

CRITICAL AREAS REPORT & OAK MITIGATION PLAN

Project:

Washougal River Oaks Subdivision

Applicant:

Bryan Desgrossellier (DD&C Development, Inc.)
3100 E. Evergreen Blvd.
Vancouver, WA 98661

Prepared By:



August 19, 2021

The information in this report was compiled to meet the requirements of the City of Camas Municipal Code (CMC) Section 16.61 Fish and Wildlife Habitat Conservation Areas. This report has been prepared under the supervision and direction of the undersigned, a qualified professional following CMC Section 16.61.020.A.



Andrea W. Aberle
Sr. Biologist
AshEco Solutions, LLC

SITE INFORMATION:

Parcel No(s):	89884000 (0.94 ac), 89883000 (0.69 ac), 89881000 (1.16 ac), 89875000 (0.16 ac)
Acreage:	Total: 2.95 acres
Local Jurisdiction:	City of Camas, Washington
Section/Township/Range:	NE 1/4, S12, T1N, R3E W.M.
Site Address:	2531 NE 3rd Ave Camas, WA 98607
Legal Landowner:	Kevin and Pamela Desgrossellier/ Washougal River Property/ Bryan and Lindsey Desgrossellier

TABLE OF CONTENTS

INTRODUCTION	1
Project Description.....	1
Project Location and Background Information	1
EXISTING CONDITIONS	1
CRITICAL AREAS MAP RESEARCH.....	1
Topography.....	1
Soil Survey	1
Priority Habitat.....	2
METHODOLOGY.....	3
WDFW Priority Habitat	3
Habitats of Local Importance.....	3
DOCUMENTED VEGETATION.....	3
CRITICAL AREA CONCLUSIONS	4
WDFW Priority Habitat	4
Habitats of Local Importance.....	4
MITIGATION PLAN.....	4
Proposed Impacts.....	4
Avoidance and Minimization	5
Oregon White Oak Impacts and Mitigation	5
Contingency Mitigation Plan	5
PLANTING PLAN.....	6
Site Preparation.....	6
Planting Methods	6
Planting Specifications	7
Maintenance Plan	7
Monitoring Plan.....	7
Contingency Plan.....	8
Site Protection	8
MITIGATION GOALS, OBJECTIVES AND PERFORMANCE STANDARDS.....	8
CONCLUSIONS	9
DISCLAIMER	9
REFERENCES.....	10

TABLES

Table 1. Oregon White Oak Summary 4
Table 2. Oak Impacts & Mitigation Summary6
Table 3. Mitigation Planting Plan..... 7

FIGURE SET

- Figure 1 – Vicinity Map
- Figure 2 – Aerial and Contours Map
- Figure 3 – Soils Map
- Figure 4 – Priority Habitats Map
- Figure 5 – Existing Conditions
- Figure 6 – Site Plan

APPENDICES

- Appendix A – Site Photos
- Appendix B – Oregon White Oak Mitigation and Protection Plan (Arbor Science Tree Care, August 11, 2021)

INTRODUCTION

Project Description

AshEco Solutions, LLC (AES) was contracted by Bryan Desgrossellier of Desgrossellier Development, Inc. (DD&C) to assess potential Oak Woodland Habitat mapped over four parcels under DD&C ownership located in Camas, Washington. The existing conditions and critical area impacts associated with the proposed project were assessed and appropriate mitigation determined. This Critical Areas Report and Oak Mitigation Plan follows the City of Camas Municipal Code (CMC) Sections 16.61 Fish and Wildlife Habitat Conservation Areas. DD&C proposes the construction of 22 cottage housing units within the southern terrace of the 2.95-acre study area.

Project Location and Background Information

The project site consists of four parcels under the jurisdiction of the City of Camas, Washington. The City of Camas (The City) has assigned Parcel Number 89884000 to the eastern parcel (0.94 acres), 89883000 to the north central parcel (0.69 acres), 89881000 to the western parcel (1.16 acres), and 89875000 to the south-central parcel (0.16 acres). The total study area is approximately 2.95 acres in size and is located directly north of NE 3rd Avenue in Camas, Washington.

EXISTING CONDITIONS

Three single-family residences are present in the southwestern corner of the project site. A rock outcropping and outbuilding structure in disrepair are present north of the three homes in the western portion of the site. Site access for the existing residences is located off of NE Wedgewood Court from NE 3rd Avenue. The rest of the site is undeveloped, with the northern portion of the site dominated in mature trees along a steep south facing slope. Native trees that dominate this forested area include big-leaf maple, Douglas-fir, red alder, and several Oregon white oak near the western property line. The understory of the forested area is dominated in invasive English ivy, English holly, Himalayan blackberry, wisteria, and poison hemlock. Native understory vegetation present include swordfern, salal, Oregon grape, poison oak, trailing blackberry, and vine maple. The native vegetation is being out competed by the English ivy and holly with many trees covered in ivy vines.

AES visited the site February 17, 2021 to inventory the Oregon white oak habitat as well as review the proposed site plan to determine if oaks would be impacted. AES returned August 6, 2021 along with Brandon Cheney of Arbor Science Tree Care to help determine the protections required for the oak trees that will be retained within the development area, Appendix B.

CRITICAL AREAS MAP RESEARCH

Topography

The site consists of a steep south facing slope with the vertical elevation dropping approximately one hundred and fifty (150) feet in elevation from the West S Street, north of the project site, to NE 3rd Avenue, south of the project site. A naturally flat terrace exists across the south end of the project site, Figure 2.

Soil Survey

Soils within the study area are mapped as non-hydric Hillsboro loam, 8 to 15 percent slopes (HIC), non-hydric Olympic stony clay loam, 3 to 30 percent slopes (OmE), and non-hydric Washougal gravelly loam, 0 to 8 percent slopes (WgB) by the NRCS USDA Soil Conservation Service, Soil Survey of Clark County (2014), Washington, Figure 3.

*Washougal River Oaks Subdivision
Critical Areas Report & Oak Mitigation Plan*

The Hillsboro series consists of deep, well-drained soils on terraces. These are medium-textured soils that developed in deposits of old Columbia River alluvium. Most areas are nearly level to gently sloping, but strongly sloping to very steep areas are along drainageways and streams. The native, vegetation is dominantly Douglas-fir and a scattering of grand fir, bigleaf maple, and western dogwood. The understory consists principally of salal, ferns, Oregon grape, and vine maple. The annual precipitation is 40 to 50 inches.

Hillsboro loam, 8 to 15 percent slopes (HIC) is similar to Hillsboro silt loam, 3 to 8 percent slopes, except that the surface layer is 1 to 3 inches thinner, and the texture is loam to a depth of about 36 inches, sandy loam between a depth of 36 and 48 inches, and sand between a depth of 48 and 62 inches. Surface runoff is medium, and the erosion hazard is moderate. The slopes are complex and rather short. The available water capacity is high.

The Olympic series consists of well-drained, gently sloping to very steep soils underlain by basalt bedrock at a depth of 40 inches or more. These are moderately fine textured soils that formed on mountainous foot slopes in weathered igneous lava flows. The original vegetation was Douglas-fir, grand fir, hemlock, western redcedar, and Oregon white oak. The understory plants were vine maple, salal, Oregon grape, ferns, and grasses. The annual precipitation is 45 to 80 inches.

Olympic stony clay loam, 3 to 30 percent slopes (OmE) is on ridgetops, on long side slopes, and on short slopes along drainageways. It is similar to Olympic clay loam, 8 to 20 percent slopes, except that the surface layer is stony and the slope range is greater. The available water capacity is moderate. Surface runoff is slow to rapid, and the hazard of erosion is slight to severe.

The Washougal series consists of somewhat excessively drained, nearly level to very steep soils underlain by sand and gravel at a depth of 26 to 40 inches. These are loamy soils that formed on low terraces in alluvium deposited by swiftly flowing rivers and streams. Most of the material is of volcanic origin. The original vegetation was Douglas-fir, vine maple, dogwood, snowberry, blackberry, grasses, and ferns. The annual precipitation is 50 to 85 inches.

Washougal gravelly loam, 0 to 8 percent slopes (WgB) is on gravelly stream terraces along the East Fork of the Lewis, Little Washougal, and Washougal Rivers. In a typical profile the surface layer is gravelly loam about 22 inches thick. It is black in the upper part and very dark brown in the lower part. Below the surface layer is friable, dark-brown very gravelly loam about 8 inches thick. The next layer is dark-brown very gravelly coarse sandy loam about 6 inches thick. The underlying material, to a depth of 60 inches, is brown and gray sand, pebbles, and cobblestones. This soil is somewhat excessively drained. It is generally moderately permeable, but it is very rapidly permeable in the substratum. The available water capacity is moderate. Surface runoff is slow, and the hazard of erosion is slight. Most of this soil is in second-growth Douglas-fir, but red alder, grand fir, vine maple, and other shrubs fill in.

Mapped hydric soils do not necessarily mean that the area is a wetland; hydrology and wetland vegetation must be present to classify an area as a wetland. The same is true for soils that are not mapped as hydric. Wetlands can be found in areas without mapped hydric soils. No wetlands were identified onsite.

Priority Habitat

The Washington Department of Fish and Wildlife (WDFW) maps "Oak Woodlands" across the northern portion of the subject site, Figure 4. WDFW also maps a "Cave or Cave-rich Areas" within the general area,

though no evidence of caves were found onsite by AES during the site reconnaissance. AES does not concur with the “Oak Woodland” habitat mapped onsite by WDFW. Several individual Oregon white oak trees were identified onsite, but oak woodland habitat is not present.

METHODOLOGY

WDFW Priority Habitat

The subject site was evaluated for the presence of Priority Habitats as defined by WDFW Priority Habitats and Species (PHS) List 2008, specifically Oregon white oak woodlands as they are mapped onsite by WDFW and Clark County GIS.

WDFW defines Oregon White Oak Woodlands as “stands of oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%; or where total canopy coverage of the stand is <25%, but oak accounts for at least 50% of the canopy coverage. The latter is often referred to as oak savanna. In non-urbanized areas west of the Cascades, priority oak habitat consists of stands > 0.4 ha (1.0 ac) in size. East of the Cascades, priority oak habitat consists of stands > 2 ha (5 ac) in size. In urban or urbanizing areas, single oaks or stands < 0.4 ha (1 ac) may also be considered a priority when found to be particularly valuable to fish and wildlife (i.e., they contain many cavities, have a large diameter at breast height [dbh] (generally 20-inches dbh and greater), are used by priority species, or have a large canopy). Oak woodlands in western Washington may contain understory plants indicative of Prairie.”

Habitats of Local Importance

Following CMC Chapter 16.61 - Fish And Wildlife Habitat Conservation Areas, Section: 16.61.010.A.3.a, individual Oregon white oak trees with a twenty-inch diameter at breast height (20-inches dbh), stands of Oregon white oak trees greater than one acre when they are found to be valuable to fish and wildlife (i.e., may include trees with cavities, large diameter breast height (twelve inches dbh), are used by priority species, or have a large canopy, and all Oregon white oak snags unless determined by an arborist to be a hazard, are considered Habitats of Local Importance.

DOCUMENTED VEGETATION

The forested vegetation onsite is dominated by Douglas-fir (*Pseudotsuga menziesii* FACU), big leaf maple (*Acer macrophyllum* FACU), red alder (*Alnus rubra* FAC) and Oregon white oak (*Quercus garryana* FACU). The understory is dominated by invasives including English ivy (*Hedera helix* FACU), holly (*Ilex aquifolium* FACU), Himalayan blackberry (*Rubus armeniacus* FAC), poison hemlock (*Conium maculatum* FAC), and wisteria (*Wisteria sp.*). Some native understory vegetation exists competing with the ivy and holly including sword fern (*Polystichum munitum* FACU), salal (*Gaultheria shallon* FACU), Oregon grape (*Mahonia nervosa* FACU), , poison oak (*Toxicodendron diversilobum* FAC), trailing blackberry (*Rubus ursinus* FACU), and vine maple (*Acer circinatum* FAC).

The indicator categories following the common and scientific name of each vegetation species indicate the likelihood of the species to be found in wetlands. Listed from most-likely to least-likely to be found in wetlands, the indicator categories are:

- **OBL (obligate wetland)** – Occur almost always under natural conditions in wetlands.
- **FACW (facultative wetland)** – Usually occur in wetlands but occasionally found in non-wetlands.
- **FAC (facultative)** – Equally likely to occur in wetlands or non-wetlands.

- **FACU (facultative upland)** – Usually occur in non-wetlands but occasionally found in wetlands.
- **UPL (obligate upland)** – Occur almost always under natural conditions in non-wetlands.
- **NI (no indicator)** – Insufficient data to assign to an indicator category.

CRITICAL AREA CONCLUSIONS

WDFW Priority Habitat

A mixed mature conifer and deciduous forest is present within the northern portion of the site. Four oak trees were identified within the western extent of the forested area, and a fifth individual oak identified near the southern property boundary, Figure 5. All five oak trees inventoried are considered individual oaks as they do not meet the criteria for an oak woodland. The understory of the forested area is highly constrained by invasive species, predominately English ivy which was also observed within many of the tree canopies. While there are several oaks present onsite, the quantity and coverage of oak does not meet the WDFW criteria of 25 percent stand density, one-acre in area, or 50 percent cover canopy coverage. The five Oregon white oak trees inventoried are mapped on Figures 5 and the oak details are provided in Table 1. AES does not concur with the “Oak Woodland” habitat mapped onsite by WDFW.

Habitats of Local Importance

Two of the five Oregon white oak trees (Oak #1 and Oak #2) inventoried onsite are over 20-inches dbh and therefore meet the criteria listed under CMC 16.61.010.A.3.a that defines Oregon white oak habitat of local importance. The project proposes the removal of one jurisdictional Oregon white oak tree (Oak #2, 27-inches dbh in size). Therefore, mitigation to offset the removal of this jurisdictional tree under CMC will be required. The following mitigation plan section details the mitigation measures proposed.

Table 1. Oregon White Oak Summary.

Oak Label	Size (dbh)	WDFW PHS &/or CMC Local Habitat of Importance Criteria Met <i>(Individual oak tree >20" dbh)</i>	Removal Proposed?
Oak #1	42-inch	Yes	No
Oak #2	27-inch	Yes	Yes
Oak #3	8-inch	No	Yes
Oak #4	10-inch	No	No
Oak #5	8-inch	No	No

MITIGATION PLAN

The below mitigation plan was developed following Camas Municipal Code (CMC) Section 16.61 Fish and Wildlife Habitat Conservation Areas. The project will offset the impacts proposed to allow for no net loss of habitat functions onsite.

Proposed Impacts

The proposed subdivision will retain the majority of the northern forested area present onsite. However, one jurisdictional Oregon white oak will be removed (Oak #2). The second jurisdictional oak (Oak #1) will be retained with protective measures implemented following the White Oak Mitigation and Protection Plan provided by Brandon Cheyney of Arbor Science Tree Care, August 11, 2021.

Avoidance and Minimization

The project has been designed to avoid direct impacts to the most significant Oregon white oak habitat present onsite (Oak #1, 42-inch dbh). Oak #2 (27-inch dbh) is located near a driveway entrance and parking area required along the western property line and cannot be avoided by the project. Reducing the square footage of buildings to alter the entrance of the road is financially unfeasible, and the need for housing within the City is great. Therefore, the impact to Oak #2 is unavoidable. This oak is an individual tree (not part of a larger grove) and located along the far western perimeter of the forested canopy, somewhat compromised due to the adjacent paved and fenced area associated with NE Wedgewood Court, directly west and within the dripline of the canopy. Oaks #4 and #5 proposed for retention are located north of Oak #2 and will benefit from the removal of Oak #2 over time allowing them to become more significant oak trees than they would be otherwise due to the cramped and overlapping canopy.

The project will also utilize the historically developed areas within the southern portion of the site within the southern portion of the subject site and avoid impacts to the mature forest habitat present along the hill slope area associated with the northern half of the project site.

Oregon White Oak Impacts and Mitigation

One jurisdictional Oregon white oak (Oak #1, 27-inch dbh) will be removed as a result of the proposed project. According to CMC Section 16.51.125(B) jurisdictional oak trees removed are to be mitigated for at a ratio of 2:1. The mitigation oak trees must be 2-inches in caliper size. The project proposes to mitigate for the removal of Oak #2 by installing 2 Oregon white oak trees of 2-inch caliper size directly north of the project limits, north of Oaks #4 and #5 onsite. This space is contiguous to the other remaining oak trees present within this area (Oaks #3, 4, and 5) and will have adequate area and sun, post project completion. See Figure 6.

The jurisdictional Oak #1 at the southern border of the property will be retained. An arborist has determined that the project will not impact the root system or damage the tree if the proper BMPs and protocols are followed during and post construction, Appendix B. Removal of the invasive ivy currently present and climbing Oak #1 has been initiated and will be completed by the end of the project. Some low-lying limbs will also be removed where they are in a precarious location adjacent to the telephone lines, and above the sidewalk north of North 3rd Avenue. No detrimental impacts to Oak #1 are anticipated. Protection will be put in place during construction and excavation activities, to protect Oak #1. Compensatory measures will need to be implemented if during construction the critical root mass of the tree is impacted.

Contingency Mitigation Plan

If impacts or removal of Oak #1 becomes unavoidable during or post construction, the priority tree will need to be mitigated for onsite. If Oak #1 is unavoidably impacted, it is to be replaced at a 2:1 ratio within the same mitigation area as Oak #2 onsite. The replacement oak trees will be 2-inches in caliper size following CMC Section 16.51.125(B).

Table 2. Oak Impacts & Mitigation Summary.

Oak Label	Impact	Mitigation
Oak #2	Oregon White Oak (27-inch dbh)	Oregon white oak installed onsite at a 2:1 Ratio (Two, 2-inch Caliper Oaks)

PLANTING PLAN

Site Preparation

1. Stake or flag the on-site mitigation area boundaries and install tree protection fencing.
2. Mow grasses, herbaceous vegetation and invasive species present within mitigation area prior to planting.
3. Apply herbicide as required to control invasive species prior to oak plantings.
4. Once English ivy appears suppressed by the initial herbicide application, the runners found at/around base of native tree trunks are to be cut, bagged, and disposed of at an approved offsite location as the stem and root fragments can re-sprout. Wearing of gloves is recommended to protect hands from the ivy's irritating sap.

Additional English Ivy Control Methods (as Required):

- Plants can successfully be pulled from moist soils by hand in fall (or spring).
- Ivy stems or roots left in the soil (after initial control efforts) may re-sprout, so continual removal of sprouts may be needed.
- Ivy climbing trees can be cut from waist to chest height, pulling the lower part of the stems away from the base of the tree (to kill the upper portions of the vine). The leaves remaining in the tree on the cut stems will slowly die and fall off.
- Herbicide Application: Triclopyr amine (Garlon 3A, Brush-B-Gone, or Brush Killer) or triclopyr ester (Garlon 4, Pathfinder, or Vinex) or glyphosate (Accord, Glypro, or Rodeo). Application Rate: At least 41% active ingredient (3 lb ae or 4 lb ai) glyphosate
- Herbicide Application Methods:
- Basal Bark Application Method: Apply 33% dilution of triclopyr or glyphosate to exposed stems after stripping the leaves from stems near ground level.
- Cut Stem Application (most effective method): Cut each vine stem close to the ground and treat freshly cut surfaces (preferably within 5 minutes) with a 33% solution of triclopyr amine or glyphosate mixed in water. Do not dilute products such as Brush-B-Gone and Brush Killer. Roundup Pro Concentrate (50.2% formulation) may be diluted with water.
- Foliar Application: From summer to fall, foliar-apply a 2 to 5% solution of triclopyr ester mixed in water with a nonionic surfactant. Fully coat foliage. Some control may be possible with glyphosate as a 2 to 4% dilution using at least a 41% (3 lb ae or 4 lb ai) glyphosate) but repeat applications will probably be necessary. Broadcast applications of triclopyr will cause less damage to desirable grasses (Pacific Northwest Weed Management Handbook).

Planting Methods

Plant in fall through early spring (October-April) at specified spacing following the planting plan.

Container/Ball and Burlap Stock

1. Dig hole using a tree shovel/auger/mini-excavator or comparable tool 16-inches wide and 4-inches deeper than the root system, scarify sides of hole to 4 inches. Remove plant from container and loosen roots with hand or score vertically on sides and bottom with knife. Set plant upright and plumb in hole so the crown is just above the finish grade. Ensure that roots are extended down entirely and do not bend upward.
2. Replace loose soil around plant and firmly compact the soil around the plant to eliminate air spaces. Do not use frozen soil for backfilling.
3. Firmly compact the soil around the planted species to eliminate air spaces.
4. Install woody mulch around the base of planted species to insulate plantings, maintain moisture content of soil and reduce invasive plant competition (when deemed necessary).
5. Irrigate according to performance standards for the first three summers after planting or as site and weather conditions warrant.

Planting Specifications

Planting will begin in Fall of 2021 or Spring of 2022 while onsite soils are more saturated (and stock is dormant). The following tables summarize the native plant selection, spacing, size, and quantity for the on-site mitigation area:

Table 3. Mitigation Planting Plan.

<i>Common Name</i>	<i>Scientific Name</i>	<i>Stock</i>	<i>Spacing</i>	<i>Quantity</i>
Oregon White Oak, FACU	<i>Quercus garryana</i>	2-inch caliper	20 ft.	2

Maintenance Plan

Maintenance at the on-site mitigation area covers a minimum of 5-years and will involve removing persisting invasive plant species in addition to watering and re-installing failed species as necessary. The maintenance will include the following activities when necessary:

1. Remove and control non-native/noxious vegetation around all newly installed plants. During years 1 through 5 invasive species will be removed and suppressed as often as necessary to meet a performance standard of no greater than 20 percent cover by invasive species, measured by monitoring plots.
2. Irrigate planted species as necessary during the dry season, approximately July 1 through October 15. Irrigation is recommended to occur on a two-week cycle (minimum) during the dry season for the first three years. Water will be provided by a temporary above-ground irrigation system or a water truck.
3. Replace dead or failed plants as described for the original installation to meet the minimum annual performance standard of 100% survival over the 5-year monitoring period.

Monitoring Plan

The mitigation site will be monitored for a 5-year period following project construction; monitoring will take place in years 1, 2, 3 and 5. Monitoring reports will be submitted to the City of Camas by the end of each monitored year. The goal of monitoring is to determine if the previously stated performance standards are being met. The mitigation area will be monitored once during the growing season, preferably during the same two-week period each year to better compare the data.

During the first annual monitoring and maintenance event, two representative photo plots will be selected in the mitigation area permanently marked with metal posts. Monitoring photo plot locations will be placed on an as-built drawing and included in the annual monitoring reports.

Monitoring Report Contents

The annual monitoring reports will contain at least the following:

- Location map and as-built drawing of mitigation area.
- Photographs from permanent photo points (x2 minimum).
- Historic description of project, including dates of plant installation, current year of monitoring, and restatement of mitigation goal.
- Documentation of plant survival, cover, and overall development of the plant community.
- Assessment of non-native, invasive plant species and recommendations for management.
- Summary of maintenance and contingency measures proposed for the next season and completed for the past season.

Contingency Plan

If the performance standards are not met by the fifth year following project completion, or at an earlier time if specified above, a contingency plan will be developed and implemented. All contingency actions will be undertaken only after consulting and gaining approval from the City of Camas. The applicant will be required to complete a contingency plan that describes (1) the causes of failure, (2) proposed corrective actions, (3) a schedule for completing corrective actions, and (4) whether additional maintenance and monitoring are necessary.

Site Protection

The on-site mitigation area will be owned and managed by the applicant or assignee. AshEco Solutions, LLC or similar entity will be responsible for supervising the maintenance and conducting the monitoring of the on-site mitigation area for the 5-year period at expense of the applicant. The applicant will establish and record a permanent and irrevocable conservation covenant on the mitigation property.

MITIGATION GOALS, OBJECTIVES AND PERFORMANCE STANDARDS

Objective 1: Replace the loss of one jurisdictional Oregon white oak tree (Oak #2) with two Oregon white oak trees (2-inch caliper in size) onsite.

Performance Standard 1a. Document the installation of the native Oregon white oak trees as specified by Table 3. Submit As-built documenting planting locations, plant species, and plant quantities.

Performance Standard 1b. In Years 1-5, planted species are to achieve 100 percent (100%) survival after the site is planted. (If dead plants are replaced to achieve the 100 percent survival rate, this performance standard will be met).

Performance Standard 1c. In All Years, non-native/invasive plant species will not exceed 20-percent (20%) aerial cover across the onsite mitigation area.

Objective 2: Retain and provide long-term protection for Oak #1.

Performance Standard 2a. Document the installation of tree protection fencing around Oak #1 before construction begins onsite.

Performance Standard 2b. Document the installation of mulch and other soil amendments/BMPs post construction activities as specified by the White Oak Mitigation and Protection Plan (Arbor Science Tree Care, August 11, 2021).

Objective 3: Provide long-term protection for the onsite mitigation area.

Performance Standard 3a. Record a conservation covenant with the City of Camas. This performance standard will be met when the Year 1 monitoring report is submitted that includes a copy of the conservation covenant.

Performance Standard 3b. Post permanent boundary signage every 100 feet along the southern edge of the onsite oak mitigation boundary *or as otherwise determined by the City of Camas permit conditions.* Signs are to read:

“Critical Area– Please Retain in a Natural State”

Signage will remain in legible condition; if they are missing or illegible, they will be replaced. This performance standard will be met when signs are reported to be in place in the final monitoring report.

CONCLUSIONS

The above sections outline how the proposed project will meet the Habitat Conservation Areas requirements of the CMC. AES does not concur with the mapping of WDFW Oregon White Oak woodlands onsite, with just five Oregon white oaks identified on site. All but one of the Oregon White Oaks trees will be retained. The oak proposed for removal (Oak #2) will be mitigated for onsite for no net loss of Oregon white oak habitat following CMC guidance and criteria. With issuance of the approved critical areas permits, the proposed Oregon white oak mitigation plantings will be implemented, and a conservation covenant recorded to protect the onsite critical areas under the applicant’s ownership in perpetuity.

DISCLAIMER

This report documents the investigation, best professional judgment, and conclusions of the investigator. It is correct and complete to the best of our knowledge. It should be considered a preliminary mitigation plan and used at your own risk until it has been reviewed and approved in writing by the local agency with jurisdiction over the site. AES personnel base the above listed conclusions on standard scientific methodology and best professional judgment.

REFERENCES

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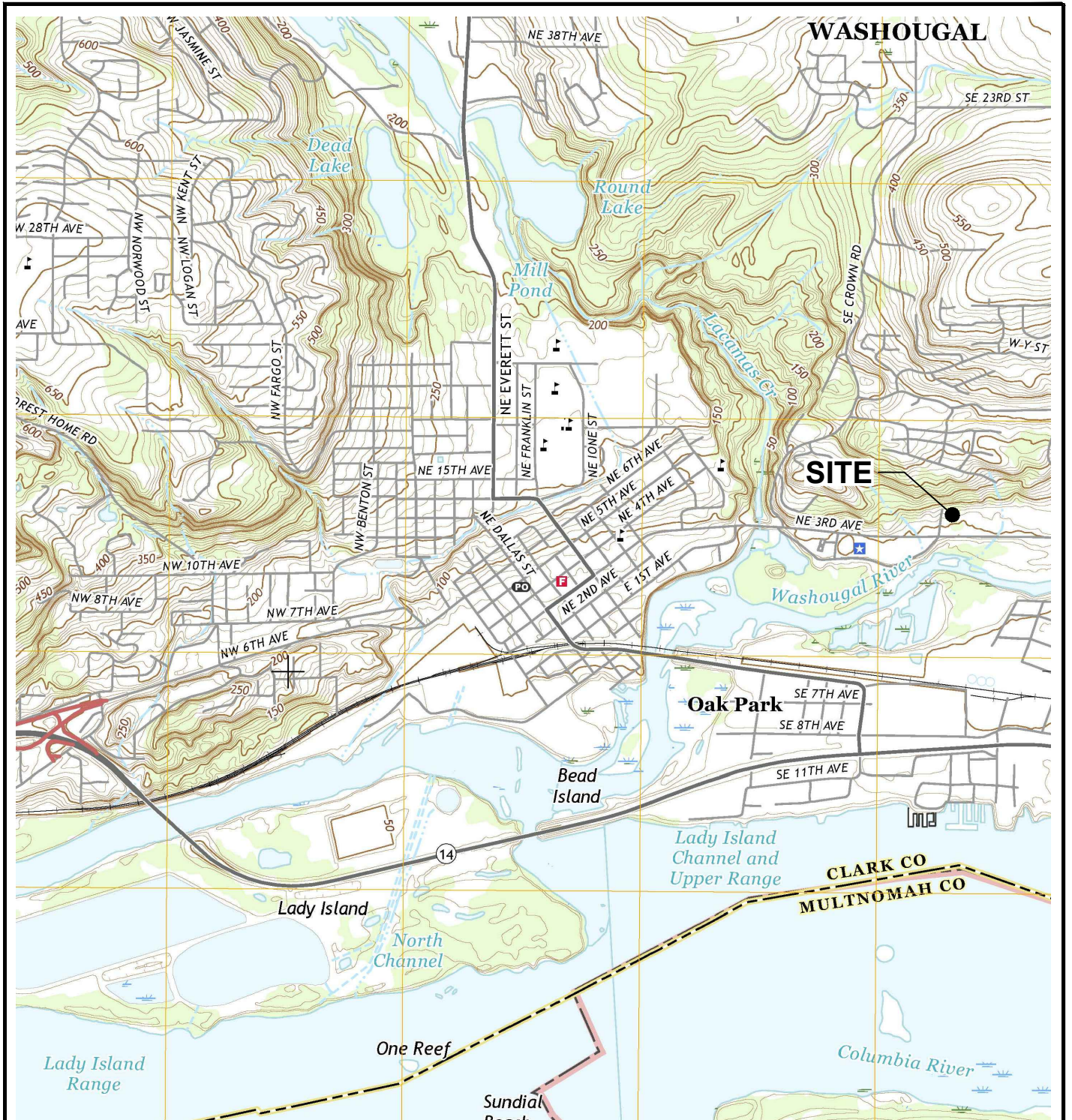
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NOTE(S):
 USGS, CAMAS QUADRANGLE
 WASHINGTON-OREGON
 7.5 MINUTE SERIES (TOPOGRAPHIC)



PURPOSE: XX
 Line 1
 Line 2
DATUM: NAVD 88
ADJACENT PROPERTY OWNERS:
 Adj 1
 Adj 2

VICINITY MAP
APPLICANT: Brian Desgrossellier (DD&C Dev.)
PROJECT NAME: Washougal River Oaks
PARCEL #: 89884000, 89883000,
 89881000, 89875000
SITE LOCATION ADDRESS:
 2531 NE 3rd Ave.

PROPOSED: XX
 Add 2
IN: Camas
NEAR: Vancouver
COUNTY: Clark **STATE:** WA
FIGURE: 1
DATE: 7-27-21



Legend

- Taxlots
- Contour Lines - 10 ft

All Roads

- Interstate
- State Route
- Arterial
- Forest Arterial
- Minor Collector
- Forest Collector
- Private or Other

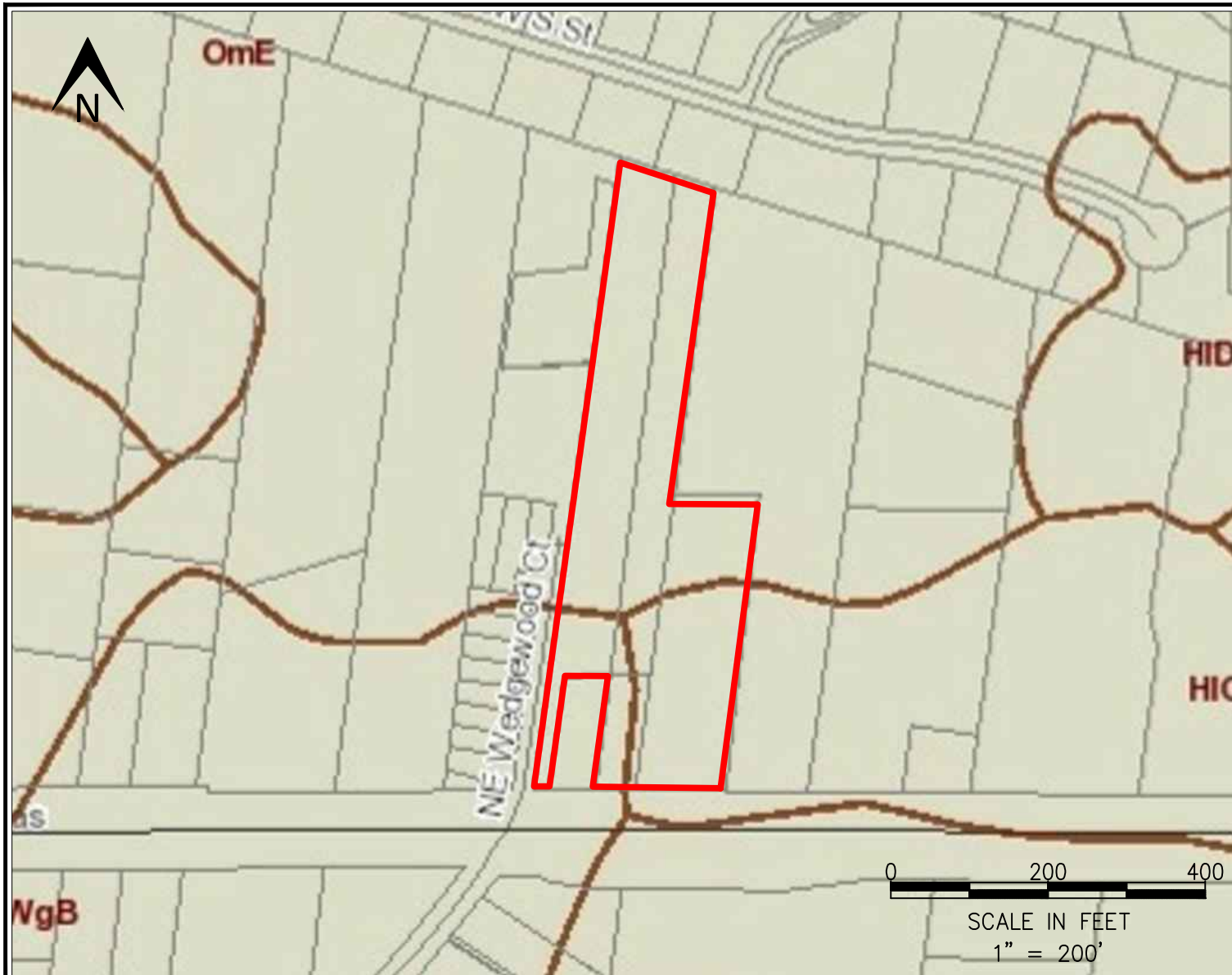
- Cities Boundaries
- Urban Growth Boundaries



PURPOSE: XX
 Line 1
 Line 2
DATUM: NAVD 88
ADJACENT PROPERTY OWNERS:
 Adj 1
 Adj 2

AERIAL PHOTO & TOPO MAP
APPLICANT: Brian Desgrossellier (DD&C Dev.)
PROJECT NAME: Washougal River Oaks
PARCEL #: 89884000, 89883000,
 89881000, 89875000
SITE LOCATION ADDRESS:
 2531 NE 3rd Ave.

PROPOSED: XX
 Add 2
IN: Camas
NEAR: Vancouver
COUNTY: Clark **STATE:** WA
FIGURE: 2
DATE: 7-27-21



Legend

- Taxlots
- Soil Type
- All Roads**
 - Interstate
 - State Route
 - Arterial
 - Forest Arterial
 - Minor Collector
 - Forest Collector
 - Private or Other
- Cities Boundaries
- Urban Growth Boundaries

OmE - Olympic stony clay loam, 0-30% slopes

HiC - Hillsboro loam, 8-15% slopes

WgB - Washougal gravelly loam, 0-8% slopes

0 200 400
SCALE IN FEET
1" = 200'



PURPOSE: XX
Line 1
Line 2
DATUM: NAVD 88
ADJACENT PROPERTY OWNERS:
Adj 1
Adj 2

SOIL SURVEY MAP
APPLICANT: Brian Desgrossellier (DD&C Dev.)
PROJECT NAME: Washougal River Oaks
PARCEL #: 89884000, 89883000,
89881000, 89875000
SITE LOCATION ADDRESS:
2531 NE 3rd Ave.

PROPOSED: XX
Add 2
IN: Camas
NEAR: Vancouver
COUNTY: Clark **STATE:** WA
FIGURE: 3
DATE: 7-27-21


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Parcels

Parcels


PHS on the Web




PHS Public Points


PHS Public Lines


PHS Public Polygon Outlines

-  AS MAPPED
-  Masked

PHS Public Polygons

-  AS MAPPED
-  SECTION
-  QTR-TWP
-  TOWNSHIP

WDFW - Oak Woodlands



PURPOSE: XX
 Line 1
 Line 2

DATUM: NAVD 88

ADJACENT PROPERTY OWNERS:
 Adj 1
 Adj 2

WDFW PRIORITY HABITAT & SPECIES MAP

APPLICANT: Brian Desgrossellier (DD&C Dev.)

PROJECT NAME: Washougal River Oaks

PARCEL #: 89884000, 89883000,
 89881000, 89875000

SITE LOCATION ADDRESS:
 2531 NE 3rd Ave.

PROPOSED: XX
 Add 2

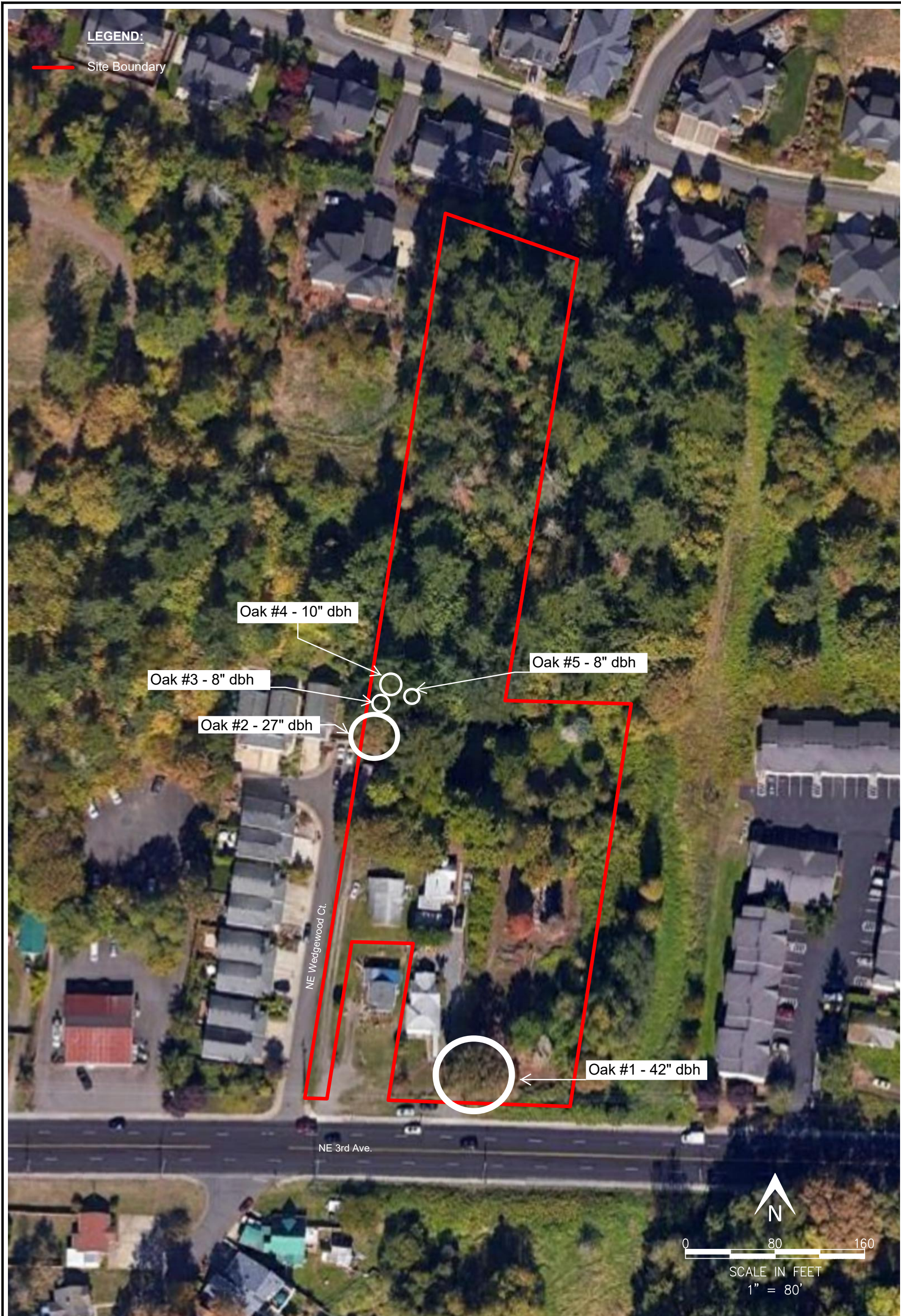
IN: Camas

NEAR: Vancouver

COUNTY: Clark **STATE:** WA

FIGURE: 4

DATE: 7-27-21



LEGEND:

— Site Boundary

Oak #4 - 10" dbh

Oak #3 - 8" dbh

Oak #2 - 27" dbh

Oak #5 - 8" dbh

Oak #1 - 42" dbh

NE Wedgewood Ct.

NE 3rd Ave.



0 80 160

SCALE IN FEET

1" = 80'

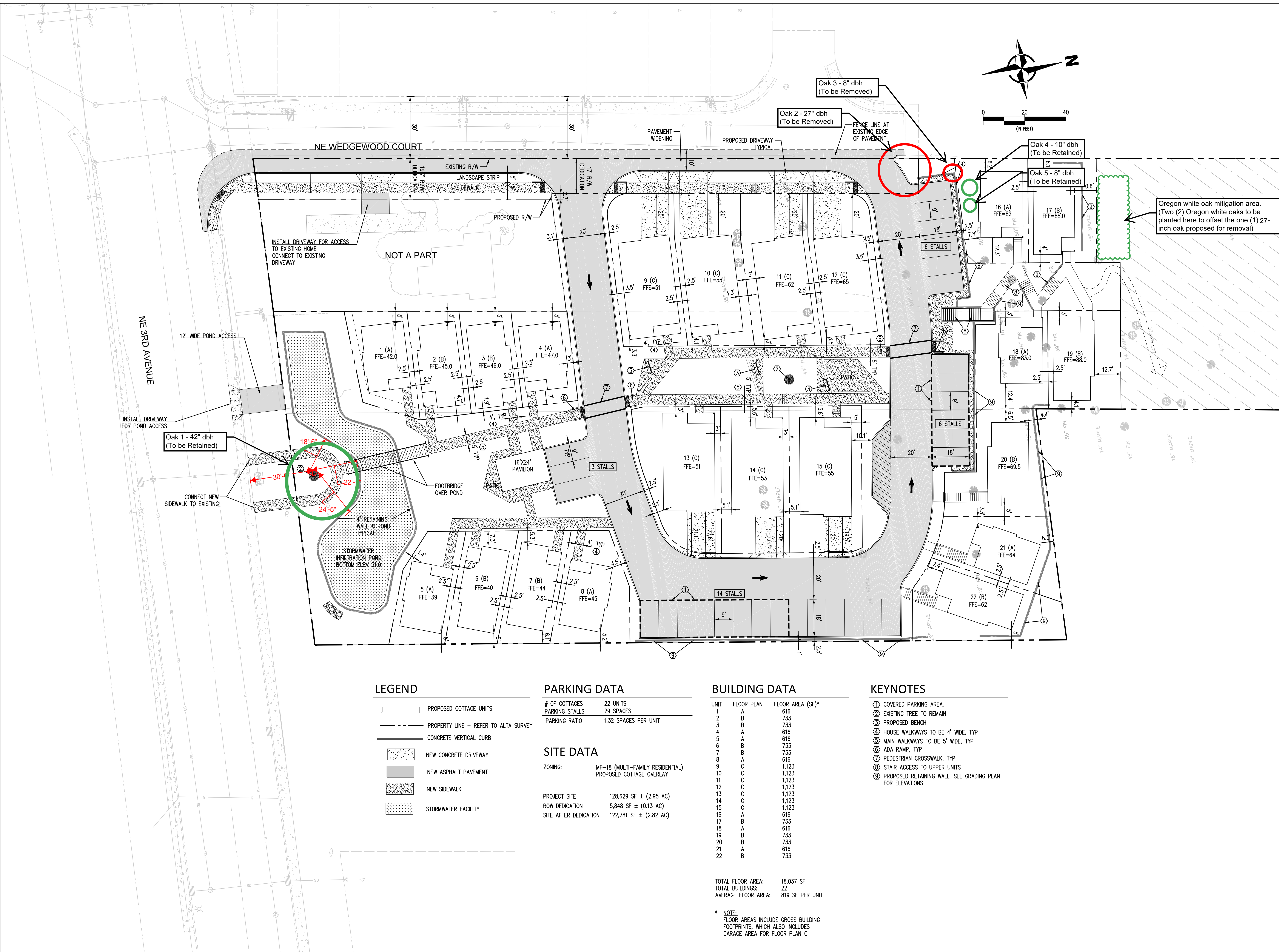


PURPOSE: XX
Line 1
Line 2
DATUM: NAVD 88
ADJACENT PROPERTY OWNERS:
Adj 1
Adj 2

EXISTING CONDITIONS MAP
APPLICANT: Brian Desgrossellier (DD&C Dev.)
PROJECT NAME: Washougall River Oaks
PARCEL #: 89884000, 89883000,
89881000, 89875000
SITE LOCATION ADDRESS:
2531 NE 3rd Ave.

PROPOSED: XX
Add 2
IN: Camas
NEAR: Vancouver
COUNTY: Clark **STATE:** WA
FIGURE: 5
DATE: 8-16-21

\\PDPX-FILE\Projects\Washington\Comas\3rd Ave Garden Houses\Drawings\CMMW1105.dwg Oct 08, 2020 - 12:35pm



LEGEND

- PROPOSED COTTAGE UNITS
- PROPERTY LINE - REFER TO ALTA SURVEY
- CONCRETE VERTICAL CURB
- NEW CONCRETE DRIVEWAY
- NEW ASPHALT PAVEMENT
- NEW SIDEWALK
- STORMWATER FACILITY

PARKING DATA

# OF COTTAGES	22 UNITS
PARKING STALLS	29 SPACES
PARKING RATIO	1.32 SPACES PER UNIT

SITE DATA

ZONING:	MF-18 (MULTI-FAMILY RESIDENTIAL) PROPOSED COTTAGE OVERLAY
PROJECT SITE	128,629 SF ± (2.95 AC)
ROW DEDICATION	5,848 SF ± (0.13 AC)
SITE AFTER DEDICATION	122,781 SF ± (2.82 AC)

BUILDING DATA

UNIT	FLOOR PLAN	FLOOR AREA (SF)*
1	A	616
2	B	733
3	B	733
4	A	616
5	A	616
6	B	733
7	B	733
8	A	616
9	C	1,123
10	C	1,123
11	C	1,123
12	C	1,123
13	C	1,123
14	C	1,123
15	C	1,123
16	A	616
17	B	733
18	A	616
19	B	733
20	B	733
21	A	616
22	B	733

TOTAL FLOOR AREA:	18,037 SF
TOTAL BUILDINGS:	22
AVERAGE FLOOR AREA:	819 SF PER UNIT

* NOTE:
FLOOR AREAS INCLUDE GROSS BUILDING FOOTPRINTS, WHICH ALSO INCLUDES GARAGE AREA FOR FLOOR PLAN C

KEYNOTES

- ① COVERED PARKING AREA.
- ② EXISTING TREE TO REMAIN
- ③ PROPOSED BENCH
- ④ HOUSE WALKWAYS TO BE 4' WIDE, TYP
- ⑤ MAIN WALKWAYS TO BE 5' WIDE, TYP
- ⑥ ADA RAMP, TYP
- ⑦ PEDESTRIAN CROSSWALK, TYP
- ⑧ STAIR ACCESS TO UPPER UNITS
- ⑨ PROPOSED RETAINING WALL. SEE GRADING PLAN FOR ELEVATIONS



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CLIENT/OWNER

DD&C, INC

PROJECT NAME

WASHOUGAL RIVER OAKS

NAVIX PROJECT NUMBER: 20-005-001

PROJECT ADDRESS

2531 NE 3RD AVE
CAMAS, WA 98607

STAMP



REVISIONS

REV	ISSUED FOR:	DATE
1	LAND USE	10.02.20



SECTION, TOWNSHIP, RANGE:

SECTION 12, TOWNSHIP 1 NORTH,
RANGE 3 EAST, W.M.

PROJECT TEAM

REVIEWED BY: B.DICKERSON
DESIGNED BY: S.NGUY

SHEET NAME

SITE PLAN

SHEET NUMBER

C-1.0

Appendix A

Site Photos

Washougal Oaks CAR & MP- Site Photos

Parcel(s): 89884000, 89883000, 89881000, 89875000



Photo 1.

February 17, 2021 – View west across the northern extent of the proposed project. The slope area north of the old outbuilding is dominated in Douglas-fir, big leaf maple, red alder, and English ivy. The proposed Oregon white oak mitigation area is located just west of this location within an opening in the canopy just visible in lower left of photo. Two 2-inch caliper oak trees will be installed here.



Photo 2.

February 17, 2021 – View northwest across the northern forested area onsite. Douglas-fir, big leaf maple, and red alder dominate the area. Invasive species dominate the understory, including English ivy and holly.



Photo 3.

February 17, 2021 – View east across the northern forested area onsite. The area is dominated in Douglas-fir, big leaf maple, and red alder. Invasives make up most of the understory, including English ivy and holly.



Photo 4.

February 17, 2021 – View south from the northern extent of the site. The proposed project will be located within the natural terrace in the southern portion of the property.

Washougal Oaks CAR & MP- Site Photos
Parcel(s): 89884000, 89883000, 89881000, 89875000



Photos 5a, 5b.

5a) February 17, 2021 – View of Oak #2 (27-inch dbh) proposed for removal along the western property line. English ivy is visible on the tree. A large road access is required in this location to meet standards for emergency vehicles. Two Oregon white oak trees will be planted north of this tree adjacent to the to mitigate for the removal of this tree. 5b) August 2021, Arrow denotes location of Oak #2 in relation to surrounding development.

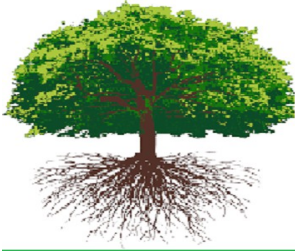


Photo 6.

August, 2021 – View of the large (42in dbh) Oregon white oak growing just north of NE 3rd Avenue. This tree will be retained and protected by the project. English ivy currently present within the oak canopy will be removed and additional BMPs and tree protection implemented to further the longevity of the tree.

Appendix B

Oregon White Oak Mitigation and Protection Plan
(Arbor Science Tree Care, August 11, 2021)



ARBOR SCIENCE TREE CARE

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360.521.0249

WA# ARBORST838DT OR CCB# 216351

August 10, 2021

Washougal River Oaks
2531 NE 3rd Ave
Camas, WA 98607
Parcel #89884000

RE: White Oak Mitigation and Protection Plan

Outline:

Protection plan and mitigation on five Oregon white oaks trees (*quercus garryanna*) on site. Two of the five oaks will be petitioned for removal while the other specimens will be protected for preservation. The two specimens slated for removal and replacement have highly asymmetrical crowns, are very insignificant in size and are quite suppressed in the under story of larger Douglas fir trees.

All trees and locations are detailed and referenced on provided site map.

Common Guidelines for Tree Preservation During Construction:

During construction. Prior to initiating tree removal on the site, soils, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities pursuant to the following standards.

A. Placing Materials Near Trees. No person may conduct any activity within the protected area of any tree designated to remain, including, but not limited to, parking equipment, placing solvents, storing building material and soil deposits, dumping concrete washout and locating burn holes.

1. During construction, no person shall attach any object to any tree designated for protection.

B. Protective Barrier. Before development, land clearing, filling or any land alteration for which a Tree Removal Permit is required, the applicant:

1. Shall erect and maintain readily visible protective tree fencing along the outer edge and completely surrounding the protected area of all protected trees or groups of trees that are to remain

undisturbed. Fences shall be constructed of chain link and at least four feet high, unless other type of fencing is authorized by the planning official.

2. Shall prohibit excavation or compaction of earth or other potentially damaging activities within the barriers.

3. Shall maintain the protective barriers in place until the planning official authorizes their removal or a final certificate of occupancy is issued, whichever occurs first

4. Shall ensure that any landscaping done in the protected zone subsequent to the removal of the barriers shall be accomplished with light machinery or hand labor. No turf or lawn areas are to be installed within protected area.

5. In addition to the above, the planning official may require the following:

a. Cover with mulch to a depth of at least six (6) inches or with plywood or similar material the areas adjoining the critical root zone of a tree in order to protect roots from damage caused by heavy equipment.

b. Minimize root damage by excavating a two (2) foot deep trench, at edge of critical root zone, to cleanly sever the roots of trees to be retained.

c. Have corrective pruning performed on protected trees in order to avoid damage from machinery or building activity.

d. Maintain trees throughout construction period by watering and fertilizing.

C. Grade.

1. The grade shall not be elevated or reduced within the critical root zone of trees to be preserved without the planning official's authorization. The planning official may allow coverage of up to one half of the area of the tree's critical root zone with light soils (no clay) to the minimum depth necessary to carry out grading or landscaping plans, if it will not imperil the survival of the tree. Aeration devices may be required to ensure the tree's survival.

2. If the grade adjacent to a preserved tree is raised such that it could slough or erode into the tree's critical root zone, it shall be permanently stabilized to prevent suffocation of the roots.

3. The applicant shall not install an impervious surface within the critical root zone of any tree to be retained without the authorization of the planning official. The planning official may require specific construction methods and/or use of aeration devices to ensure the tree's survival and to minimize the potential for root induced damage to the impervious surface.

4. To the greatest extent practical, utility trenches shall be located outside of the critical root zone of trees to be retained. The planning official may require that utilities be tunneled under the roots of trees to be retained if the planning official determines that trenching would significantly reduce the chances of the tree's survival.

5. Trees and other vegetation to be retained shall be protected from erosion and sedimentation. Clearing operations shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time. To control erosion, shrubs, ground cover and stumps shall be maintained on the individual lots, where feasible. Where not feasible appropriate erosion control practices shall be implemented.

D. Directional felling. Directional felling of trees shall be used to avoid damage to trees designated for retention and shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time. To control erosion, shrubs, ground cover and stumps shall be retained where feasible. Where not feasible, appropriate erosion control practices shall be implemented.

Proposed Development Plan Pertaining to Protected Specimens:

The large key specimen located in front along NE 3rd avenue is one of the primary oak to be protected. This specimen has a DBH (diameter at breast height) of approximately 42" and a crown spread that is approximately 65' (dia) across consuming approximately 3318 square feet of area. The critical root zone is commonly situated with this volume however, this is not an absolute.

The preliminary site design proposes a water retention pond along the NW, N and NE boundary of the root zone and a permeable walkway around the tree. The total root zone to be undisturbed is an area of approximately 2385 square feet with a potential loss of approximately 933 square feet this equates to a <28% loss of the perceived root zone (not actual loss of roots).

The two specimens along the Eastern side in the Northern quadrant of the site will see very little root zone disturbance.

Site and Tree Specific Protection Guidelines:

Specific guidelines for the large key specimen are as follows:

- Invasive and competitive vegetation (black berries) shall be removed prior to any construction activities. This removal of said vines need to be the least invasive approach with light equipment as to not disturb the top soil beyond the vegetation's roots.
- Mulch, bark dust or a non-compressive organic media shall be placed within protected root zone area immediately after removal of vegetation. Mulch should be placed at a depth of 1-3" and should remain indefinitely.
- Protective fencing must be placed around root zone protection area.
- During digging or trenching within the root zone any roots encountered >1.5" in diameter shall be properly cut with a sharp tool not ripped or torn with equipment. Air excavation tools are highly recommended during this process.
- Prior to any back-fill or final completion of retention pond the severed roots should be inspected by an ISA Certified Arborist.

The proposed walkway around the tree should consist of light uncompressed rock aggregate or wood chips. Partitions or landscape borders on the surface are acceptable. Hardscape, pavers or concrete is ill advised due to the antagonist and potentially damaging prep that is involved.

Brandon Cheney
ISA Certified Arborist
PN #7163A TRAQ