE

Fish and Wildlife Habitat Conservation Areas (Core Preservation Areas)

Critical Areas Map

City of Redmond, Washington

Effective: 05/28/2005

0 0.5 1
Miles

Class 1 Streams and Buffers

Native Growth Protection Easements

Open Space Easements

Transfer Development Rights Easements

City Limit

Park and Open Space

Water

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste. 219
Seattle, WA 98133

Disclaimer: This map is created and maintained by GIS Services Group,Finance and Information Services, City of Redmond, Washington, for reference purposes only.

The City makes no guarantee as to the accuracy of the features shown on this map.

2018-115

File Name:Redmond_mainfs\GIS\Users\GIS\GIS\SServiceS\Project\GIS\SServiceS\RedmondGovWebsite\V23\GIS\FishWildlifeAreas_11x17.mxd

Cadman

September 27, 2018

1:9,028

All SalmonScape Species

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

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

FIGURE 5

POLYGON HOMES

WOODSIDE

REDMOND, WA

CRITICAL AREAS REPORT

EXISTING CONDITIONS

NORTH

0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

PROPERTY LINE

EXISTING CONTOURS

EXISTING TREES

SP-# SAMPLE PLOT LOCATIONS

STEEP SLOPES

Raedeke Associates, Inc.

2111 N. Northgate Way, Ste 219
Seattle, WA 98133

RAI PROJECT: 2018-115

DATE: 10/22/2018

DRAWN BY:AC PM:CW

BASE INFORMATION: CORE DESIGN
14711 NE 29th Place, Suite 101 Bellevue, WA 98007
Tel 425.885.7877 Direct: 425.897.4533

T:\2018\2018-115 Polygon Cadman\2018-115 Woodside Redmond.dwg

FIGURE 10
SITE & CONCEPTUAL BUFFER REDUCTION PLAN

NOTE: THIS DEVELOPMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE YEAR 2016 CITY OF REDMOND STANDARD SPECIFICATIONS AND DETAILS.

SCALE: 1" = 40'

0 20 40 80

UNDERGROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

APPROVED FOR CONSTRUCTION

FOR: Director of Public Works

City of Redmond

Date: _____

Plan Chk Engr: _____
Storm: _____
Utility: _____
Fire: _____
Trans/Engr: _____
Planning: _____

This approval is for the design concept only. These plans appear to be in conformance with the City of Redmond design standards for construction. This approval shall not be construed as authorizing construction not in accordance with applicable City standards. The City reserves the right to require revision to the approved plans to assure conformance with City of Redmond design standards for construction at any time that it is discovered that the proposed construction does not otherwise meet the applicable construction standards. The owner is required to provide designs and plans in accordance with applicable City standards and assures that construction is accomplished in accordance with those standards. The owner and/or design engineer and/or developer may be required to make necessary approved field revisions to correct any errors or omissions found on the approved plan.

PLN____-

Raedeke Associates, Inc.
2111 N. Northgate Way, Suite 219
Seattle, Washington 98133
2018-115

NO.	REVISIONS	DATE

11-9-2018

CORE DESIGN
12100 N.E. 195th St., Suite 300
Bothell, Washington 98011
425.885.7877 Fax 425.885.7963
ENGINEERING · PLANNING · SURVEYING

OVERALL GRADING PLAN
WOODSIDE

POLYGON WLH, L.L.C.
11624 S.E. 5TH STREET
BELLEVUE, WASHINGTON 98005

DATE	NOVEMBER 9, 2018
DESIGNED	G.R.S., P.E.
DRAWN	L.G.WIGHT
APPROVED	G.R.S.
	GARY R. SHARNBROICH, P.E. PROJECT MANAGER

SHEET C1.03 OF

PROJECT NUMBER 18122

11/6/2018 2:01 PM: \2018\18122\ENGINEERING\FINAL\SHEETS\18122 C1.03.DWG

APPENDIX A:

Sample Plot Data Sheets

Print Form

DATA FORM 1 *(Revised)*
Routine Wetland Determination
(WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual)

Project/Site: Woodside Redmond Applicant/owner: Polygon Northwest Investigator(s): C. Wright, A. Clark	Date: October 10, 2018 County: King State: Washington S/T/R: S7, T25N, R6E
Do Normal Circumstances exist on the site? yes ☒ no ☐ Is the site significantly disturbed (atypical situation)? yes ☐ no ☒ Is the area a potential Problem Area? yes ☐ no ☒ Explanation of atypical or problem area:	Community ID: Transect ID: Plot ID: Sample Plot #1

VEGETATION (For strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
Fraxinus latifolia	T	40	FACW	Ranunculus repens	H	20	FAC
Alnus rubra	T	40	FAC	Carex obnupta	H	15	OBL
Cornus alba	S	25	FACW	Polystichum munitum	H	10	FACU

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 83%

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation		Physiological/reproductive adaptations	
Morphological adaptations		Wetland plant database	
Technical Literature	X	Personal knowledge of regional plant communities	X
		Other (explain)	

Hydrophytic vegetation present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

Vegetation predominantly hydrophytic species - passed dominance test and rapid test.

HYDROLOGY

Is it the growing season? yes ☐ no ☒ Based on: _____ soil temp (record temp _____) Date _____ other (explain)	Water Marks: yes ☐ no ☒ on _____ Drift Lines: yes ☐ no ☒	Sediment Deposits: yes ☐ no ☒ Drainage Patterns: yes ☒ no ☐
Dept. of inundation: NA inches Depth to free water in pit: NA inches Depth to saturated soil: NA inches	Oxidized Root (live roots) Channels <12 in. yes ☐ no ☒ FAC Neutral: yes ☐ no ☒	Local Soil Survey: yes ☐ no ☒ Water-stained Leaves yes ☒ no ☐
Check all that apply & explain below: Stream, Lake or gage data: _____ Aerial photographs: _____ Other: ____	Other (explain):	

Wetland hydrology present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

No primary wetland hydrologic indicators were present at the time of our field visit (October 10, 2018) but we did observe tw

SOILS

Map Unit Name (Series & Phase) Everett very gravelly sandy loam

Drainage Class Some excessively drained

Taxonomy (subgroup) Alderwood & Indianola

Field observations confirm mapped type? Yes ☒ No ☐

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0 - 8		10YR 4/2	10YR 4/6	C, M, 15%	Sandy Loam	

Hydric Soil Indicators: (check all that apply)

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
X Reducing Conditions
_____ Gleyed or Low-Chroma (=1) matrix
X Matrix chroma ≤ 2 with mottles
_____ Mg or Fe Concretions
_____ High Organic Content in Surface Layer of Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on National/Local Hydric Soils List
_____ Other (explain in remarks)

Hydric soils present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

Depleted Matrix (indicator F3)

Wetland Determination (circle)

Hydrophytic vegetation present? yes ☒ no ☐
Hydric soils present? yes ☒ no ☐
Wetland hydrology present? yes ☒ no ☐

Is the sampling point within a wetland? yes ☒ no ☐

Rationale/Remarks:

NOTES:

Revised 4/97

Data Form 2: Atypical Situations

Applicant Name: _____ Applicant Number: _____ Project Name: _____
Location: _____ Plot Number: _____ Date: _____

A. **Vegetation:**

1. Type of Alteration: _____
_____
_____

2. Effect on Vegetation: _____
_____
_____

3. Previous Vegetation: _____
(Attach documentation)_____
_____

4. Hydrophytic Vegetation? Yes_____No_____

B. **Soils:**

1. Type of Alteration: _____
_____
_____

2. Effect on Soils: _____
_____
_____

3. Previous Soils:_____
(Attach documentation)_____
_____

4. Hydric Soils? Yes_____No_____

C. **Hydrology:**

1. Type of Alteration: _____
_____
_____

2. Effect on Hydrology: _____
_____
_____

3. Previous Hydrology: _____
(Attach documentation) _____
_____

4. Wetland Hydrology? Yes_____No_____
Characterized By: _____

Print Form

DATA FORM 1 *(Revised)*
Routine Wetland Determination
(WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual)

Project/Site: Woodside Redmond Applicant/owner: Polygon Northwest Investigator(s): C. Wright, A. Clark	Date: October 10, 2018 County: King State: Washington S/T/R: S7, T25N, R6E
Do Normal Circumstances exist on the site? yes ☒ no ☐ Is the site significantly disturbed (atypical situation)? yes ☐ no ☒ Is the area a potential Problem Area? yes ☐ no ☒ Explanation of atypical or problem area:	Community ID: Transect ID: Plot ID: Sample Plot #2

VEGETATION
(For strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
Fraxinus latifolia	T	20	FACW	Phalaris arundinacea	H	95	FACW
Salix lasiandra	T	20	FACW				
Rubus armeniacus	S	20	FAC				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 100%

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation	____	Physiological/reproductive adaptations	____
Morphological adaptations	____	Wetland plant database	____
Technical Literature	X	Personal knowledge of regional plant communities	X
		Other (explain)	____

Hydrophytic vegetation present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

Vegetation predominantly hydrophytic species - passed dominance test and rapid test.

HYDROLOGY

Is it the growing season? yes ☐ no ☒ Based on: _____ soil temp (record temp _____) Date _____ other (explain)	Water Marks: yes ☐ no ☒ on _____ Drift Lines: yes ☐ no ☒	Sediment Deposits: yes ☐ no ☒ Drainage Patterns: yes ☒ no ☐
Dept. of inundation: NA inches Depth to free water in pit: NA inches Depth to saturated soil: NA inches	Oxidized Root (live roots) Channels <12 in. yes ☐ no ☒ FAC Neutral: yes ☐ no ☒	Local Soil Survey: yes ☐ no ☒ Water-stained Leaves yes ☒ no ☐
Check all that apply & explain below: Stream, Lake or gage data: ____ Aerial photographs: ____ Other: ____	Other (explain):	

Wetland hydrology present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

We observed two secondary indicators during our site visit: drainage patterns & water-stained leaves.

SOILS

Map Unit Name (Series & Phase) Everett very gravelly sandy loam

Drainage Class Some excessively drained

Taxonomy (subgroup) Alderwood & Indianola

Field observations confirm mapped type? Yes ☒ No ☐

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0 - 8		10YR 4/2			Sandy Loam	
8+		10YR 4/2	10YR 4/6	C, M, 15%	Sandy Loam	

Hydric Soil Indicators: (check all that apply)

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
X Reducing Conditions
_____ Gleyed or Low-Chroma (=1) matrix
X Matrix chroma ≤ 2 with mottles
_____ Mg or Fe Concretions
_____ High Organic Content in Surface Layer of Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on National/Local Hydric Soils List
_____ Other (explain in remarks)

Hydric soils present? **yes** ☒ **no** ☐

Rationale for decision/Remarks:

Depleted Matrix (indicator F3)

Wetland Determination (circle)

Hydrophytic vegetation present? yes ☒ no ☐
Hydric soils present? yes ☒ no ☐
Wetland hydrology present? yes ☒ no ☐

Is the sampling point within a wetland? yes ☒ no ☐

Rationale/Remarks:

NOTES:

Revised 4/97

Data Form 2: Atypical Situations

Applicant Name: _____ Applicant Number: _____ Project Name: _____
Location: _____ Plot Number: _____ Date: _____

A. **Vegetation:**

1. Type of Alteration: _____
_____
_____

2. Effect on Vegetation: _____
_____
_____

3. Previous Vegetation: _____
(Attach documentation)_____
_____

4. Hydrophytic Vegetation? Yes_____No_____

B. **Soils:**

1. Type of Alteration: _____
_____
_____

2. Effect on Soils: _____
_____
_____

3. Previous Soils:_____
(Attach documentation)_____
_____

4. Hydric Soils? Yes_____No_____

C. **Hydrology:**

1. Type of Alteration: _____
_____
_____

2. Effect on Hydrology: _____
_____
_____

3. Previous Hydrology: _____
(Attach documentation) _____
_____

4. Wetland Hydrology? Yes_____No_____
Characterized By: _____

Print Form

DATA FORM 1 *(Revised)*
Routine Wetland Determination
(WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual)

Project/Site: Woodside Redmond Applicant/owner: Polygon Northwest Investigator(s): C. Wright, A. Clark	Date: October 10, 2018 County: King State: Washington S/T/R: S7, T25N, R6E
Do Normal Circumstances exist on the site? yes ☐ no ☒ Is the site significantly disturbed (atypical situation)? yes ☒ no ☐ Is the area a potential Problem Area? yes ☐ no ☒ Explanation of atypical or problem area:	Community ID: Transect ID: Plot ID: Sample Plot #3

VEGETATION
(For strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
Rubus armeniacus	S	10	FAC	Spergularis sp	H	30	NI
Cytisus scoparius	S	5	FACU	Daucus carota	H	10	FACU
				Equisetum arvense	H	5	FAC

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 50%

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation _____
Morphological adaptations _____
Technical Literature _____
Physiological/reproductive adaptations _____
Wetland plant database _____
Personal knowledge of regional plant communities _____
Other (explain) _____

Hydrophytic vegetation present? **yes** ☐ **no** ☒
Rationale for decision/Remarks:

HYDROLOGY

Is it the growing season? yes ☐ no ☒

Based on: _____ soil temp (record temp _____)
Date _____ other (explain)

Dept. of inundation: 1 inches

Depth to free water in pit: NA inches
Depth to saturated soil: 0 - 4 inches

Water Marks: yes ☐ no ☒ on _____
Sediment Deposits: yes ☐ no ☒
Drift Lines: yes ☐ no ☒
Drainage Patterns: yes ☐ no ☒
Oxidized Root (live roots) Channels <12 in. yes ☐ no ☒
Local Soil Survey: yes ☐ no ☒
FAC Neutral: yes ☐ no ☒
Water-stained Leaves yes ☐ no ☒

Check all that apply & explain below:
Stream, Lake or gage data: _____
Aerial photographs: _____ Other: ____

Other (explain):

Wetland hydrology present? **yes** ☐ **no** ☒
Rationale for decision/Remarks:
Water was ponded in locations of disturbed & compact soils. Soils were saturated beneath ponding within the upper 4 inches. Subsurface soils were dry & did not exhibit redoximorphic features.

SOILS

Map Unit Name (Series & Phase) Everett very gravelly sandy loam

Drainage Class S/w excessively drained

Taxonomy (subgroup) Alderwood & Indianola

Field observations confirm mapped type? Yes ☒ No ☐

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0 - 8		10YR 4/2			Sandy Loam	
8+					Very dense/compact	

Hydric Soil Indicators: (check all that apply)

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____ Reducing Conditions
_____ Gleyed or Low-Chroma (=1) matrix
_____ Matrix chroma ≤ 2 with mottles
_____ Mg or Fe Concretions
_____ High Organic Content in Surface Layer of Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on National/Local Hydric Soils List
_____ Other (explain in remarks)

Hydric soils present? **yes** ☐ **no** ☒

Rationale for decision/Remarks:

No redoximorphic features were observed.

Wetland Determination (circle)

Hydrophytic vegetation present? yes ☐ no ☒
Hydric soils present? yes ☐ no ☒
Wetland hydrology present? yes ☐ no ☒

Is the sampling point within a wetland? yes ☐ no ☒

Rationale/Remarks:

We did not observe hydrophytic vegetation or hydric soils. Water was ponded at surface due to compact soils, but no hydrology was observed in the subsurface soils. Did not meet wetland criteria.

NOTES:

Data Form 2: Atypical Situations

Applicant Name: Polygon Northwest
Applicant Number: _____
Project Name: Woodside
Location: Woodside Redmond
Plot Number: SP #3
Date: 10/10/2018

A. **Vegetation:**

1. Type of Alteration: _____
2. Effect on Vegetation: _____
3. Previous Vegetation: _____
   (Attach documentation)_____
4. Hydrophytic Vegetation? Yes_____No_____

B. **Soils:**

1. Type of Alteration: Site previously mined for sand & gravel.
2. Effect on Soils: Very compact and low infiltration rates.
3. Previous Soils: Unknown, mapped as Everett series
   (Attach documentation)_____
4. Hydric Soils? Yes_____No X

C. **Hydrology:**

1. Type of Alteration: _____
2. Effect on Hydrology: _____
3. Previous Hydrology: _____
   (Attach documentation) _____
4. Wetland Hydrology? Yes_____No_____
   Characterized By: _____

Print Form

DATA FORM 1 *(Revised)*
Routine Wetland Determination
(WA State Wetland Delineation Manual or 1987 Corps Wetland Delineation Manual)

Project/Site: Woodside Redmond Applicant/owner: Polygon Northwest Investigator(s): C. Wright, A. Clark	Date: October 10, 2018 County: King State: Washington S/T/R: S7, T25N, R6E
Do Normal Circumstances exist on the site? yes ☐ no ☒ Is the site significantly disturbed (atypical situation)? yes ☒ no ☐ Is the area a potential Problem Area? yes ☐ no ☒ Explanation of atypical or problem area:	Community ID: Transect ID: Plot ID: Sample Plot #4

VEGETATION
(For strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	Stratum	% cover	Indicator	Dominant Plant Species	Stratum	% cover	Indicator
Alopecurus geniculatus	H	20	OBL				
Juncus tenuis	H	20	FAC				
Typha latifolia	H	10	OBL				
Phalaris arundinacea	H	10	FACW				

HYDROPHYTIC VEGETATION INDICATORS:

% of dominants OBL, FACW, & FAC 100%

Check all indicators that apply & explain below:

Visual observation of plant species growing in areas of prolonged inundation/saturation _____
Morphological adaptations _____
Technical Literature X

Physiological/reproductive adaptations _____
Wetland plant database _____
Personal knowledge of regional plant communities X
Other (explain) _____

Hydrophytic vegetation present? **yes** ☒ **no** ☐
Rationale for decision/Remarks:

HYDROLOGY

Is it the growing season? yes ☐ no ☒

Based on: _____ soil temp (record temp _____)
Date _____ other (explain)

Dept. of inundation: 4 inches

Depth to free water in pit: NA inches
Depth to saturated soil: NA inches

Check all that apply & explain below:
Stream, Lake or gage data: _____
Aerial photographs: _____ Other: ____

Water Marks: yes ☐ no ☒ on _____	Sediment Deposits: yes ☐ no ☒
Drift Lines: yes ☐ no ☒	Drainage Patterns: yes ☐ no ☒
Oxidized Root (live roots) Channels <12 in. yes ☐ no ☒	Local Soil Survey: yes ☐ no ☒
FAC Neutral: yes ☐ no ☒	Water-stained Leaves yes ☐ no ☒
Other (explain):	

Wetland hydrology present? **yes** ☐ **no** ☒
Rationale for decision/Remarks:
Water was ponded in locations of disturbed & compact soils. Soils were saturated beneath ponding within the upper 4 inches. Subsurface soils were dry & did not exhibit redoximorphic features.

SOILS

Map Unit Name (Series & Phase) Everett very gravelly sandy loam

Drainage Class S/w excessively drained

Taxonomy (subgroup) Alderwood & Indianola

Field observations confirm mapped type? Yes ☒ No ☐

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size & contrast	Texture, concretions, structure, etc.	Drawing of soil profile (match description)
0 - 8		10YR 4/2			Sandy Loam	
8+					Very dense/compact	

Hydric Soil Indicators: (check all that apply)

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____ Reducing Conditions
_____ Gleyed or Low-Chroma (=1) matrix
_____ Matrix chroma ≤ 2 with mottles
_____ Mg or Fe Concretions
_____ High Organic Content in Surface Layer of Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on National/Local Hydric Soils List
_____ Other (explain in remarks)

Hydric soils present? **yes** ☐ **no** ☒

Rationale for decision/Remarks:

No redoximorphic features were observed.

Wetland Determination (circle)

Hydrophytic vegetation present? yes ☒ no ☐
Hydric soils present? yes ☐ no ☒
Wetland hydrology present? yes ☐ no ☒

Is the sampling point within a wetland? yes ☐ no ☒

Rationale/Remarks:

We did not observe hydric soils. Water was ponded at surface due to compact soils, but no hydrology was observed in the subsurface soils. Did not meet wetland criteria.

NOTES:

Data Form 2: Atypical Situations

Applicant Name: _____ Applicant Number: _____ Project Name: _____
Location: _____ Plot Number: _____ Date: _____

A. **Vegetation:**

1. Type of Alteration: _____
_____
_____

2. Effect on Vegetation: _____
_____
_____

3. Previous Vegetation: _____
(Attach documentation)_____
_____

4. Hydrophytic Vegetation? Yes_____No_____

B. **Soils:**

1. Type of Alteration: _____
_____
_____

2. Effect on Soils: _____
_____
_____

3. Previous Soils:_____
(Attach documentation)_____
_____

4. Hydric Soils? Yes_____No_____

C. **Hydrology:**

1. Type of Alteration: _____
_____
_____

2. Effect on Hydrology: _____
_____
_____

3. Previous Hydrology: _____
(Attach documentation) _____
_____

4. Wetland Hydrology? Yes_____No_____
Characterized By: _____

APPENDIX B:

Redmond Habitat Assessment Form

CITY OF REDMOND
HABITAT UNIT ASSESSMENT FORM

HABITAT UNIT: Woodside
LOCATION: S7, T25N, R6E, W.M.
TOTAL SCORE: 14

Habitat Parameter	Scoring Criteria	Habitat Unit Score
Size	• >50 acres = 3 points • 10-50 acres = 2 points • 0-10 acres = 1 point	2
Vegetation Community Types	≥ 4 types = 3 points • 2-3 types = 2 points • 1 type = 1 point • None = 0 points	2
Community Interspersion	• High = 3 points • Medium = 2 points • Low = 1 point • None = 0 points	2
Priority Species Presence	• Threatened & Endangered Species = 3 points • Candidate Species = 2 points • Monitor Species = 1 point • None = 0 points	0
Priority Species Habitat Use	• Breeding = 3 points • Roosting = 2 points • Foraging = 1 point • None = 0 points	0
Habitat Continuity	• Links protected habitats = 3 points • Links unprotected habitats = 2 points • Extends habitat corridor = 1 point • None = 0 points	0
Forest Vegetation Layers	• 3 layers = 3 points • 2 layers = 2 points • 1 layers = 1 point • None = 0 points	2
Forest Age	• Mature = 3 points • Pole = 2 points • Seedling/Shrub = 1 point • None = 0 points	3
Invasive Species Presence	• 0-25% = 3 points • 26-50% = 2 points • 51-75% = 1 point • 75-100% = 0 points	3

CITY OF REDMOND
HABITAT UNIT ASSESSMENT FORM

VEGETATION COMMUNITY TYPES:

Forest, shrub, and herbaceous.

INVASIVE PLANTS:

Himalayan Blackberry (Rubus armeniacus), Reed Canary Grass (Phalaris arundinacea), and English Holly (Ilex aquifolium).

HABITAT FEATURES (snags, perches, downed logs, etc):

We observed one mature Dougas-fir (Pseudotsuga menziesii) tree with a broken top near the eastern property boundary. The tree was approximately 50' tall with an approximately 32" DBH.

WILDLIFE OBSERVATIONS (direct or indirect):

We observed songbirds, a snipe, and deer tracks on-site. There is a potential corvid nest just off site to the northeast.

THREATS TO HABITAT INTEGRITY:

Development and human activity.

OTHER NOTES:

The majority of this lot has been heavily manipulated as a result of mining activity. Throughout the center of the site very compact soils support weedy herbaceous, shrub, and young tree species. The west, south, and east property boundaries slope steeply off-site and are dominated by blackberry and young trees. Large, mature trees are growing down the slope along the eastern property edge, such as big-leaf maple (Acer macrophyllum), Douglas-fir, western hemlock (Tsuga heterophylla), and western red cedar (Thuja plicata).

APPENDIX C:

2014 WDOE Wetland Rating System for Western Washington

APPENDIX D:

Geotechnical Report