



OAK BANK USE PLAN - REVISED

May 17, 2024



13th Street Gas Station
Camas, WA

Prepared for

PAK USA Camas, LLC
c/o Taz Khan
3993 NW Currawong Court
Camas, WA 98607
(512) 779-4999

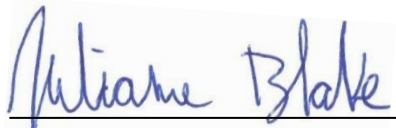
Prepared by

Ecological Land Services

1157 3rd Avenue, Suite 220A • Longview, WA 98632
(360) 578-1371 • Project Number 3934.01

SIGNATURE PAGE

The information in this report was compiled and prepared under the supervision and direction of the undersigned.

A handwritten signature in blue ink that reads "Julianne Blake". The signature is written in a cursive style and is positioned above a horizontal line.

Julianne Blake
Biologist III

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INTRODUCTION

Ecological Land Services, Inc. (ELS) was contracted by PAK USA Camas, LLC to prepare this Oak Bank Use Plan to address Oregon white oak (oak) impacts resulting from the construction of a fuel station, convenience store, and associated parking lot. The site is approximately 0.97 acres and consists of Clark County Tax Parcel 176148000 located at 20101 NE 13th Street within the NW ¼ of Section 29, Township 2 North, and Range 3 East of the Willamette Meridian in Camas, Washington (Figure 1). Field work was conducted on August 29, 2023 and April 2, 2024. The project will remove one existing oak (*Quercus garryana*) and impact 0.08 acres (3,456 square feet) of oak canopy. Canopy impacts will be offset by purchasing 0.238 credits from Terrace Oak Bank (Bank). This Bank Use Plan was prepared according to the *Camas Municipal Code (CMC) Title 16 Environment* (2023) and Washington Department of Fish and Wildlife’s (WDFW) *Management recommendations for Washington’s priority habitats: Oregon white oak woodlands* (1998). This Bank Use Plan will discuss oak impacts only, any impacts to wetland buffers will be addressed in a separate report.

RESPONSIBLE PARTIES

PROPERTY OWNER/APPLICANT

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BIOLOGICAL CONSULTANT

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Julianne Blake – Biologist III
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Longview, Washington 98632
(360) 578-1371
Julianne@eco-land.com

PROJECT DESCRIPTION

The project area is approximately 0.97 acres and consists of Clark County Tax Parcel 176148000 located at 20101 NE 13th Street within the NW ¼ of Section 29, Township 2 North, and Range 3 East of the Willamette Meridian in Camas, Washington (Figure 1). The project consists of constructing a fuel station, convenience store, and associated parking lot. The parking lot will contain electric vehicle charging stations and vacuum pumps as well as pedestrian crossing areas (Figure 3). The existing oak will be removed as part of the project, removing 0.08 acres (3,546 square feet) of oak canopy. Canopy impacts will be mitigated by purchasing 0.238 credits from Terrace Oak Bank. Construction is anticipated to start upon receipt of all necessary permits.

Best management practices (BMPs) that will be completed prior to construction include designating staging and stockpile areas outside of critical areas and associated buffers, establishing a standard construction entrance, and installing silt fencing to prevent sedimentation. When site preparation is complete, construction will occur. A water truck will be available to prevent dust blowing during construction, if needed. Equipment used may include haul trucks, bulldozers, excavators, pavers, and hand tools. Upon completion of construction activities, disturbed areas that will not be paved will be seeded with a native grass seed mix.

EXISTING CONDITIONS

EXISTING AND SURROUNDING LAND USES

The 0.97-acre site consists of Clark County Tax Parcel 176148000 and is accessed by a paved driveway off NE 13th Street. The site is zoned as Business Park (BP) and currently contains a single-family mobile home, shed, carport, and paved driveway. The site is bordered to the north by NE 13th Street, to the east by NW Friberg-Strunk Street, to the south by undeveloped land and a commercial development in progress, and to the west by undeveloped land and a single-family residence (Figure 2).

EXISTING CRITICAL AREAS

Two site visits were completed by ELS, following the appropriate technical manuals: *The Routine Determination Method according to the Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers 2010). The first site visit took place in August 2023 and the second in April 2024, with one oak tree identified onsite. No wetlands were identified onsite at either visit; however, one wetland (Wetland A) was observed offsite to the west during the April 2024 visit (ELS 2024).

Wetland A is a Category III, depressional, forested and emergent wetland totaling approximately 0.57 acres offsite to the west, and outlets to a roadside ditch (Ditch 1). Offsite boundaries for Wetland A were estimated by visual observations of changes in vegetation, the presence of surface water, and aerial photos; therefore, Wetland A boundaries are approximate. Vegetation in Wetland A is dominated by deciduous trees and herbaceous vegetation. Wetland hydrology likely comes from a seasonally high groundwater table, runoff, and precipitation. Hydroperiods

include seasonally flooded and saturated only. According to the Washington State Wetland Rating System for Western Washington: 2014 Update (Rating System), Wetland A is a Category III wetland scoring 7 points for water quality functions, 7 points for hydrologic functions, and 4 points for habitat functions, for a total of 18 points. The designated buffer width for a Category III wetland with a high land use intensity and a habitat score of 4 is 80 feet, as listed in CMC Table 16.53.040-1 (Table 3).

Table 1. Wetland Summary

Name	Size	Hydrogeomorphic Classification ¹	Cowardin Class ² / Hydroperiod	Habitat Score ³	Category ³	Buffer Width ⁴
A	Approximately 0.57 acres	Depressional	Emergent, Forested/ Saturated Only	4	III	80 ft.

¹NRCS 2008, ²FGDC 2013, ³Hruby 2014, ⁴CMC Table 16.53.040-1

The WDFW Priority Habitats and Species online mapping tool depicts oak woodlands in the vicinity of the observed oak along the southern site boundary. One oak measuring approximately 52 inches diameter at breast height (DBH) was mapped along the southern site boundary during site reconnaissance (Figure 2). The oak has several live and dead branches, cavities, and has canopy connectivity with other trees in the vicinity but is not connected with other oaks. The oak location was mapped using a GPS system capable of submeter accuracy in ideal conditions. According to *CMC 16.61.010(3)(a)*, individual Oregon white oak trees with a 20-inch DBH are considered a priority habitat. For more information regarding critical areas onsite, see the *Critical Areas Report for 13th Street Gas Station* (ELS 2024).

Table 2. Oak Summary

Total Canopy Area	DBH	Number of Trunks	Noteworthy Habitat Features
0.08 acres 3,456 square feet	52 inches	1	<ul style="list-style-type: none"> • Canopy is interconnected with adjacent trees, but not other oaks • Two large cavities

AVOIDANCE AND MINIMIZATION

The preferred mitigation sequencing of first avoidance, then minimization, and finally compensation for unavoidable impacts was taken into consideration during the project design process. The engineering team tested several layouts to avoid oak impacts to the maximum extent practicable, originally placing the convenience store on the western property line. However, *CMC 18.09.030-Table 1* states that parcels zoned BP must have a 50-foot setback for the rear yard, which placed the convenience store in the center of the site. Additional requirements include a turning radius large enough for fuel truck maneuvering, tank filling, and other deliveries. This layout did not allow access or the required interior circulation routes to accommodate fuel trucks and other large turning radius vehicles. To allow necessary ingress, egress, and circulation, the convenience store was moved to the east. Design review standards require the building be located as close as possible to the roadway and a driveway is required

around the outside of the store for a drive-thru car wash. Due to the single oak tree being located in an area of the site needed for the driveway, avoiding Oregon white oak impacts altogether is not feasible. The Oregon white oak proposed for removal is the only oak tree onsite.

UNAVOIDABLE OREGON WHITE OAK IMPACTS

Removal of the oak will result in the loss of 0.08 acres (3,456 square feet) of Oregon white oak priority habitat as measured by the oak canopy coverage (drip line). The following table summarizes proposed oak impacts.

Table 3. Oak Impact Summary

Identifier	DBH	Canopy Coverage	Total Impact
Oregon White Oak (Single Mature Tree)	52 inches	0.08 acres 3,456 square feet	0.08 acres 3,456 square feet

IMPACTED PRIORITY HABITAT FUNCTIONS

ELS assessed the functions provided by the oak during a site visit on August 29, 2023. The functional assessment is based on Washington Department of Fish and Wildlife’s (WDFW) *Management Recommendations for Washington’s Priority Habitats, Oregon White Oak Woodlands* (Guidance) (Larsen and Morgan 1998).

HABITAT FUNCTIONS

Oak woodlands are considered “priority habitat and species” by WDFW and are protected locally by the City of Camas Municipal Code (CMC). According to *CMC 16.61.010(3)(a)*, individual Oregon white oak trees with a twenty-inch DBH are considered a priority habitat.

In urban or urbanizing areas west of the Cascades, WDFW defines priority oak habitat as single oaks, or stands of pure oak, or oak/conifer associations, 1 acre or greater in size. WDFW may also consider individual Oregon white oak trees a priority habitat when found to be particularly valuable to wildlife (i.e., contains many cavities, has a large DBH, is used by priority species, or has a large canopy) (Larsen and Morgan 1998). The project site is within the City of Camas (City). WDFW recommendation is that in urban and urbanizing areas, single trees should be maintained if they are deemed important to species highly associated with Oregon white oak. Oaks and their associated flora comprise distinct woodland ecosystems with various plant communities providing valuable habitat that contributes to wildlife diversity. Oak woodlands provide a mix of feeding, resting, and breeding habitat for many wildlife species (Larsen and Morgan 1998).

The oak proposed for removal has several live and dead branches, cavities, and has canopy connectivity with other trees in the vicinity but is not connected with other oaks. Due to the location of the oak within the City boundaries and lack of habitat connectivity, larger animals or those not adapted to urban conditions are not likely to be present. Therefore, removing the oak would likely result in habitat loss and a food source only for birds and small mammals that are well adapted to urban conditions.

OREGON WHITE OAK MITIGATION SELECTION RATIONALE

The Oregon white oak proposed for removal is located in the service area for the Terrace Oak Bank (Bank). The oak tree is approximately 4 miles southeast of the Bank, in the Lacamas Creek Watershed which is in the southeastern portion of the service area (Figure 4). The proposed oak removal will be mitigated by purchasing credits from the Bank at ratios specified in the Terrace Oak Bank's Mitigation Banking Instrument (MBI).

Rationale for selecting this mitigation bank is as follows:

- There is not adequate space available within the study area to fully compensate for oak habitat losses utilizing onsite mitigation. The use of the Bank will ensure that habitat functions common to urban areas can be fully replaced.
- The oak onsite does not provide habitat for other priority species that should be replaced onsite. Habitat functions will be impacted for species common to urban areas, which can be fully replaced at the Bank.
- The habitat functions lost from the proposed oak removal correspond directly with the habitat creation purpose, goals, and objectives at the Bank which identifies 13.93 acres of existing Oregon white oak woodland WDFW Priority Habitat that will be restored to pre-agricultural conditions through creation, enhancement, and preservation. Creation and enhancement will be accomplished through planting oak saplings and/or native understory plantings, removing of Douglas-fir, and establishing a conservation easement over the entire 13.93 acres.
- The use of Terrace Oak Bank credits will provide immediate compensation for the accrued oak impacts.

The 2008 *Compensatory Mitigation for Losses of Aquatic Resources, Final Rule* (Corps) recommends purchasing mitigation bank credits for ecological considerations (lower risk of failure and lower temporal loss of resources and services) and to avoid the maintenance and contingency issues and outright failures that often accompany permittee-responsible mitigation sites. Use of the Terrace Oak Bank substantially lowers the risk of failure and temporal loss of resource functions and services over newly established, permittee-responsible mitigation sites and offsite mitigation is anticipated to be more meaningful and beneficial to the watershed's habitat functions.

FUNCTIONS PROVIDED AT OAK BANK

The general goal of the Bank is to restore the approximately 13.93 acres to a state similar to its pre-agricultural condition through creation, enhancement, and preservation of an existing Oregon white oak woodland. All functions related to oak habitat are expected to increase as a result of design implementation. The primary ecological goals of the Bank are as follows:

- Removal of all existing impervious surfaces, including buildings, large equipment, gravel and paved areas, and debris, followed by replanting oak saplings and native understory species.

- Removal of invasive species in creation, enhancement, and preservation areas, primarily English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*).
- Removal of Douglas-fir (*Pseudotsuga menziesii*) overstory as recommended by WDFW to reduce competition and further degradation of the Oregon white oak woodland from shading.
- Replanting of both creation and enhancement areas with oak saplings and native understory species to augment and expand existing Oregon white oak habitat.
- Preserve the Bank through a conservation easement.

WILDLIFE HABITAT

The proposed development site plan will provide diverse habitat for a variety of large and small mammals, songbirds, waterfowl, amphibians, and insects by improving the condition of the existing Oregon White Oak habitat through creation and enhancement that includes replanting of oaks and native understory, removing invasive species, non-native debris, and impervious surfaces, and eliminating Douglas-fir encroachment.

ANTICIPATED FUNCTIONAL LIFT

The creation, enhancement, and Douglas-fir stand release activities proposed in the Bank will provide a variety of benefits lifting overall habitat functions. Invasive species eradication and installing oak trees and native understory in open areas will increase the site's potential to provide habitat by providing improved and increased diversity of plant species, structure, and interspersed habitat. Removing Douglas-fir competition will allow the existing oaks to increase branching and smaller oak trees to become better established. The changes will increase acorn production, provide additional food for wildlife, and support a greater diversity of wildlife species as will removing impervious surfaces and debris. All functions impacted by removing an oak tree at the project site will be fully mitigated at the Bank.

PROPOSED MITIGATION CREDITS

As stated in the MBI (October 28th, 2020), the local jurisdiction with regulatory authority will determine both how impacts are measured (i.e., square foot of canopy area/root zone, DBH, etc.) and the mitigation ratios required. The mitigation credits required for impacts to Oregon white oak will be determined by using the local jurisdiction's mitigation ratio (6:1) and multiplying this ratio by a "risk reduction factor" of 0.5. Impacts to high functioning Oregon White Oak Priority Habitat stands will be determined by the regulatory agencies on a case-by-case basis. Table 4 summarizes the impact type, mitigation ratio, and total credits proposed for compensation.

Table 4. Proposed Credit Purchase Summary

Impact Type	Impact Amount	Mitigation Ratio	Risk Reduction Multiplier	Mitigation Area Required	Proposed Credit Purchase
Canopy loss	0.08 acres (3,456 sq. ft.)	6:1	0.5	0.238 acres (10,368 sq. ft.)	0.238 credits

CREDIT PURCHASE OR TRANSFER TIMING

Following permit issuance, PAK USA Camas, LLC, as the applicant, will enter into a Buy/Sell Agreement with Terrace Oak Bank, for purchase of mitigation credits (in the quantity specified in Table 3) that would appropriately mitigate for the proposed project impacts. The actual purchase of credits will occur upon permit issuance. Prior to impacting the project oak, the applicant will submit proof of transfer of mitigation credits to project managers for the City of Camas. Proof of the mitigation transfer will be provided in the form of a notification letter to the approving agencies. Upon service of this notification, the mitigation requirement to purchase 0.238 mitigation credits will be fully satisfied.

CONFIRMATION OF MITIGATION CREDIT AVAILABILITY

Proof of the current number of available mitigation credits at the Terrace Oak Bank site will be confirmed by the approving agency, City of Camas and through the advising members of the Oak Bank Review Team.

Chair:

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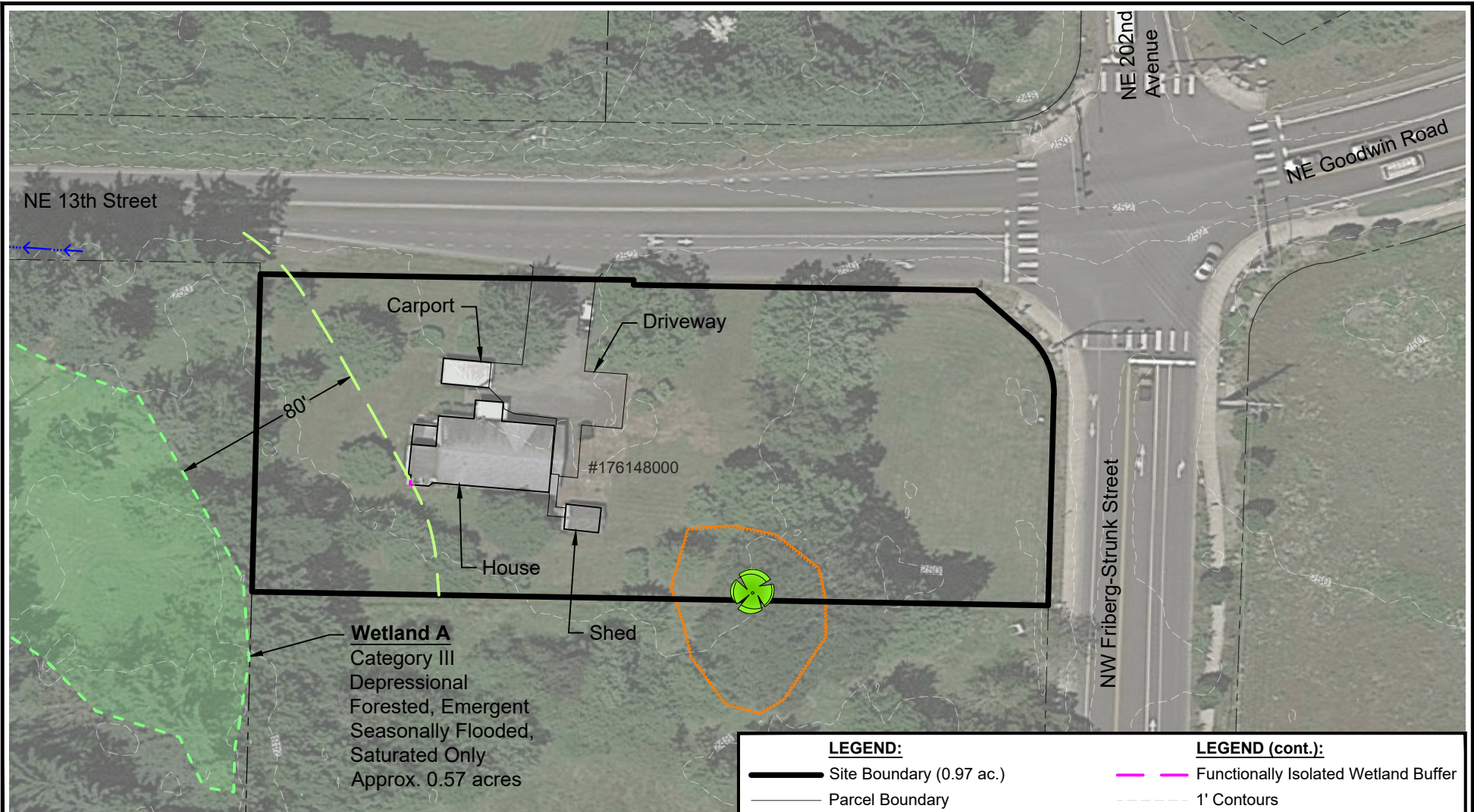
LIMITATIONS

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

REFERENCES

- City of Camas. 2023. *Camas Municipal Code (CMC) Title 16 Environment*. Camas, Washington. July 31, 2023.
- Ecological Land Services, Inc. (ELS). 2020. *Mitigation Banking Instrument for the Terrace Oak Bank, Clark County, Washington*. October 2020.
- Ecological Land Services, Inc. (ELS). 2024. *Critical Areas Report for 13th Street Gas Station, Camas, Washington*. May 2, 2024.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1. U.S. Army Corps of Engineer Waterways Experiment Station. Vicksburg, Mississippi.
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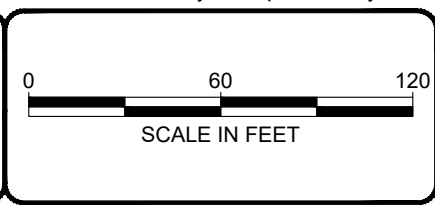
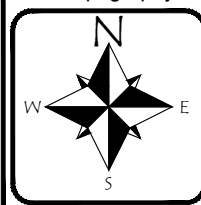
FIGURES



NOTE(S):

1. Aerial from Google Earth™ (6/17/2021).
2. Site boundary, oak tree location, and oak dripline surveyed by PLS Engineering, Inc.
3. Parcel data from Clark County GIS Department.
4. Topography from 2013 Clark County Lidar provided by WDNR at <https://lidarportal.dnr.wa.gov>.

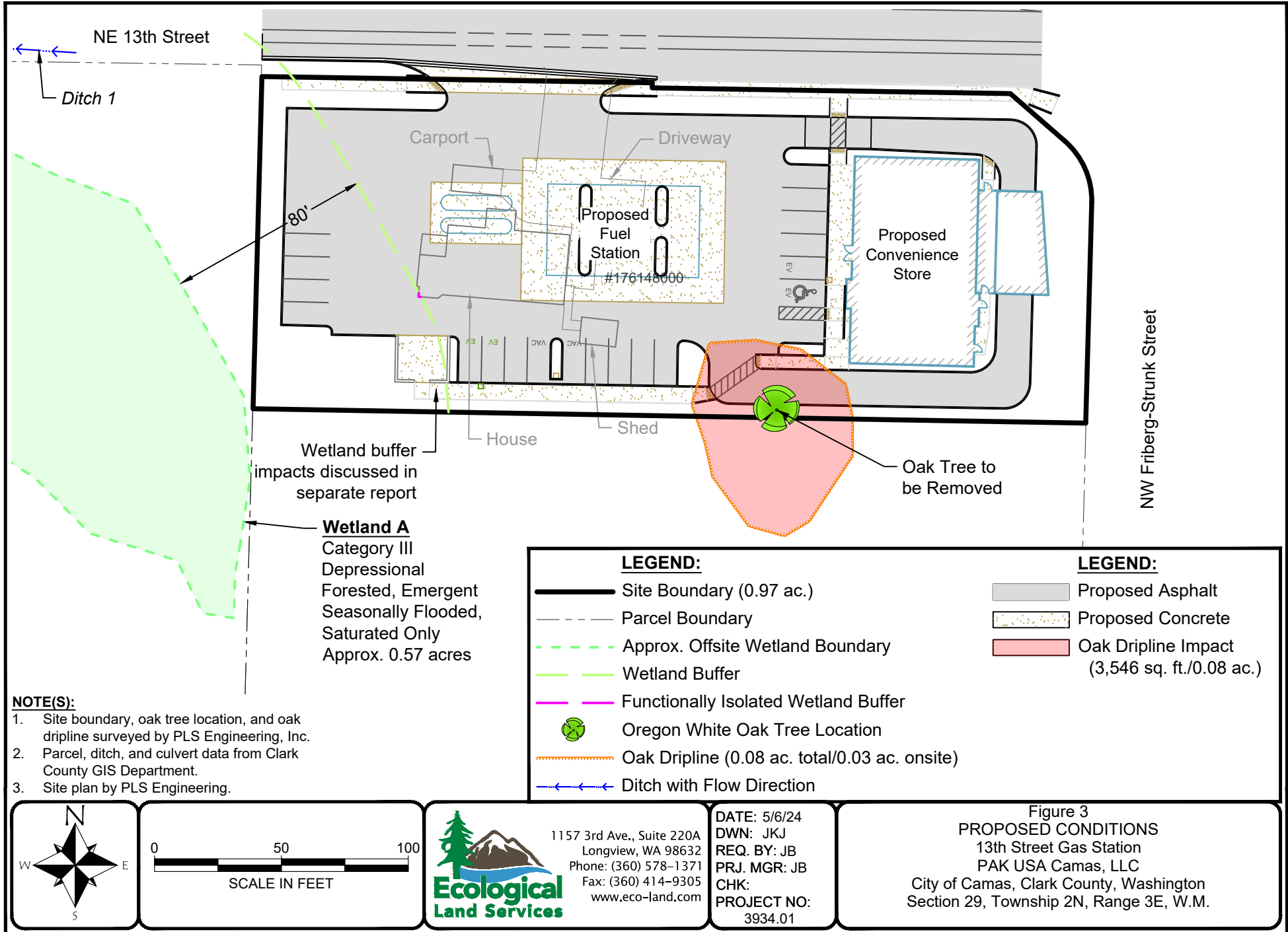
LEGEND:	LEGEND (cont.):
Site Boundary (0.97 ac.)	Functionally Isolated Wetland Buffer
Parcel Boundary	1' Contours
Oregon White Oak Tree Location	
Oak Dripline (0.08 ac. total/0.03 ac. onsite)	
Approx. Offsite Wetland Boundary	
Wetland Buffer	



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DATE: 5/6/24
 DWN: JKJ
 REQ. BY: JB
 PRJ. MGR: JB
 CHK:
 PROJECT NO:
 3934.01

Figure 2
 EXISTING CONDITIONS
 13th Street Gas Station
 PAK USA Camas, LLC
 City of Camas, Clark County, Washington
 Section 29, Township 2N, Range 3E, W.M.

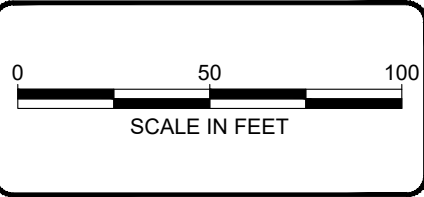


Wetland buffer impacts discussed in separate report

Wetland A
 Category III
 Depressional
 Forested, Emergent
 Seasonally Flooded,
 Saturated Only
 Approx. 0.57 acres

LEGEND:		LEGEND:	
	Site Boundary (0.97 ac.)		Proposed Asphalt
	Parcel Boundary		Proposed Concrete
	Approx. Offsite Wetland Boundary		Oak Dripline Impact (3,546 sq. ft./0.08 ac.)
	Wetland Buffer		
	Functionally Isolated Wetland Buffer		
	Oregon White Oak Tree Location		
	Oak Dripline (0.08 ac. total/0.03 ac. onsite)		
	Ditch with Flow Direction		

- NOTE(S):**
1. Site boundary, oak tree location, and oak dripline surveyed by PLS Engineering, Inc.
 2. Parcel, ditch, and culvert data from Clark County GIS Department.
 3. Site plan by PLS Engineering.

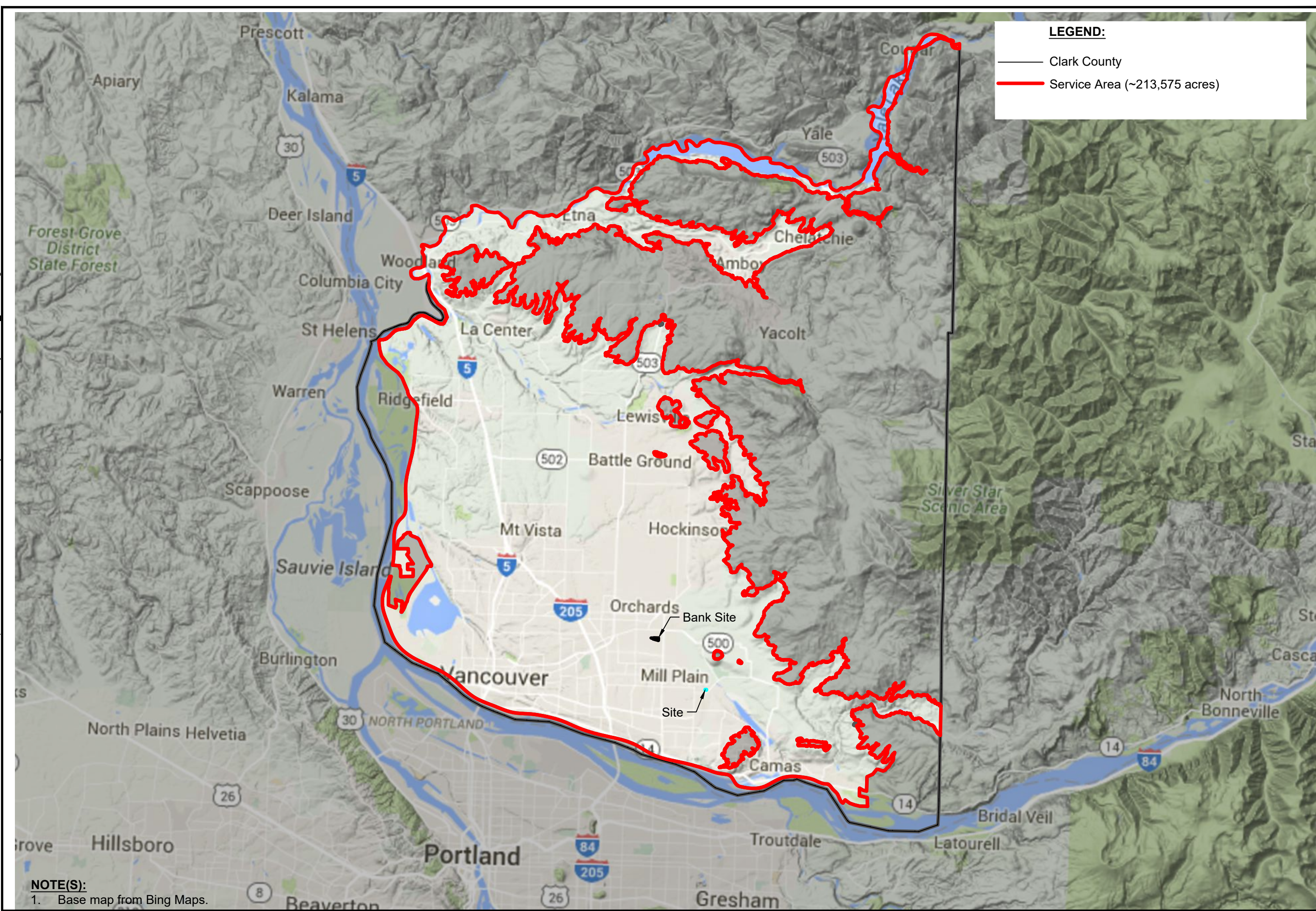


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Figure 3
PROPOSED CONDITIONS
 13th Street Gas Station
 PAK USA Camas, LLC
 City of Camas, Clark County, Washington
 Section 29, Township 2N, Range 3E, W.M.

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LEGEND:

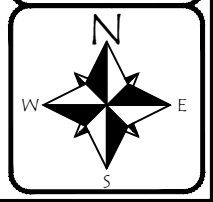
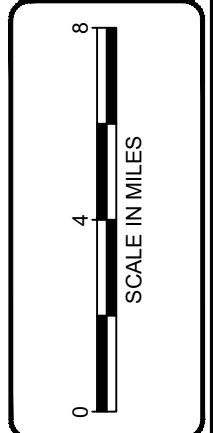
- Clark County
- Service Area (~213,575 acres)

NOTE(S):
 1. Base map from Bing Maps.

Figure 4
TERRACE OAK BANK SERVICE AREA
 13th Street Gas Station
 PAK USA Camas, LLC
 City of Camas, Clark County, Washington
 Section 29, Township 2N, Range 3E, W.M.








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LEGEND:

-  Terrace Oak Mitigation Bank
-  Creation
-  Enhancement
-  Upland Forest Preservation
-  Stand Release
-  Impervious Surface/Debris
-  Water Line Easement

Activity Proposed	Acreage	Proposed Ratio	Credit Generated
Impervious Surface and Debris Removal and Soil Prep	0.63 acres	1 : 1	0.63 acres
Oak Habitat Creation Outside of Existing Oak Stand	6.84 acres	1 : 1	6.84 acres
Douglas Fir Stand Release	3.34 acres	0.4 : 1	8.35 acres
Enhancement of Existing Oak Stand	3.20 acres	0.4 : 1	8.00 acres
Upland Forest Preservation	0.50 acres	0.5 : 1	1.00 acres
Totals	14.51 acres¹		24.82 acres

¹Total acreage includes areas of activity overlap and does not include 0.05 acres of water line easement, so is not reflective of the 13.93 acres represented in the legal survey of Oak Bank area.

Table 2. Oak Mitigation Bank Activity Descriptions.

Activity Proposed	Type of Activity/Area
Impervious Surface and Debris Removal and Soil Prep	<ul style="list-style-type: none"> Includes: Buildings, driveways, gravel pads or any other impervious area to be removed (regardless of whether oak tree canopy already covers the area) Removal of debris piles throughout the site Loosening of soils following impervious/debris removal
Oak Habitat Creation Outside of Existing Oak Stand	<ul style="list-style-type: none"> Includes open areas of all types not currently covered by oak canopy Areas to be replanted with oak saplings and native understory
Douglas Fir Stand Release	<ul style="list-style-type: none"> Includes area of dense fir canopy within existing oak stand Douglas fir over-story to be removed through harvest or tree girdling/snag creation
Enhancement of Existing Oak Stand	<ul style="list-style-type: none"> Includes areas of existing oak canopy Enhancement areas will have non-natives removed and understory planted with native shrubs typically associated with oak woodlands
Upland Forest Preservation	<ul style="list-style-type: none"> Includes areas of deciduous forest adjacent to oak canopy, providing upland forest habitat Area will be preserved through administration of a conservation easement

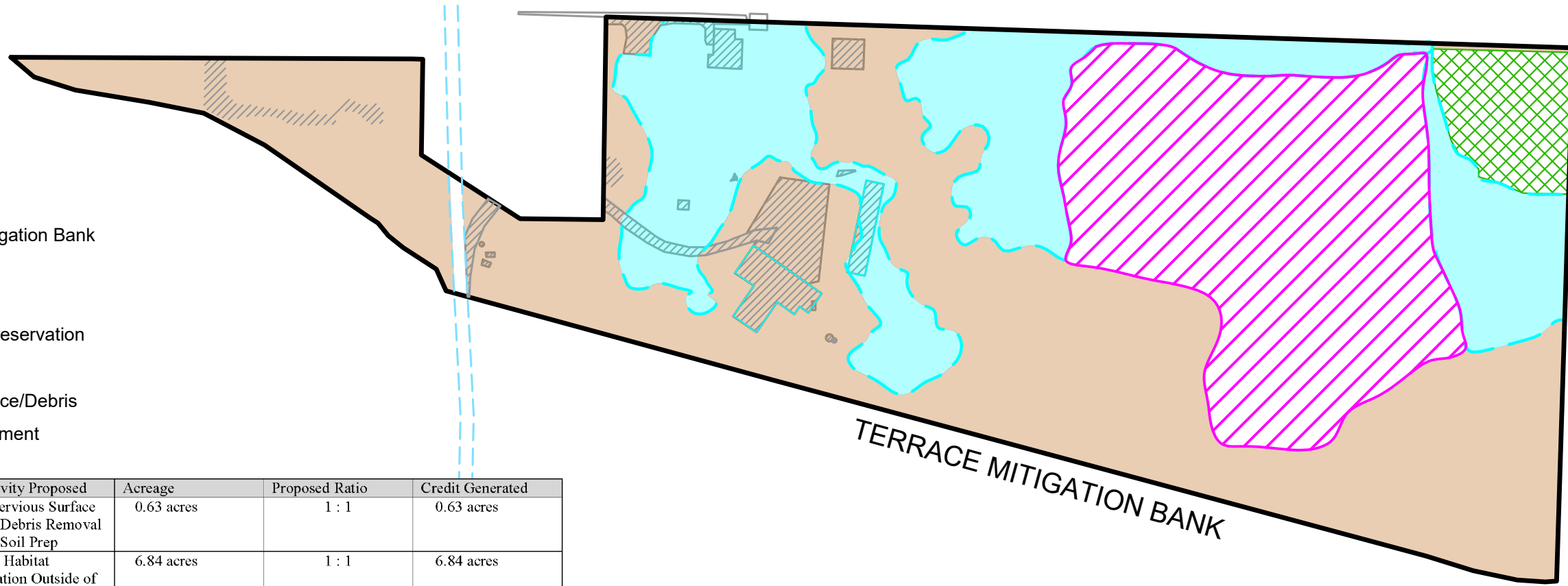


Figure 5
TERRACE OAK BANK SITE DESIGN
 13th Street Gas Station
 PAK USA Camas, LLC
 City of Camas, Clark County, Washington
 Section 29, Township 2N, Range 3E, W.M.

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