SHORELINE CRITICAL AREAS REPORT

Camas Well 13 PFAS Treatment Design

January 22, 2025

MSi Project No. 18581

MacKay Sposito

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Shoreline Critical Areas Report

Wetland Scientist Signature

Prepared by:

Signature

Sara Hastings

Printed Name

January 22, 2025

Date

1. Introduction

This report details the results of critical areas investigations conducted for the City of Camas (City) by MacKay Sposito (MSi) to address the Environmental Protection Agency's poly-fluoroalkyl substance (PFAS) requirements by building a new PFAS treatment facility and associated infrastructure on the existing Well 13 site.

This shoreline critical areas report describes the current conditions and the extent of wetlands and fish and wildlife habitat conservation areas (FWHCA) regulated locally by:

- Camas, Washington Municipal Code (CMC) Chapter 16.53 Wetlands and Chapter 16.61 FWHCA
- Camas Shoreline Master Program (SMP 2021)

1.1 Location

Location information for the project study area (PSA) for the Camas PFAS project (Project) is provided in Table 1 and a vicinity map is provided in Appendix A.

Table 1. Location of the PSA

Location	PSA Information
City	Camas
County	Clark
Situs Address	135 SE Cramer Ln, Camas, Washington 98607
PLSS	Township 01N, Range 03E, Section 11, NE ¼ Township 01N, Range 03E, Section 12, NW ¼
PSA Area (acres)	1.40
Tax Lot ID(s)	90928000, 91031000, 91034000

1.2 Project Description

The applicant proposes to construct a new PFAS treatment facility and associated infrastructure on the existing Well 13 site. Project elements include:

Stage 1

- Removal of the existing Well 4 building (Well 4 has been previously decommissioned)
- Replace the existing generator and expand the existing generator pad at the existing Well 13
- Install per- and poly-fluoroalkyl substances (PFAS) treatment equipment for the existing Well 13
- Expand the existing Well 13 electrical room
- Building addition (utility transformer pad) for a proposed new well
- A new driveway off E. 1st Avenue to facilitate a pump crane truck
- Construct a 5-foot wide concrete sidewalk along SE Cramer Lane

Stage 2

- Construction of a new water well and chemical room in the northern portion of the site as an extension of the new electrical room built as part of Stage 1

2. Landscape Setting, Land Use, and Existing Conditions

2.1 Site Description

The PSA includes two buildings, an abandoned well (Well 4) and Well 13. Surrounding land use to the north, east, and west consists of high-density residential development, with Lacamas Creek to the south. The topography gently slopes to the south-southeast but is generally level in the north and central portions. The southern portion of the PSA, waterward of the top of the bank, slopes steeply (58 percent slopes) toward Lacamas Creek. Vegetation in the north and central portion of the PSA consists of landscaped and ornamental native and non-native trees and shrubs, a native balsam poplar (*Populus balsamifera*) and black walnut (*Juglans nigra*). Typical lawn species, mixed with a small percentage of other herbaceous plants, are present and routinely mowed and maintained throughout. Vegetation in the southern portion of the PSA consists of one Oregon white oak (*Quercus garryana*), Douglas fir (*Pseudotsuga menziesii*), cottonwood, and beaked hazelnut (*Corylus cornuta*) within the greenway at the top of the bank and Himalayan blackberry (*Rubus armeniacus*) along the steep slopes. Lacamas Creek, a Type S stream, is a shoreline of state-wide significance and runs along the southern PSA boundary.

2.2 Site Alterations

Elevated roads (E 1st Ave and SE Cramer Ln) are located on the north and east sides of the PSA, respectively. A gravel path bisects the PSA from east to west within the central portion. These roads divert surface water flows from historical paths. Historic gravel fill material is present throughout the PSA, altering hydrology. Development within the PSA and surrounding area has increased stormwater runoff and reduced groundwater recharge.

3. Methods

3.1 Desktop Review

Prior to the May 2, 2024, site visit, MSi conducted a desktop review of potential critical areas within the PSA. Resources reviewed (Appendix A) included:

- Aerial photos (ESRI 2023)
- Clark County GIS MapsOnline (Clarky County 2024)
- Water Quality Atlas (Ecology 2024)

- LiDAR digital terrain model (DTM) and digital surface model (DSM); (WDNR 2019)
- National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region Web Map (NOAA 2024a)
- NOAA Regional Climate Centers (NOAA 2024b)
- USDA Web Soil Survey (NRCS 2024)
- US Army Corps of Engineers (USACE) Antecedent Precipitation Tool (APT)(USACE 2024)
- US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC)(USFWS 2024a)
- USFWS National Wetlands Inventory (NWI)(USFWS 2024b)
- Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS)(WDFW 2024a)
- Statewide Washington Integrated Fish Distribution (SWIFD) Web Map (WDFW 2024b)
- Washington Department of Natural Resources (WDNR) Washington Natural Heritage Program Data Explorer Web Map (WDNR 2024a)

3.2 Wetland Delineation

MSi Wetland Scientists conducted field investigations on May 2, 2024. The Western Mountains, Valleys, and Coasts Regional Supplement (USACE 2010) to the routine method outlined in the USACE's Wetland Delineation Manual (Environmental Laboratory 1987) was utilized to determine if wetlands were present. The USACE National Wetland Plant List (USACE 2022) was used to determine the indicator status of plant species identified within sample plots. The Munsell Soil Color Chart (Munsell Color 2009) was used to determine soil colors. Precipitation analysis was accomplished using the USACE APT for the 2023-2024 water year (USACE 2024a).

The location of the sample plots (Appendix B) was collected using a backpack-mounted Juniper Geode GPS Unit with an estimated accuracy within three feet, but they were not flagged due to their locations within a regularly mowed and maintained lawn. Ground-level photos were taken throughout the PSA to document representative conditions and observed critical areas (Appendix CAppendix C).

MSi wetland scientists met onsite with Meghan Flounlacker from Ecology, Joy Peplinski from WDFW, and Rob Charles from the City of Camas (Pers. Comm. 2024) on August 5, 2024, to discuss site conditions and the future construction of the (PFAS) treatment facility and associated infrastructure.

3.3 Fish and Wildlife Habitat Conservation Areas

3.3.1 Riparian Habitat Areas

Riparian Priority Habitat was identified by delineating the ordinary high-water mark (OHWM) of all legally accessible waterbodies within approximately 150 feet of the PSA (the largest buffer that could be

applied to riparian priority habitat). The location of the OHWM was determined using Ecology's methodology (Ecology 2016). The OHWM was identified using a combination of indicators, including undercut banks, vegetation transitions, breaks in slope, matted vegetation in the direction of flow, and watermarks. The field-delineated OHWM elevations were tied to LiDAR-derived contours (WDNR 2019) to extrapolate the full OHWM in locations where safety concerns prevented access due to steep slopes in the southeast corner of the PSA.

The location of the OHWM was collected using a backpack-mounted Juniper Geode GPS Unit with an estimated accuracy within three feet. Ground-level photos were taken throughout the PSA to document representative conditions and observed critical areas (Appendix C).

3.3.2 Listed Species and Priority Habitats and Species

During the desktop review, listed species, priority habitats, and species potentially present within the PSA were identified. During the site visits on May 2, 2024, suitable habitat for species identified during the desktop review were evaluated on-site during fieldwork using the best available science and professional judgment.

4. Results

4.1 Desktop Review

4.1.1 Precipitation Analysis

Precipitation was average (normal) for the three months preceding the field investigation, with an APT score of 11/18. Table 2 summarizes actual precipitation for the PSA, compared to the 30-year normal, for the May 2, 2024, site visit.

Table 2. Antecedent Precipitation Analysis for May 2, 2024

Date of Site Visit	Precipitation (inches)					
	Day of Site Visit	2 Weeks Prior	3 Months Prior			
			Month	Actual	30-70% of Normal	Within Normal Range
5/2/24	0.28	1.83	March	6.11	2.70-4.74	Wet
			April	3.10	3.46-4.83	Dry
			May	2.86	2.85-4.05	Normal

Sources: USACE 2024, NOAA 2024

4.1.2 Wetlands

The NWI (USFWS 2024b) and Clark County MapsOnline (Clark County 2024) identify potential wetland presence in Lacamas Creek's general location. MSi agrees with the mapping as it relates to the general location of Lacamas Creek (Appendix A, Figure 2).

4.1.3 Fish and Wildlife Habitat Conservation Areas

Clark County MapsOnline (Clark County 2024) identifies Lacamas Creek as a Shoreline of the State (WDNR Type S) and associated riparian habitat. PHS on the Web identifies salmonids within Lacamas Creek as well as steep slopes and Biodiversity Areas and Corridor associated with Lacamas Creek. MSi staff generally agree with the location of Lacamas Creek and its associated riparian habitat and the mapping of steep slopes. Salmonids are assumed to be present within Lacamas Creek (Appendix A, Figure 2).

4.2 Field Results

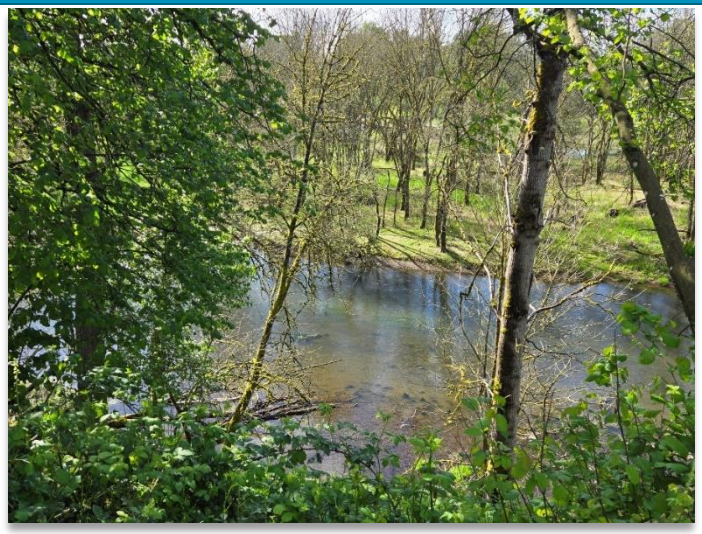
4.2.1 Wetlands

No wetlands were observed within the PSA. Special attention was paid to the microtopography as the north and central portions of the PSA are generally level. Two sample plots were taken within areas that appeared to sit lower in the landscape (not depressions) to document vegetation, soil, and hydrology conditions; these sample plots showed upland conditions (Appendix B).

4.2.2 Fish and Wildlife Habitat Conservation Areas

Lacamas Creek (Type S) is mapped at the southern extent of the PSA. The standard riparian buffer for a Type S stream is 150 feet (CMC 16.61.040.D), however; the City of Camas SMP 5.3.(2)(b) states that the FWHCA buffers lots fronting on First Avenue between SE Garfield St. and NE Third St., are modified to 20 feet from the top of slopes exceeding 40 percent (the PSA is located between SE Garfield St. and NE Third St. and slopes are approximately 58%). Shoreline management areas extend landward 200 feet on a horizontal plane from the OHWM and are under the jurisdiction of the City of Camas SMP (2021).

Table 3. Lacamas Creek FWHCA Summary

Attribute	Description	
Feature ID/Name	Lacamas Creek	
FWHCA Type	Water of the State	
WDNR Stream Type	Type S	
SED	Medium Intensity	
Stream Buffer Width	20 feet	
Substrate	Boulders, cobbles, silt, and sand	
Average Width	Bankfull width approximately 90 feet between north and south OHWMs	
Channel Condition	Steep stable banks (approximately 58 percent slopes)	
Fish Access	Yes	
OHWM Determination	The OHWM was delineated using debris wracking, sediment deposits, surface water, and matted vegetation in the direction of flow.	
Riparian Conditions	Within the PSA, dominant riparian vegetation consists of balsam poplar, black walnut, annual bluegrass (*Poa annua*), common dandelion (*Taraxacum officinale*), common selfheal (*Prunella vulgaris*), creeping buttercup (*Ranunculus repens*), and common daisy (*Bellis perennis*). Himalayan blackberry (*Rubus armeniacus*) dominates the bank slope.	
Figure Location	Appendix A, Figure 2. Existing Conditions	

Sources: CCMC 16.61.010, Clark County 2024, City of Camas SMP 5.3.(2)(b), City of Camas SMP (2021)

4.2.3 Priority Habitat and Species

4.2.3.1 Listed Species

No terrestrial species identified by the USFWS IPaC database as potentially present were observed within the PSA, and no suitable habitats for these species were observed within or near the PSA (USFWS 2024a). Listed threatened fish are mapped within Lacamas Creek (Table 4) and assumed to be present.

Table 4. State and Federally Listed, Threatened, Endangered, and Sensitive Species

Species	Species Run	Scientific Name	State Status	Federal Status
Lacamas Creek River				
Chinook [Lower Columbia River ESU]	*Fall Chinook*	*Oncorhynchus tshawytscha*	--	Threatened
Coho [Lower Columbia River ESU]	*Coho*	*Oncorhynchus kisutch*	--	Threatened
Steelhead [Lower Columbia River ESU]	*Summer Steelhead* *Winter Steelhead*	*Oncorhynchus mykiss*	Candidate	Threatened
Chum [Columbia River ESU]	*Fall Chum*	*Oncorhynchus keta*	--	Threatened
Dolly Varden/ Bull Trout	--	*Salvelinus confluentus*	Candidate	Threatened

Sources: NOAA 2024a, WDFW 2024b, WDFW 2024c, USFWS 2024a

4.2.3.2 Oregon White Oak

Oregon White Oak Woodlands are considered 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. In non-urbanized areas west of the Cascades, priority oak habitat consists of stands greater than one acre in size. In urban or urbanizing areas, single oaks or stands less than one acre may also be considered a priority when found particularly valuable to fish and wildlife (WDFW 2024).

One oak (Oak 1) measuring approximately 26 inches in diameter at breast height (dbh) was mapped in the southern portion of the PSA. Based on the WDFW functional assessment for individual oak trees, Oak 1 scored Medium Function (Nolan and Azerrad 2024). The functional assessment for Oak 1 is provided in Table 2.

Table 5. Functional Assessment for Individual Oregon White Oak Trees

Oak ID	DBH (inches)	Condition of Crown	Wildlife Value	Score
Oak 1	26	Suppressed/stunted	Leaves, dead branches	8

*High Function = Score 10; Medium Function = Score of 7-9; Low Function = Score 4-6; Minimal Function = Score ≤3

5. Impact Assessment

All permanent and temporary impacts to wetland and fish and wildlife habitat conservation areas will be avoided; no trees, or shrubs will be removed within the stream buffer, biodiversity area, or Oregon white oak dripline (Appendix A, Figure 3). As there are no permanent or temporary impacts to wetland and fish and wildlife habitat conservation area critical areas, no restoration or mitigation for these natural resources is proposed.

6. Disclaimer

The boundaries and classifications shown in this report have been determined using the most appropriate field techniques and the best professional judgment of the environmental scientist. It should be noted that Ecology and/or the City have the final authority to determine the boundaries and categories under their respective jurisdictions. All boundaries and associated buffers should be considered preliminary until they gain concurrence from the appropriate agencies. We recommend submitting this report to the agencies for concurrence prior to purchasing a property, starting any development, or planning activities that would affect regulated critical areas and shorelines on this site.

7. References

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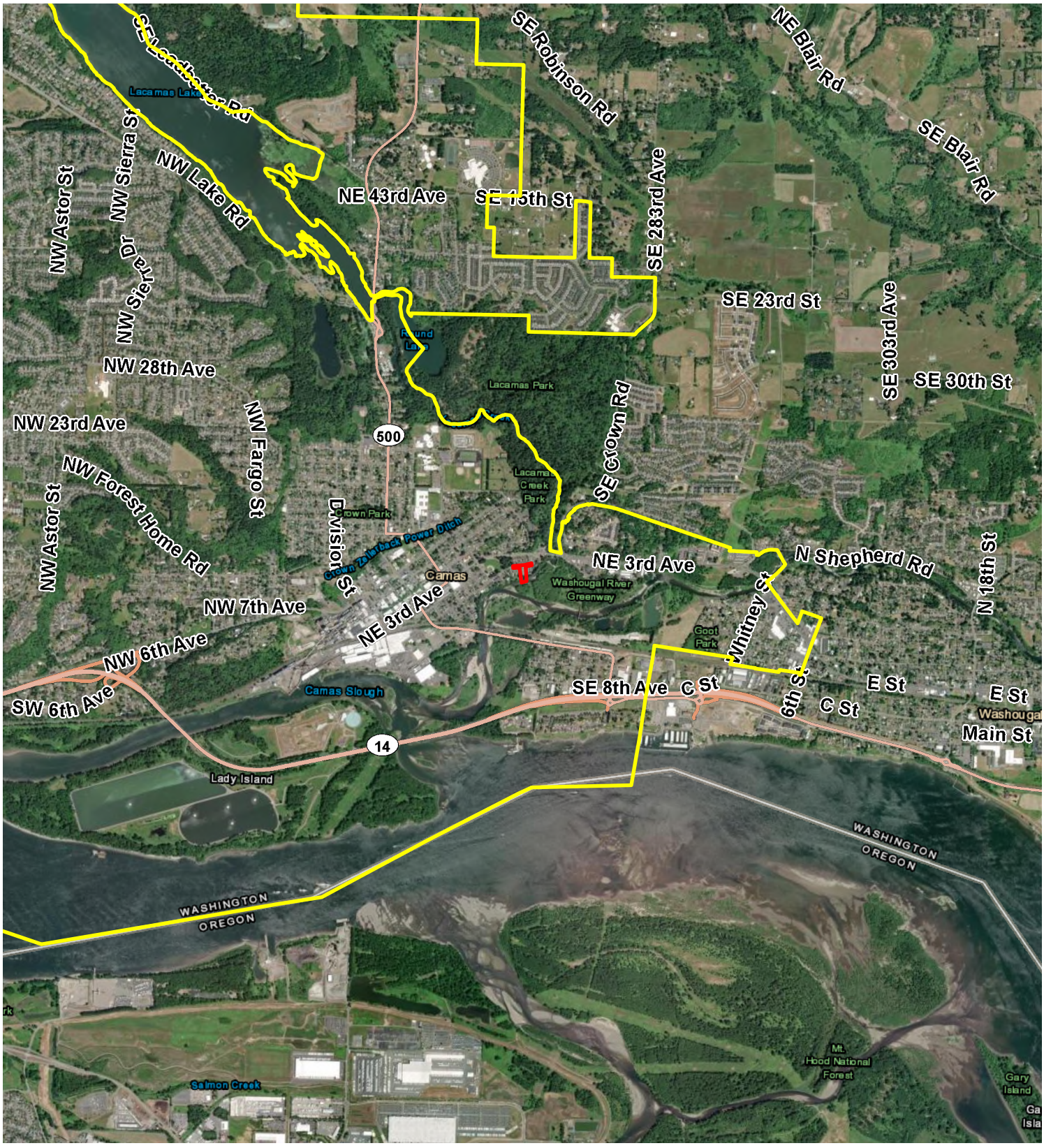
Appendix A

Maps



Data Sources: Basemap by ESRI. City Limits by Clark County. All other data created by MacKay Sposito. 1/8/2025

Camas City Limits

PSA Boundary (1.40 acres)

PSA Location: 45.6006846, -122.4303372

N

0 ¼ ½ ¾ 1 Miles

Figure 1. Vicinity Map

Camas Well 13 PFAS Treatment Design

MacKay Sposito

Data Sources: Basemap by ESRI. Contours , Top of Bank, and OHWM derived from WDNR 2013. Notes: FWHCA buffers for Washougal River, lots fronting on First Avenue between SE Garfield Street and NE Third Street, are modified to 20 feet from the top of slopes exceeding 40% per Camas SMP 5.3.(2)(b). All other data created by MacKay Sposito. 1/22/2025

- White Oak
- Sample Point
- Contour (2 feet)
- Top of Bank
- OHWM
- Oak Canopy Dripline
- PSA Boundary
- Impervious Surfaces
- Stream Buffer (20 feet from TOB)
- Shoreline Jurisdiction (200 feet)
- Camas Biodiversity Area
- Parcel
- Flow Direction

N

0 25 50 75 100 Feet

Figure 2. Existing Conditions

Camas Well 13 PFAS Treatment Design

MacKay Sposito

Data Sources: Basemap by ESRI. Contours , Top of Bank, and OHWM derived from WDNR 2013. All other data created by MacKay Sposito. 2/27/2025
Notes: FWHCA buffers for Washougal River, lots fronting on First Avenue between SE Garfield Street and NE Third Street, are modified to 20 feet from the top of slopes exceeding 40% per Camas SMP 5.3.(2)(b)

- Proposed Design
- Stage 2 Proposed Design
- Removed Impervious Surfaces
- Existing Impervious Surfaces
- Top of Bank
- OHWM

- White Oak
- Oak Canopy Dripline
- PSA Boundary
- Shoreline Jurisdiction (200 feet)
- Stream Buffer (20 feet from TOB)
- Camas Biodiversity Area
- Contour (2 feet)
- Flow Direction

N

0 25 50 75 100 Feet

Figure 3. Proposed Conditions Camas Well 13 PFAS Treatment Design

MacKay Sposito

Data Sources: Basemap by ESRI. NWI by USFWS. Wetlands Presence by Clark County. All other data created by MacKay Sposito. 1/8/2025

PSA Boundary
Wetlands Presence
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine

N

0 30 60 90 120 Feet

Figure 4. NWI and LWI

Camas Well 13 PFAS Treatment Design

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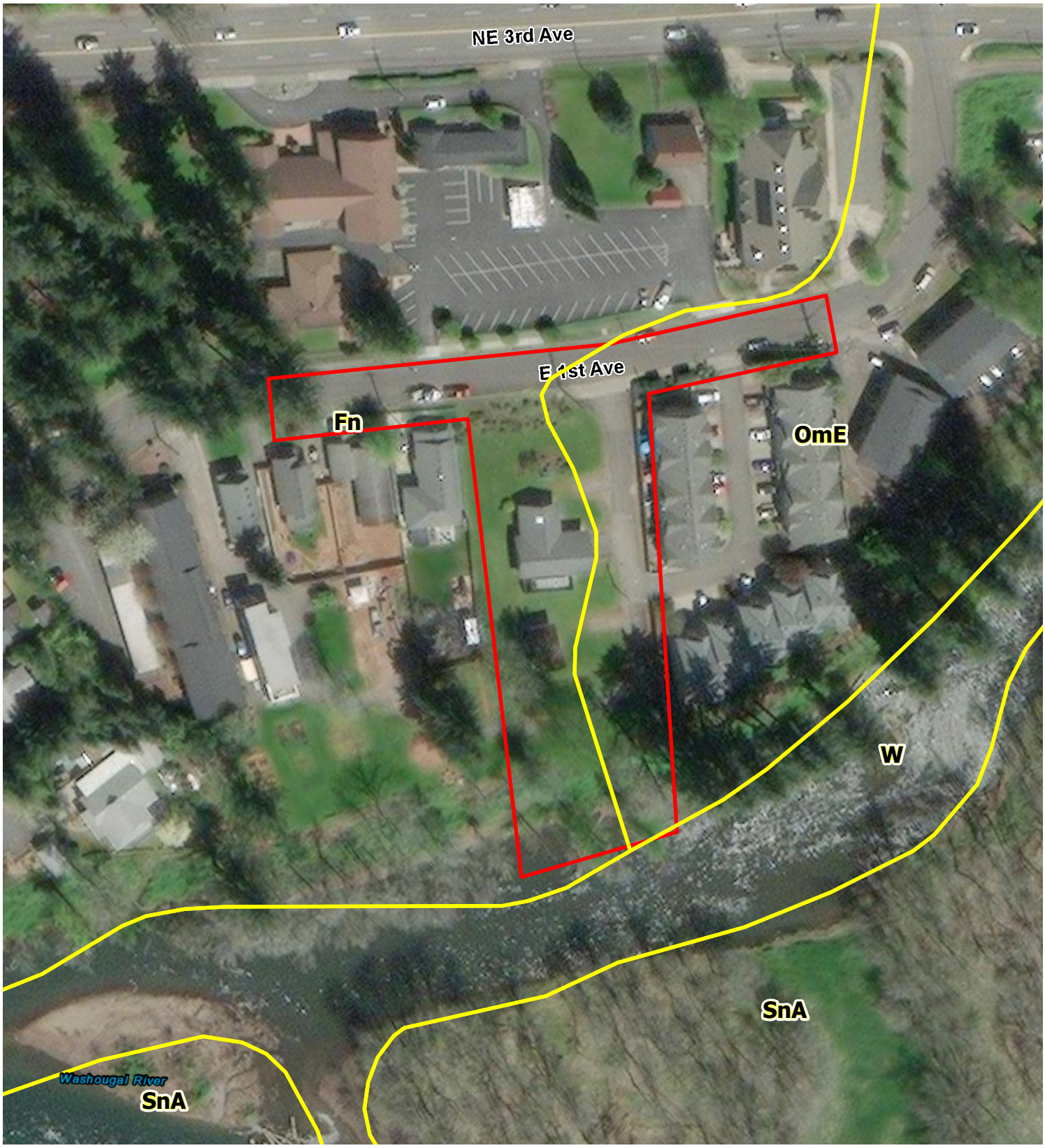

Data Sources: Basemap by ESRI. Soils by NRCS.
PSA created by MacKay Sposito. 1/8/2025

Figure 5. NRCS Soils

Camas Well 13 PFAS Treatment Design

NRCS Soil Map Units
PSA Boundary

*No hydric soils in the PSA

N

0 40 80 120 160 Feet

MacKay Sposito

Appendix B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Camas PFAS | City/County: Camas, Clark | Sampling Date: 05/02/2024
Applicant/Owner: City of Camas | State: Washington | Sampling Point: 001
Investigator(s): Sara Hastings, Brian Nikolas | Section, Township, Range: S12, T1N, R3E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): convex | Slope (%): <1
Subregion (LRR): A | Lat: 45.587959 | Long: -122.36333 | Datum: WGS 84
Soil Map Unit Name: Fill Land | NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X		
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
The sample plot location was chosen based on the lowest topographic position (not a depression) within the landscape.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus garryana*	10	Yes	FACU
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5-ft)			
1. *Acer circinatum*	5	Yes	FAC
2. *Vaccinium ovatum*	2	Yes	FACU
3. *Berberis vulgaris*	2	Yes	UPL
4.			
5.			
	9	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1. *Poa annua*	63	Yes	FAC
2. *Bellis perennis*	20	Yes	UPL
3. *Hypochaeris radicata*	10	No	FACU
4. *Taraxacum officinale*	5	No	FACU
5. *Geranium dissectum*	2	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	0
FAC species	____	x 3 =	0
FACU species	____	x 4 =	0
UPL species	____	x 5 =	0
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = 0.0

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/4	100		0			Silt Loam	See Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ___

Depth (inches): 6

Hydric Soil Present? Yes ___ No X

Remarks:

Gravel and fill layer below 6 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Camas PFAS | City/County: Camas, Clark | Sampling Date: 05/02/2024
Applicant/Owner: City of Camas | State: Washington | Sampling Point: 002
Investigator(s): Sara Hastings, Brian Nikolas | Section, Township, Range: S12, T1N, R3E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): convex | Slope (%): <1
Subregion (LRR): A | Lat: 45.587496 | Long: -122.3936 | Datum: WGS 84
Soil Map Unit Name: Fill Land | NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
The sample plot was taken in the lowest topographic position (not a depression) within the landscape.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa*	40	Yes	FAC
2. *Juglans nigra*	20	Yes	UPL
3.			
4.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 5-ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5-ft)			
1. *Poa annua*	20	Yes	FAC
2. *Prunella vulgaris*	5	No	FACU
3. *Taraxacum officinale*	5	No	FACU
4. *Ranunculus repens*	2	No	FAC
5. *Bellis perennis*	2	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	34	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 66

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	0
FAC species	____	x 3 =	0
FACU species	____	x 4 =	0
UPL species	____	x 5 =	0
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = 0.0

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 002

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100		0			Silt Loam	Gravel and other small aggregate
10-16	10YR 3/3	99	10YR 5/8	1	C	M	Silt Loam	No gravel/aggregate in this layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Evidence of fill material from 0-10 inches below ground surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
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- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Appendix C

Ground Level Color Photographs

Camas Well 13 PFAS Treatment Design

Shoreline Critical Areas Report

Photo 1

The photo was taken during the May 2, 2024, field visit facing west in the northeast corner of the PSA. General vegetation consists of frequently mowed grasses and herbaceous species, while landscaping consists of native and non-native tree and shrub species.

Photo 2

This photo was taken during the May 2, 2024, field visit facing north in the west-central portion of the PSA. Well 13 is pictured at the top right of the photo, with stormwater grates pictured at the bottom of the photo.

Photo 3

This photo was taken during the May 2, 2024, field visit facing south in the southwest portion of the PSA toward the top of the steep bank of Lacamas Creek within the stream buffer. Riparian habitat consists of routinely mowed and maintained lawn and landscaping, creating low ecological function. No impacts within the stream buffer are proposed.

Photo 4

Photo of an Oregon white oak (*Quercus garryana*) taken during the May 2, 2024, field visit in the southern portion of the PSA within the Lacamas Creek stream buffer. The Oregon white oak measured 26 inches in diameter at breast height (dbh) with a suppressed/stunted crown due to the nearby Douglas fir. The Oregon white oak will be entirely avoided by the project.

Photo 5

Photo of the gravel access path at the northern extent of the Lacamas Creek stream buffer taken on May 2, 2024, facing west in the southern portion of the PSA. The steep slope and Lacamas Creek are to the left of the photo.

Photo 6

Photo of abandoned well (Well 4 building), which will be removed by the project, taken on May 2, 2024, facing northwest in the southern portion of the PSA. Well 13 pictured at photo right.

Photo 7

The photo was taken on May 2, 2024, facing north in the southeast portion of the PSA. Well 13 is pictured center-left, and shared driveway access (SE Cramer Lane) is at right.

Photo 8

Photo taken on May 2, 2024, facing west in the south portion of the PSA along Lacamas Creek. Evidence of debris wracking, one of the indicators used to determine the ordinary high water mark, is pictured above the tree in the center of the photo.

Photo 9

Photo taken on May 2, 2024, facing west in the southeastern portion of the PSA along the shoreline of Lacamas Creek. Invasive Himalayan blackberry (*Rubus armeniacus*) dominates the steep slope.

Photo 10

Photo taken on May 2, 2024, facing northeast in the southeastern portion of the PSA along the shoreline of Lacamas Creek. Invasive blackberry brambles cover the steep slopes, and high-density housing is pictured along the top of the slope.

Appendix D

USACE Antecedent Precipitation Tool

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Coordinates	45.587959, -122.393633
Observation Date	2024-05-02
Elevation (ft)	59.644
Drought Index (PDSI)	Moderate drought (2024-04)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-05-02	2.846063	4.049213	2.862205	Normal	2	3	6
2024-04-02	3.458662	4.834252	3.098425	Dry	1	2	2
2024-03-03	2.701575	4.743307	6.110236	Wet	3	1	3
Result							Normal Conditions - 11

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
PORTLAND TROUTDALE AP	45.5511, -122.4097	24.934	2.663	34.71	1.291	9198	81
TROUTDALE	45.5533, -122.3886	33.136	1.032	8.202	0.473	1738	1
CAMAS 2.4 E	45.5845, -122.374	58.071	2.882	33.137	1.392	3	8
PORTLAND WFO	45.5608, -122.5383	20.997	6.258	3.937	2.841	315	0
PORTLAND INTL AP	45.5958, -122.6092	21.982	10.131	2.952	4.589	98	0

SHORELINE NARRATIVE

Camas Well 13 PFAS Treatment Design

February 28, 2025

MSi Project No. 18581

MacKay Sposito

www.mackaysposito.com

1. Table of Contents

2. Appendices

Appendix A – Figures

Appendix B – Site Plan

Camas Well 13 PFAS Treatment Design

Shoreline Narrative

Wetland Scientist Signature

Prepared by:

Signature

Kristen Currens

Printed Name

February 28, 2025

Date

1. Introduction

1.1 Purpose

The following document presents a Shoreline Conditional Use Permit Narrative (Narrative) prepared by MacKay Sposito (MSi) for the City of Camas (Applicant) and the Camas Well 13 PFAS Treatment Design Project (Project). The Narrative discusses the proposed development, current conditions, and how the Project will meet the development regulations codified in the Camas Shoreline Master Program (SMP 2021).

On August 5, 2024, MSi scientists met onsite with Meghan Flounlacker from Ecology, Joy Peplinski from WDFW, and Rob Charles from the City of Camas (Pers. Comm. 2024) to discuss site conditions and the future construction of the PFAS treatment facility and associated infrastructure. This site visit was also held to support Ecology's conditional use review and solicit their input early in the project design.

1.2 Project Description/Background

The Applicant proposes constructing a new per- and poly-fluoroalkyl substances (PFAS) treatment facility and associated infrastructure on the existing Well 13 site. Project activities include:

Stage 1

- Removal of the existing Well 4 building (Well 4 has been previously decommissioned);
- Replace the existing generator and expand the existing generator pad at the existing Well 13;
- Install per- and poly-fluoroalkyl substances (PFAS) treatment equipment for the existing Well 13;
- Expand the existing Well 13 electrical room;
- Building addition for a proposed new well;
- A new driveway off E. 1st Avenue to facilitate a pump crane truck

Stage 2

- Construction of a new water well and chemical room in the northern portion of the site as an extension of the new electrical room built as part of Stage 1.

1.3 Existing Conditions

Existing conditions on-site include two buildings, an abandoned well (Well 4), and an existing well (Well 13). Surrounding land use to the north, east, and west consists of high-density residential development, with Lacamas Creek to the south. The topography gently slopes to the south-southeast but is generally level in the north and central portions of the project site. Waterward from the top of the bank, the southern portion of the project site slopes steeply (58 percent slopes) to the south toward Lacamas Creek.

Vegetation in the north and central portion of the Project consists of landscaped and ornamental native and non-native trees (a native balsam poplar (*Populus balsamifera*) and black walnut (*Juglans nigra*)) and shrubs. Typical lawn species, mixed with a small percentage of other herbaceous plants, are present and routinely mowed and maintained throughout the central and northern portions of the shoreline jurisdiction. Vegetation in the southern portion of the Project consists of one Oregon white oak (*Quercus garryana*) and a mix of Douglas fir (*Pseudotsuga menziesii*), balsam poplar, and beaked hazelnut (*Corylus cornuta*) within the greenway at the top of the bank. Himalayan blackberry (*Rubus armeniacus*) dominates the steep slopes above Lacamas Creek (a Type S stream and shoreline of state-wide significance), which flows from east to west along the southern project site boundary.

1.4 Shoreline Designation and Required Setbacks

The project site is adjacent to Lacamas Creek, with a shoreline environmental designation (SED) of Medium Intensity. Utilities are a conditional use within the Medium Intensity shoreline designation, with a minimum setback of 50 feet from the Right-of-way (ROW) and a maximum structure height of 35 feet. This project is located more than 50 feet from the ordinary high water mark of Lacamas Creek, and its maximum structure height is 25 feet.

Table 1. Shoreline Use, Modification, and Development Standards (SMP Table 6-1)

SED	Use	Use per SED	Right-of-Way Setback (ft)	Maximum structure height (ft)
Medium Intensity	Utility	Conditional	50	35

2. Applicable Shoreline Master Program Regulations

The SMP code responses below assess how this Project meets the goals and policies of the Camas SMP. Excerpts from the SMP are in *italics* below, with responses in regular blue font. Only regulations that apply to the Project are addressed.

2.1 Chapter 5 General Shoreline Use and Development Regulations

All uses and development activities in shorelines shall be subject to the following general regulations in addition to the applicable use-specific regulations in Chapter 6.

2.1.1 5.1 General Shoreline Use and Development Regulations

1. *Shoreline uses and developments that are water-dependent shall be given priority.*

   Water-dependent development is not proposed with this project.

2. *Shoreline uses and developments shall not cause impacts that require remedial action or loss of shoreline functions on other properties.*

   This Project will not cause impacts that require remedial action or the loss of shoreline functions on other properties.

3. *Shoreline uses and developments shall be located and designed in a manner such that shoreline stabilization is not necessary at the time of development and will not be necessary in the future for the subject property or other nearby shoreline properties unless it can be demonstrated that stabilization is the only alternative that protects public safety and existing primary structures.*

   Shoreline development will occur approximately 31 feet from the top of the bank. Shoreline stabilization will not be necessary during the development or in the future.

4. *Land shall not be cleared, graded, filled, excavated or otherwise altered prior to issuance of the necessary permits and approvals for a proposed shoreline use or development to determine if environmental impacts have been avoided, minimized and mitigated to result in no net loss of ecological functions.*

   No work will be done within the shoreline jurisdiction prior to approval of this Shoreline Conditional Permit.

5. *Unless otherwise stated, no development shall be constructed, located, extended, modified, converted, or altered or land divided without full compliance with CMC Title 17 Land Development and CMC Title 18 Zoning.*

   Development will not occur until the City reviews and approves that the proposed application meets the requirements of CMC Title 17 Land Development and CMC Title 18 Zoning.

6. *Hazardous materials shall be disposed of and other steps be taken to protect the ecological integrity of the shoreline area in accordance with the other policies and regulations of this Program as amended and all other applicable federal, state, and local statutes, codes, and ordinances.*

   PFAS are present in the groundwater supply. The new PFAS treatment equipment contains a resin media that will remove the PFAS via absorption until the resin is depleted, after which; the resin will be removed from the site and hauled away for off-site incineration within an approved facility. Once the old resin is removed, new resin will be added.

   Additionally, the on-site generator will contain fuel in case of a power outage.

   All hazardous materials will be stored and maintained in safe and leak-proof containers, as local, state, and federal regulations require.

7. *The Applicant shall demonstrate all reasonable efforts have been taken to avoid, and where unavoidable, minimize and mitigate impacts such that no net loss of critical area and shoreline function is achieved. Applicants must comply with the provisions of Appendix C with a focus on mitigation sequencing per Appendix C, Section 16.51.160 Mitigation Sequencing. Mitigation Plans must comply with the requirements of Appendix C, Section 16.51.170 Mitigation Plan Requirements, to achieve no net loss of ecological functions.*

   Existing impervious surfaces (buildings and impermeable asphalt and gravel surfaces) total 0.06 acres within shoreline jurisdiction. With the removal of the Well 4 building, 0.01 acre are proposed to change from impervious to pervious. The proposed facility and infrastructure construction will increase to 0.09 acre of impervious surfaces post-construction, equating to a 0.03-acre net increase within shoreline jurisdiction in an area composed of regularly maintained non-native lawn grass (MSi 2025). Table 2 summarizes impacts within shoreline jurisdiction.

Table 2. Summary of Impacts within Shoreline Jurisdiction

Existing Impervious	Proposed Increase in Pervious	Proposed Increase in Impervious	Net Increase Impervious	Proposed Total Impervious
0.06 acres	0.01 acres	0.04 acres	0.03 acres	0.09 acres

   This plan has been prepared according to Ecology's shoreline no net loss and mitigation guidance (Ecology 2023). The Project will not result in the net loss of shoreline ecological functions. All impacts to critical areas and their buffers have been avoided. In addition, the project has been carefully designed to avoid all alteration or removal of native vegetation within shoreline jurisdiction.

   While there will be a 0.03-acre increase in impervious surface within shoreline jurisdiction, this increase is necessary to provide the hardened surface infrastructure required to meet the project's purpose of treating the drinking water supply for PFAS. To minimize impacts within shorelines, the Well 4 building will be removed, and the newly created pervious surface that does not overlap with the new development will be covered by permeable river rocks to enhance water infiltration and reduce the environmental impact of impervious surfaces. The design provides a sustainable, low-maintenance solution to manage water flow and support local ecosystems.

   Construction best management practices (BMPs) to manage stormwater runoff and minimize erosion and sedimentation will be implemented, which include:

   Designate staging and stockpile areas outside critical areas and buffers, establish standard construction entrances, vividly mark clearing limits, and install silt fencing at the edge of the disturbance to prevent sedimentation within remaining critical areas.

8. *Within urban growth areas, Ecology may grant relief from use and development regulations in accordance with RCW 90.58.580, and requested with a shoreline permit application.*

No relief from development regulations is requested with this application.

2.2 5.2 Archaeological, Cultural, and Historic Resources

When a shoreline use or development is in an area known or likely to contain archaeological artifacts as indicated on the City of Camas Archaeological Probability map, or as recorded at the state or county historical offices, then the applicant shall provide for a site inspection and evaluation by a professional archaeologist. Development permits may not be issued until the inspection and evaluation have been completed and the city has issued approval.

If an item of possible archeological interest is discovered on site, all work shall immediately cease and notification of such a find will be sent to the City, the Office of Archaeology and Historic Preservation and affected Native American tribes. Activities on site may resume only upon receipt of the City's approval.

An archaeological investigation has been completed and will be provided.

2.3 5.3 Critical Areas Protection

Critical Areas Regulations are found in Appendix C of this program and are specifically at Chapters 16.51 through 16.61. Provisions of the Critical Areas Regulations that are not consistent with the Shoreline Management Act, RCW Chapter 90.58, and supporting Washington Administrative Code chapters shall not apply in shoreline jurisdiction. These regulations are integral and applicable to this Program, except that:

1. *Non-conforming uses and development within the shoreline jurisdiction shall be subject to both this Program and Appendix C, and where there is a conflict, the most protective of environmental functions shall apply;*
2. *The Fish and Wildlife Habitat Conservation Area buffers for Stream Type S in Appendix C, Section 16.61.040 are modified as follows for the following areas:*
    a) *Columbia River, SR-14 to SE Third Avenue2 at twenty-feet (20').*
    b) *Washougal River, lots fronting on First Avenue between SE Garfield Street and NE Third Street, twenty-feet (20') from the top of slopes exceeding forty- percent (40%).*
    c) *Lacamas Lake buffers from OHWM shall not extend landward of NE Leadbetter Road.*
    d) *Columbia River, lots fronting on SE 12th Avenue and SE 11th Avenue between SE Polk Street and SE Front Street, shall be twenty-percent (20%) of lot depth as measured from the OHWM.*
3. *CMC Chapter 16.57 Frequently Flooded Areas applies within shoreline jurisdiction but is not incorporated as specific regulations of this SMP.*

The standard riparian buffer for a Type S stream is 150 feet (CMC 16.61.040.D); the City of Camas SMP 5.3.(2)(b) states that the Fish and Wildlife Habitat Critical Areas (FWHCA) buffers for lots fronting on First Avenue between SE Garfield St. and NE Third St., are modified to 20 feet from the top of slopes exceeding 40 percent (the PSA is located between SE Garfield St. and NE Third St. and slopes are approximately 58%). A Critical Areas Report is included with the City Land Use Application submittal for review and approval by the City (MSi 2025).

2.3.1.1 5.3.1 Applicable Critical Areas

For purposes of this Program, the following critical areas, as defined in Appendix C will be protected under this Program: Wetlands; Critical Aquifer Recharge Areas; Frequently Flooded Areas; Geologically Hazardous Areas; and Fish and Wildlife Habitat Conservation Areas.

All impacts to critical areas will be avoided.

2.4 5.5 Public Access

1. *Provisions for adequate public access shall be incorporated into all shoreline development proposals that involve public funding unless the proponent demonstrates public access is not feasible due to one or more of the provisions of Section 5.5 Regulation 2.a-e.*

   This project will utilize public funding. The public currently accesses the shoreline on this site, and that access will be maintained and upgraded through the construction of a 5-foot wide ADA-accessible sidewalk.

2. *Provisions for adequate public access shall be incorporated into all land divisions and other shoreline development proposals unless this requirement is clearly inappropriate to the total proposal. The nexus, proportionality, need, and support for such a connection shall be based on the policies of this Program. Public access will not be required where the proponent demonstrates one or more of the following:*

   Not applicable

3. *Public access sites shall be connected to a barrier free route of travel and shall include facilities based on criteria within the Americans with Disabilities Act Accessibility Guidelines.*

   The existing public access will be upgraded through the construction of a 5-foot wide ADA-accessible sidewalk.

4. *Public access shall include provisions for protecting adjacent properties from trespass and other possible adverse impacts to neighboring properties.*

   The site will be fenced off to screen and provide security for the PFAS equipment. However, there will be no changes to the existing public access. The Applicant proposes a 5-foot wide concrete sidewalk along the east side of the site/west side of SE Cramer Ln to provide additional accessibility to the shoreline area.

5. *A sign indicating the public's right of access to shoreline areas shall be installed and maintained in conspicuous locations.*

   A sign indicating the public's right to access the shoreline area will be installed and maintained in a conspicuous location.

6. *Required public access shall be developed at the time of occupancy of the use or activity.*

   The sidewalk will be constructed concurrently with the proposed project.

7. *Public access shall consist of a dedication of land or a physical improvement in the form of a walkway, trail, bikeway, corridor, viewpoint, park, deck, observation tower, pier, boat launching ramp, dock or pier area, or other area 43 Camas Shoreline Master Program serving as a means of view and/or physical approach to public waters and may include interpretive centers and displays.*

   The Applicant proposes a 5-foot wide concrete sidewalk along the east side of the site/west side of Cramer Lane to provide additional accessibility to the existing pathway along the greenway. This standard will be met.

8. *Public access easements and permit conditions shall be recorded on the deed of title and/or on the face of a plat or short plat as a condition running contemporaneous with the authorized land use, as a minimum. Said recording with the County Auditor's Office shall occur at the time of permit approval.*

   The City of Camas owns the property, so an easement will not be required.

2.5 5.6 Restoration

The Project will not impact the existing shoreline or critical areas, so no restoration is proposed.

2.6 5.7 Site Planning and Development

2.6.1 5.7.1 General

1. *Land disturbing activities such as grading and cut/fill shall be conducted in such a way as to minimize impacts to soils and native vegetation.*

   To ensure minimal disruption to the shoreline, the Applicant will submit an Erosion Control plan to the City for approval, implement the approved erosion control measures (BMPs) before grading begins, and limit grading activities within the shoreline jurisdiction to the greatest extent possible.

2. *Impervious surfaces shall be minimized to the extent feasible so as not to jeopardize public safety.*

   Impervious surfaces created by the development will include:

   - Removal of the existing Well 4 building (Well 4 has been previously decommissioned);
   - Replace the existing generator and expand the existing generator pad at the existing Well 13;

- Install per- and poly-fluoroalkyl substances (PFAS) treatment equipment for the existing Well 13;
- Expand the existing Well 13 electrical room;
- Building addition for a proposed new well;
- A new driveway off E. 1st Avenue to facilitate a pump crane truck;
- Construction of a new water well and chemical room in the site's northern portion as an extension of the new electrical room built as part of Stage 1.

The Project will result in 0.07 acres of new impervious surfaces, equating to a 0.06-acre net increase within shoreline jurisdiction. To minimize Impacts within the shoreline, the Well 4 building will be removed, and within the fenced facility and infrastructure, the newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rock to enhance water infiltration and reduce the environmental impact of impervious surfaces. This and existing stormwater collection, treatment, and detention systems will protect the facility, neighboring properties, and the shoreline.

3. *When feasible, existing transportation corridors shall be utilized.*

   The Project has existing frontage along 1st Ave and access to SE Cramer Ln.

4. *Vehicle and pedestrian circulation systems shall be designed to minimize clearing, grading, alteration of topography and natural features, and designed to accommodate wildlife movement.*

   Existing frontage access to the property from 1st Ave and SE Cramer Ln. will minimize the amount of grading and vegetation removal required on-site. For more information, see the Preliminary Plans included with the City Land Use (Appendix B – Site Plan).

5. *Parking, storage, and non-water dependent accessory structures and areas shall be located landward from the OHWM and landward of the water-oriented portions of the principal use.*

   Parking and storage will be located within the facility and unavailable for public use. All of these areas will be located landward of the OHWM.

6. *Trails and uses near the shoreline shall be landscaped or screened to provide visual and noise buffering between adjacent dissimilar uses or scenic areas, without blocking visual access to the water.*

   The water treatment facility will be fenced/walled with an 8-foot high-security palisade fence to provide security and screening for the PFAS equipment. This application does not propose landscaping or vegetative screening, as there will be no change to the existing use.

7. *Elevated walkways shall be utilized, as appropriate, to cross sensitive areas such as wetlands.*

   Not applicable; no elevated walkways are proposed.

8. *Fencing, walls, hedges, and similar features shall be designed in a manner that does not significantly interfere with wildlife movement.*

   An 8-foot high-security palisade fence will be installed around the facility's perimeter, but it will not enclose any natural areas.

9. *Exterior lighting shall be designed, shielded and operated to: a) avoid illuminating nearby properties or public areas; b) prevent glare on adjacent properties, public areas or roadways; c) prevent land and water traffic hazards; and d) reduce night sky effects to avoid impacts to fish and wildlife.*

   Proposed lighting will be limited to the street lighting required by the City Code and lighting typical of the existing PFAS treatment facility and associated infrastructure. Lights will be directed away from the shoreline and shielded to prevent light pollution.

10. *Utilities shall be located within roadway and driveway corridors and rights-of-way wherever feasible.*

    Utilities will be constructed on-site as necessary for the construction of the PFAS treatment system. A sanitary sewer connection will be made to the existing sanitary sewer manhole in SE Cramer Lane for wastewater disposal, and a connection will be made to the existing sanitary sewer line on the east side of the site for system flushing.

11. *A use locating near a legally established aquaculture enterprise, including an authorized experimental project, shall demonstrate that such use would not result in damage to or destruction of the aquaculture enterprise, or compromise its monitoring or data collection.*

    Not applicable; aquaculture is not proposed.

2.6.2 5.7.2 Clearing, Grading, Fill and Excavation

1. Clearing and grading shall be scheduled to minimize adverse impacts, including but not limited to, damage to water quality and aquatic life.

   The Project will provide appropriate erosion control. BMPs will be installed prior to site grading, which will only occur during the dry season.

2. Clearing and grading shall not result in substantial changes to surface water drainage patterns off the project site and onto adjacent properties.

   Currently, surface water drainage flows to an existing stormwater collection system on-site. Drainage patterns will continue to flow into the existing stormwater collection system following the completion of the proposed development. Additionally, to minimize Impacts within the shoreline, the Well 4 building will be removed, and within the fenced facility and infrastructure, the newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rock to enhance water infiltration and reduce the environmental impact of impervious surfaces.

3. *Developments shall include provisions to control erosion during construction and to ensure preservation of native vegetation for bank stability.*

   The Applicant will submit an Erosion Control Plan for approval by the City and install approved erosion control BMPs before beginning site grading. The BMPs will remain in place until site construction is complete.

4. *Grading and grubbed areas shall be planted with a cover crop of native grasses until construction activities are completed.*

   All vegetation and ground disturbance that will not be replaced with impervious surfaces will be planted with a native grass seed mix until the construction activities are completed. There are currently no native grasses or other native vegetation within the impacted portion of the shoreline jurisdiction.

5. *Clearing, filling, or excavation shall not be conducted where shoreline stabilization will be necessary to protect materials placed or removed. Disturbed areas shall be stabilized immediately and revegetated with native vegetation.*

   No grading will occur in a location where shoreline stabilization will be necessary.

6. *Fills shall be permitted only in conjunction with a permitted use and shall be of the minimum size necessary to support that use. Speculative fills are prohibited.*

   No speculative fills are proposed. This standard does not apply.

7. *Soil, gravel or another substrate transported to the site for fill shall be screened and documented that it is uncontaminated. Use of polluted dredge material or materials normally disposed of at a solid waste facility is prohibited.*

   Noted.

8. *Fills shall be designed and placed to allow surface water penetration into groundwater supplies where such conditions existed prior to filling.*

   Noted.

9. *Fills must protect shoreline ecological functions, including channel migration processes.*

   Within the fenced facility and infrastructure, the newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rock to enhance water infiltration and reduce the environmental impact of impervious surfaces. The proposed project is not located within a channel migration zone.

10. *Fill waterward of OHWM shall only be allowed as a conditional use (except for beach nourishment or enhancement projects) and then only when necessary for the following activities: to support a water-dependent or public access use; cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan; expansion or alteration of transportation facilities of statewide significance under specific circumstances; mitigation action; and environmental restoration*.

Fill waterward of the OHWM is not proposed.

11. *Fills for beach nourishment or enhancement projects are subject to a substantial development permit. In the Columbia River, fills shall be prohibited between the OHWM and minus fifteen (-15) feet CRD, unless shallow water habitat will be created as mitigation.*

    Fills for beach nourishment or enhancement are not proposed.

12. *Excavation below the OHWM is considered dredging and subject to provisions under that section in Chapter 6.*

    No excavation will occur below the OHWM.

13. *Upon completion of construction, remaining cleared areas shall be replanted with native species as approved by the city. Replanted areas shall be maintained such that within three (3) years' time the vegetation is fully re-established.*

    Within the fenced facility and infrastructure, the newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rock to enhance water infiltration and reduce the environmental impact of impervious surfaces.

14. *For the purposes of this Program, preparatory work associated with the conversion of land to non-forestry uses and/or developments shall not be considered a forest practice and shall be reviewed in accordance with the provisions for the proposed non-forestry use, the general provisions of this Program, and shall be limited to the minimum necessary to accommodate an approved use.*

    This site was not previously converted from foresty land.

2.6.3 5.7.3 Building Design

1. *Structures shall be designed to conform to natural contours and minimize disturbance to soils and native vegetation*

   The Project will conform to the natural contours and minimize disturbance to soil and native vegetation to the greatest extent practicable. Additionally, the Well 4 building will be removed, and the newly created pervious surface that does not overlap with the impact footprint will be covered by permeable river rocks to enhance water infiltration and reduce the environmental impact of impervious surfaces.

2. *Non-single-family structures shall incorporate architectural features that provide compatibility with adjacent properties, enhance views of the landscape from the water, and reduce scale to the extent possible.*

   The Project proposes to update the current water treatment facility to include a new PFAS treatment system and supporting infrastructure to address the Environmental Protection Agency's (EPA) PFAS requirements.

3. *Building surfaces on or adjacent to the water shall employ materials that minimize reflected light.*

No buildings are proposed on or adjacent to the water. Large native trees screen the proposed development from the water, meeting this standard.

4. *Façade treatments, mechanical equipment and windows in structures taller than two (2) stories, shall be designed and arranged to prevent bird collisions using the best available technology. Single-family residential structures shall be exempt from this provision.*

   While the proposed ion exchange tanks will be approximately 25 feet tall, no two-story buildings exist or are proposed on-site, so this standard does not apply.

2.7 5.8 Vegetation Conservation

1. *Removal of native vegetation shall be avoided. Where removal of native vegetation cannot be avoided, it shall be minimized to protect ecological functions.*

   No native vegetation will be removed by the project.

2. *If native vegetation removal cannot be avoided it shall be minimized and mitigated as recommended by a qualified biologist within a Critical Area Report and shall result in no net loss of shoreline functions. Lost functions may be replaced by enhancing other functions provided that no net loss in overall functions is demonstrated and habitat connectivity is maintained. Mitigation shall be provided consistent with an approved mitigation plan per Appendix C.*

   No native vegetation will be removed by the project.

3. *Clearing by hand-held equipment of invasive or non-native shoreline vegetation or plants listed on the State Noxious Weed List is permitted in shoreline locations if native vegetation is promptly re-established in the disturbed area.*

   Not applicable

4. *If non-native vegetation is to be removed, then it shall be replaced with native vegetation within the shoreline jurisdiction.*

   The project will not remove native shrubs or trees, only non-native lawn grasses. The newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rock to enhance water infiltration and reduce the environmental impact of impervious surfaces.

5. *Pruning of trees is allowed in compliance with the National Arborist Association pruning standards. Pruning must meet the following criteria:*
   a. *Removal of no more than twenty (20) percent of the limbs of any single tree may be removed; and*
   b. *No more than twenty (20) percent of canopy in a single stand of trees may be removed in a given five (5) year period without a shoreline permit.*

   No tree topping or pruning is proposed for this project.

6. *Topping trees is prohibited.*

   No tree topping or pruning is proposed for this project.

7. *If the city determines that a tree is hazardous as verified by an arborist report, then only the hazardous portion shall be removed. Complete removal should be avoided to the extent possible. The remainder of the tree shall remain to provide habitat functions and slope stability. Mitigation may be required to compensate for reduced tree surface area coverage.*

   No hazard trees have been identified on-site.

8. *Natural features such as snags, stumps, logs or uprooted trees, which do not intrude on the navigational channel or threaten or public safety, and existing structures and facilities, shall be left undisturbed.*

   Natural features within shoreline jurisdiction or critical areas will not be removed.

9. *Natural in-stream features such as snags, uprooted trees, or stumps should be left in place unless it can be demonstrated that they are not enhancing shoreline function or are a threat to public safety.*

   No features within the Lacamas Creek Shoreline will be removed.

10. *Aquatic weed control shall only occur to protect native plant communities and associated habitats or where an existing water-dependent use is restricted by the presence of weeds. Aquatic weed control shall occur in compliance with all other applicable laws and standards and shall be done by a qualified professional.*

    No aquatic weed control is proposed. This standard does not apply.

2.8 5.9 Visual Access

Visual access shall be maintained, enhanced, and preserved as appropriate on shoreline street-ends, public utility rights-of-way above and below the ordinary high water mark. Any new or expanded building or structure over thirty-five (35) feet in height above average grade level that obstructs the shoreline view of a substantial number of residences that are adjoining shorelines shall not be allowed in accordance with RCW 90.58.320.

No new buildings or additions exceeding 35 feet in height are proposed. Visual access will be maintained at the terminus of the easement for SE Cramer Lane, and access will be enhanced by the construction of a sidewalk along the west side of SE Cramer Lane to provide ADA access to an existing gravel pathway. Construction of the proposed PFAS equipment will not affect the shoreline view of residents in the general vicinity. There will be no changes to the existing public access.

2.9 5.10 Water Quality and Quantity

1. *The location, design, construction, and management of all shoreline uses and activities shall protect the quality and quantity of surface and ground water adjacent to the site.*
2. *All shoreline development shall comply with the applicable requirements of CMC Chapter 14.02 Stormwater Control.*

3. *Best management practices (BMPs) for control of erosion and sedimentation shall be implemented for all shoreline development in substantial compliance with CMC Chapter 14.06 Erosion and Sediment Control.*

   Surface and groundwater quality and quantity will be maintained by meeting the requirements of the City of Camas Stormwater Ordinance. Required stormwater plans and reports have been submitted meeting the requirements of CMC Chapter 14.02 Stormwater Control. Erosion and sedimentation control best management practices have been proposed, meeting the requirements of CMC Chapter 14.06 Erosion and Sediment Control. Please refer to the plans submitted with this application for more information regarding compliance with this section.

4. *Potentially harmful materials, including but not limited to oil, chemicals, tires, or hazardous materials, shall not be allowed to enter any body of water or wetland or to be discharged onto the land except in accordance with CMC Chapter 14.04 Illicit Discharges, dumping and Illicit Connections. Potentially harmful materials shall be maintained in a safe and leak-proof condition*

   No potentially harmful materials will enter any water body as a result of this project.

5. *Herbicides, fungicides, fertilizers, and pesticides shall not be applied within twenty-five (25) feet of a waterbody, except by a qualified professional in accordance with state and federal laws. Further, pesticides subject to the final ruling in Washington Toxics Coalition, et al., v. EPA shall not be applied within sixty (60) feet for ground applications or within three hundred (300) feet for aerial applications of the subject water bodies and shall be applied by a qualified professional in accordance with state and federal law.*

   This application does not propose the application of herbicides, pesticides, fungicides, or fertilizers within 25 feet of water.

6. *Any structure or feature in the Aquatic shoreline designation shall be constructed and/or maintained with materials that will not adversely affect water quality or aquatic plants or animals. Materials used for decking or other structural components shall be approved by applicable state agencies for contact with water to avoid discharge of pollutants.*

   No structure or feature is proposed in the Aquatic shoreline.

7. *Conveyance of any substance not composed entirely of surface and stormwater directly to water resources shall be by CMC Chapter 14.02.*

   No substance that is not composed entirely of surface and stormwater will be directly conveyed to water resources.

8. *Septic systems should be located as far landward of the shoreline and floodway as possible. Where permitted, new on-site septic systems shall be located, designed, operated, and maintained to meet all applicable water quality, utility, and health standards.*

   No septic systems are proposed. This standard does not apply.

2.10 6.3.15 Utilities Uses

These provisions apply to services and facilities that produce, convey, store, or process power, gas, wastewater, communications, and similar services and functions. On-site utility features serving a primary use, such as a water, sewer or gas line to a residence or other approved use are "accessory utilities" and shall be considered a part of the primary use.

As the existing use on site is as a municipal water well, the proposed PFAS treatment system is designed to remove PFAS and other substances from public drinking water.

1. *Whenever feasible, all utility facilities shall be located outside shoreline jurisdiction. Where distribution and transmission lines (except electrical transmission lines) must be located in the shoreline jurisdiction, they shall be located underground or within the footprint of an existing, built roadway.*

   The existing Well 13 site is currently located partially within the shoreline area. The proposed PFAS treatment system will be installed south of the existing Well 13 well and chemical building in the shoreline area. In addition, a new well and chemical building are proposed north of the proposed electrical room expansion. All distribution piping associated with the PFAS treatment system will be installed underground except where they daylight to connect to PFAS treatment system components.

2. *Where overhead electrical transmission lines must parallel the shoreline, they shall be no closer than one hundred (100) feet from OHWM unless topography or safety factors would make it unfeasible, then a shoreline conditional use permit shall be required.*

   No proposed overhead transmission lines paralleling the shoreline are proposed. This standard does not apply.

3. *Utilities shall be designed, located and installed in such a way as to preserve the natural landscape, minimize impacts to scenic views, and minimize conflicts with present and planned land and shoreline uses.*

   The Project will conform to the natural contours and minimize disturbance to soil and native vegetation to the greatest extent practicable. Additionally, the Well 4 building will be removed, and the newly created pervious surface that does not overlap with the new impact footprint will be covered by permeable river rocks to enhance water infiltration and reduce the environmental impact of impervious surfaces. There will be no changes to the existing public access, all structures within the development will be less than two stories (PFAS tanks will be 25' tall), and all other utilities will be piped underground. An eight-foot high-security palisade fence around the facility's perimeter will be installed, which will partially screen the PFAS equipment but will not enclose any natural areas.

4. *Transmission, distribution, and conveyance facilities shall be located in existing rights of way and corridors or shall cross shoreline jurisdictional areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage.*

   Not applicable.

5. *Utility production and processing facilities, such as power plants and wastewater treatment facilities, or parts of those facilities that are nonwater-oriented shall not be allowed in the shoreline jurisdiction unless it can be demonstrated that no other feasible option is available and will be subject to a shoreline conditional use permit.*

   The Applicant proposes constructing a new PFAS treatment facility and associated infrastructure on the existing Well 13 (water treatment) site to address the Environmental Protection Agency's PFAS requirements. Because the existing well is currently operative and native vegetation has been previously removed from the site, the existing location is the most feasible location for accessing groundwater (near Lacamas Creek) without creating additional shoreline impacts. The Project will be subject to the conditions of a Shoreline Conditional Use Permit from the City.

6. *Stormwater control facilities, limited to detention, retention, treatment ponds, media filtration facilities, and lagoons or infiltration basins, within the shoreline jurisdiction shall only be permitted when the following provisions are met: a. The stormwater facility is designed to mimic and resemble natural wetlands and meets the standards of CMC 14.02 Stormwater and the discharge water meets state water quality standards; b. Low impact development approaches have been considered and implemented to the maximum extent feasible.*

   A stormwater control facility is not proposed. Currently, surface water drainage flows to an existing stormwater collection system on-site. Drainage patterns will continue to flow into the existing stormwater collection system following the completion of the proposed development.

7. *New and modifications to existing outfalls shall be designed and constructed to avoid impacts to existing native aquatic vegetation attached to or rooted in substrate. Diffusers or discharge points must be located offshore at a distance beyond the nearshore area to avoid impacts to those habitats.*

   There are no new or modified outfalls associated with the project.

8. *Water reclamation discharge facilities (e.g. injection wells) are prohibited in the shoreline jurisdiction, unless the discharge water meets State Department of Ecology Class A reclaimed water standards. Proponents for discharge of Class A reclaimed water in the shoreline jurisdiction shall demonstrate habitat benefits of such discharge.*

   Water reclamation is not proposed.

9. *Where allowed under this program, construction of underwater utilities or those within the wetland perimeter shall be scheduled to avoid major fish migratory runs or use construction methods that do not cause disturbance to the habitat or migration.*

   There is no proposed construction of underwater utilities.

10. *All underwater pipelines transporting liquids intrinsically harmful to aquatic life or potentially detrimental to water quality shall provide automatic shut off valves.*

    No underwater pipelines are proposed.

11. *Upon completion of utility installation/maintenance projects on shorelines, banks shall, at a minimum, be restored to pre-project configuration, replanted and provided with maintenance care until the newly planted vegetation is fully established. Plantings at installation shall be at least 2" minimum caliper at breast height if trees, five-gallon size if shrubs, and ground cover shall be planted from flats at 12" spacing, unless other mitigation planting is recommended by a qualified biologist and approved by the Administrator.*

    Impacts to the bank are not proposed. All project work will occur above the top of bank of Lacamas Creek.

3. References

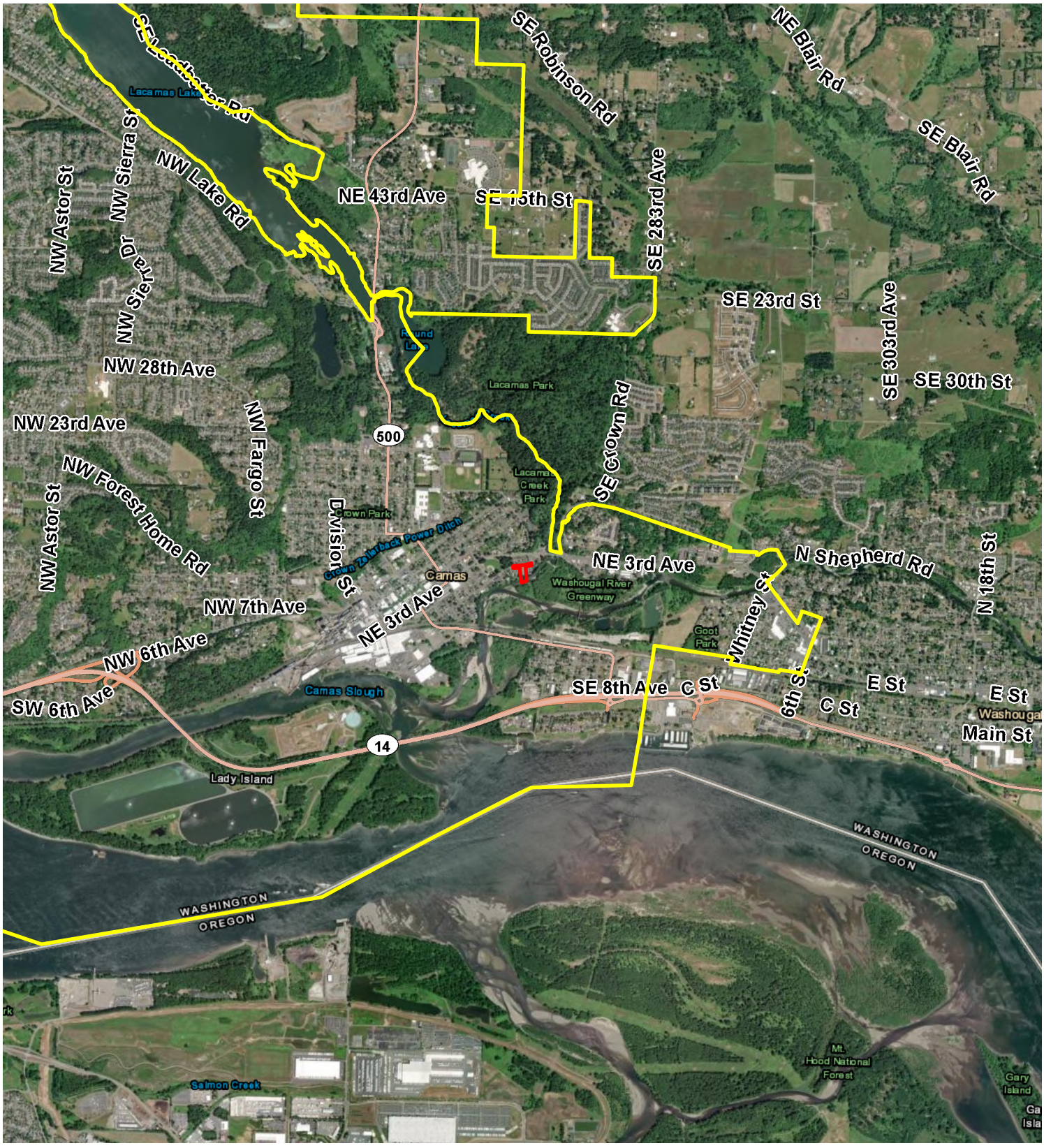
City of Camas Washington. 2024. Camas, Washington Municipal Code, Title 16 – Environment. https://library.municode.com/wa/camas/codes/code_of_ordinances?nodeId=TIT16EN.

City of Camas. 2021. Camas Shoreline Master Program. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cityofcamas.us/sites/default/files/fileattachments/community_development/page/6071/smp_2021_final.pdf.

Flounlacker, Meghan, Joy Peplinski, and Rob Charles. August 5, 2024. Meeting with Kristen Currens, Environmental Manager, and Sara Hastings, Environmental Scientist; MacKay Sposito, Meghan Tait, Wetland/Shoreland Specialist, Washington Department of Ecology; Joy Peplinski, Habitat Biologist, Washington Department of Fish and Wildlife, and Rob Charles, Utilities Manager, City of Camas.

MacKay Sposito. 2025. Shoreline Critical Areas Report. January 22, 2025.

Appendix A – Figures



Data Sources: Basemap by ESRI. City Limits by Clark County. All other data created by MacKay Sposito. 1/8/2025

Camas City Limits

PSA Boundary (1.40 acres)

PSA Location: 45.6006846, -122.4303372

N

0 ¼ ½ ¾ 1 Miles

Figure 1. Vicinity Map

Camas Well 13 PFAS Treatment Design

MacKay Sposito

Data Sources: Basemap by ESRI. Contours , Top of Bank, and OHWM derived from WDNR 2013. Notes: FWHCA buffers for Washougal River, lots fronting on First Avenue between SE Garfield Street and NE Third Street, are modified to 20 feet from the top of slopes exceeding 40% per Camas SMP 5.3.(2)(b). All other data created by MacKay Sposito. 1/22/2025

- White Oak
- Sample Point
- Contour (2 feet)
- Top of Bank
- OHWM
- Oak Canopy Dripline
- PSA Boundary
- Impervious Surfaces
- Stream Buffer (20 feet from TOB)
- Shoreline Jurisdiction (200 feet)
- Camas Biodiversity Area
- Parcel
- Flow Direction

N

0 25 50 75 100 Feet

Figure 2. Existing Conditions

Camas Well 13 PFAS Treatment Design

MacKay Sposito

Data Sources: Basemap by ESRI. Contours , Top of Bank, and OHWM derived from WDNR 2013. All other data created by MacKay Sposito. 2/27/2025
Notes: FWHCA buffers for Washougal River, lots fronting on First Avenue between SE Garfield Street and NE Third Street, are modified to 20 feet from the top of slopes exceeding 40% per Camas SMP 5.3.(2)(b)

- Proposed Design
- Stage 2 Proposed Design
- Removed Impervious Surfaces
- Existing Impervious Surfaces
- Top of Bank
- OHWM

- White Oak
- Oak Canopy Dripline
- PSA Boundary
- Shoreline Jurisdiction (200 feet)
- Stream Buffer (20 feet from TOB)
- Camas Biodiversity Area
- Contour (2 feet)
- Flow Direction

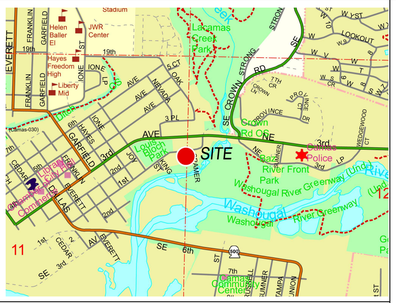
N

0 25 50 75 100 Feet

Figure 3. Proposed Conditions Camas Well 13 PFAS Treatment Design

MacKay Sposito

Appendix B – Site Plan



VICINITY MAP SEC. 11 & 12 T1N R3E W.M.
NTS

SITE PLAN NOTES

EXISTING SITE DATA

PRESENT USE:	CAMAS WELL #13
ADDRESS:	1250 E. 2ST AVENUE, CAMAS, WA 98607
EXISTING ZONING:	MULTIFAMILY RESIDENTIAL-18 (R-18)
GROSS SITE AREA:	PARCEL 90928000 IS 0.38 ACRES (16,553 SF) ACCORDING TO CLARK COUNTY GIS, 0.28 ACRES (12,269 SF) ACORDING TO SURVEY BY MACKAY SPOSITO, INC.
	PARCEL 91031000 IS 0.12 ACRES (5,227 SF) ACCORDING TO CLARK COUNTY GIS, 0.16 ACRES (6,951 SF) ACORDING TO SURVEY BY MACKAY SPOSITO, INC.
	PARCEL 91034000 IS 0.06 ACRES (2,614 SF) ACCORDING TO CLARK COUNTY GIS, 0.06 ACRES (2,755 SF) ACORDING TO SURVEY BY MACKAY SPOSITO, INC.
	THE ENTIRE SITE IS 0.50 ACRES (21,975 SF).

SURROUNDING USES WITHIN 100' OF THE SITE:
NORTH: (ACROSS E. 1ST AVENUE) CHURCH PARKING LOT ON COMMUNITY COMMERCIAL ZONED PROPERTY.
SOUTH: WASHOUGAL RIVER GREENWAY ON MULTIFAMILY RESIDENTIAL-18 PROPERTY.
EAST: SINGLE-FAMILY ATTACHED (TOWNHOME) RESIDENTIAL USES ON MULTIFAMILY RESIDENTIAL-18 PROPERTY.
WEST: SINGLE-FAMILY DETACHED RESIDENTIAL USES ON MULTIFAMILY RESIDENTIAL-18 ZONED PROPERTY.

PROPOSED SITE DATA:

PROPOSED USE:	PFAS TREATMENT FOR WELL #13 AND NEW WELL
WETLAND, STREAM, STEEP BANK BUFFER AREAS/PROTECTED AREAS, AND PLANNED ENHANCEMENT AREAS:	STREAM AND SHORELINE BUFFERS AS SHOWN
PROPOSED PRIVATE ROADS:	NONE PROPOSED
PROPOSED EASEMENTS:	TO BE SHOWN ON FUTURE PLANS AS REQUIRED
PROPOSED ON-SITE ROAD RIGHTS-OF-WAY:	NONE PROPOSED
PROPOSED PEDESTRIAN AND BICYCLE FACILITIES:	NONE PROPOSED
PROPOSED VEHICLE PARKING:	AS SHOWN/EXISTING TO REMAIN
PROPOSED BICYCLE PARKING:	NONE PROPOSED
PROPOSED LOADING ZONES:	NONE PROPOSED
PROPOSED SEPTIC SYSTEMS:	NONE PROPOSED
PROPOSED OPEN SPACE/PARK/RECREATIONAL FEATURES:	NONE PROPOSED
PROPOSED TRANSIT FACILITIES:	NONE PROPOSED
ROAD SEGMENTS IN EXCESS OF 15% ON-SITE OR WITHIN 500' OF THE SITE:	NONE KNOWN
PROPOSED SIGNS:	NONE PROPOSED AT THIS TIME
PROPOSED LIGHTING:	TO BE SHOWN ON LIGHTING PLAN
PROPOSED LOTS, TRACTS, ETC:	NONE PROPOSED
EXISTING BUILDINGS TO REMAIN:	EXISTING WELL BUILDING AS SHOWN
PROPOSED LANDSCAPING (LANDSCAPE PLAN):	TO BE SHOWN ON THE LANDSCAPE PLAN
PROPOSED BUILDINGS:	AS SHOWN
ABOVE-GROUND UTILITIES:	REFER TO CIVIL ENGINEERING PLANS
PROPOSED FENCES:	AS SHOWN

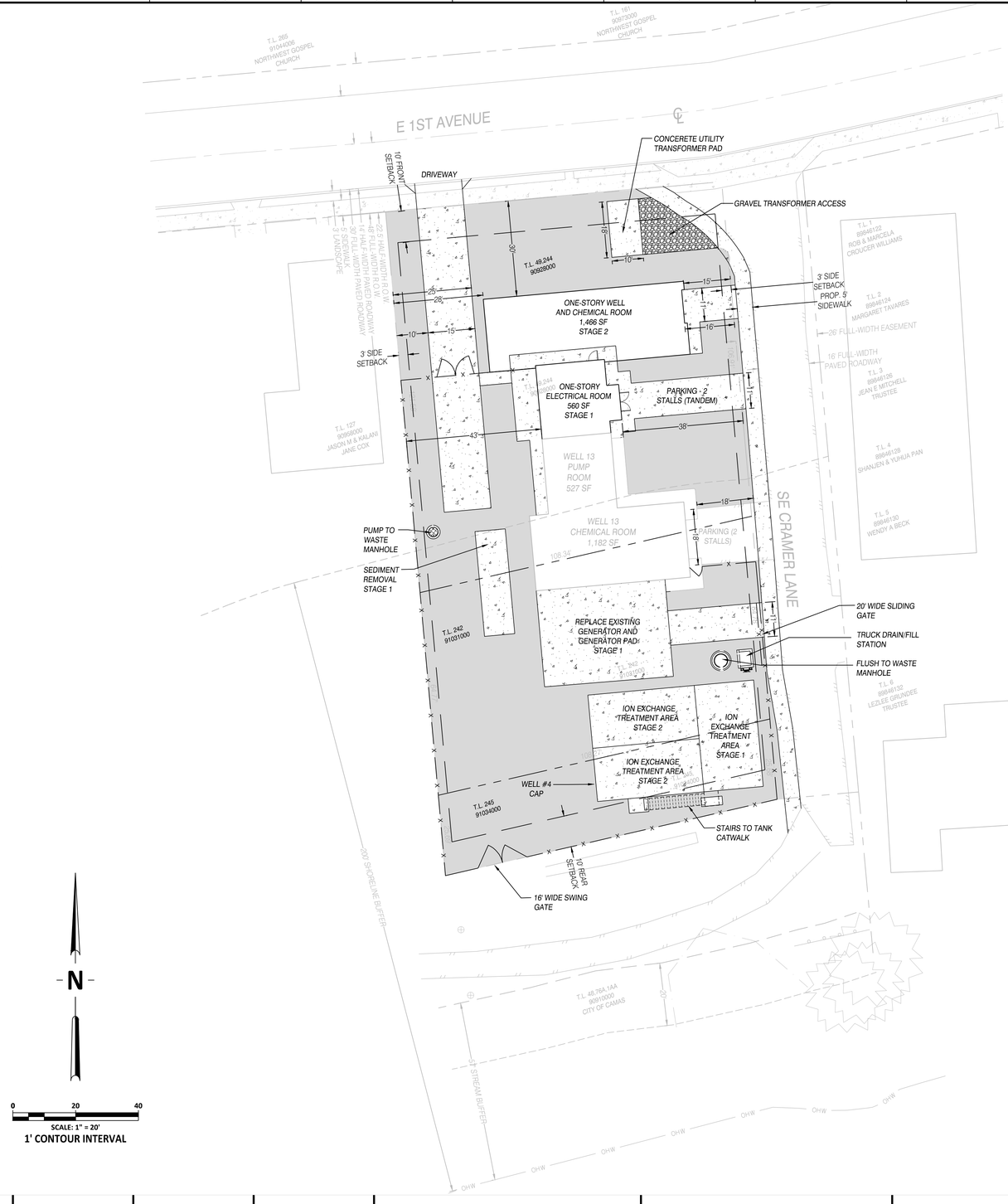
IF ANY CULTURAL OR HISTORICAL RESOURCES ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (DAHP) IN OLYMPIA AND CITY OF CAMAS DEVELOPMENT REVIEW SERVICES MUST BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY SUBJECT TO IMPRISONMENT AND/OR FINES.

SITE PLAN CALCULATIONS

TOTAL SITE AREA	21,975 SF
BUILDING AREA (INCLUDES ALL STAGES)	3,735 SF (17.0%)
LANDSCAPE AREA	10,550 SF (48.0%)
PAVED AREA (INCLUDES ALL STAGES)	7,690 SF (35.0%)

PARKING CALCULATIONS

PARKING REQUIRED	3,735 SF PUBLIC OR PRIVATE UTILITY BUILDING 1 STALL 1,000 SF GROSS FLOOR AREA 3,735 / 1,000 = 4 STALLS
PARKING PROVIDED	4 STANDARD STALLS (2 EXISTING AND 2 PROPOSED)



N

0 20 40
SCALE: 1" = 20'
1' CONTOUR INTERVAL

LEGEND

- EX. CATCH BASIN SQUARE
- EX. STORM CULVERT
- EX. STORM CLEANOUT (CO)
- EX. SANITARY MANHOLE (S)
- EX. WATER VALVE (WV)
- EX. WATER METER (WM)
- EX. BLOWOFF
- EX. FIRE HYDRANT
- EX. HOSE BIB (HB)
- EX. GAS VALVE (GV)
- EX. UTILITY POLE
- EX. UTILITY POLE WITH DOWN WIRE (UG)
- EX. GUY ANCHOR
- EX. ELECTRIC BOX (E,I,S)
- EX. ELECTRIC METER (EM)
- EX. ELECTRIC TRANSFORMER (TRANS)
- EX. FENCE POST (NO WIRE)
- EX. SIGN
- EX. BOLLARD (B)
- EX. TREE-CONIFER
- EX. TREE-DECIDUOUS
- EX. TREE-CLUMP
- EX. CONCRETE SURFACE
- EX. GRAVEL SURFACE
- PROP. CONCRETE SURFACE
- PROP. GRAVEL SURFACE
- PROP. LANDSCAPE AREA
- EX. BUILDING-FOOTPRINT
- NEW BUILDING FOOTPRINT
- FUTURE BUILDING FOOTPRINT/CONCRETE PAD
- PROP. FENCE
- EX. OFF-SITE BUILDING
- BOUNDARY
- ADJACENT TAX LOTS
- EX. EASEMENT AS NOTED
- CONTOUR
- EX. CURB-VERTICAL
- EX. FENCE-WIRE
- EX. FENCE-WOOD
- EX. OREGON WHITE OAK DRIPLINE
- EX. ORDINARY HIGH WATER MARK (OHWM)
- EX. 150' STREAM BUFFER
- EX. 200' SHORELINE BUFFER
- EX. LANDSCAPE
- EX. ASPHALT
- EX. SIDEWALK
- EX. GRAVEL
- EX. GUARDRAIL
- EX. SANITARY SEWER (SS)
- EX. STORM SEWER (SD)
- EX. WATER (W)
- EX. ELECTRICAL (OHE)
- EX. ELECTRICAL (UGE)
- EX. GAS (G)
- EX. COMMUNICATIONS (MISC...) (CM)
- EX. COMMUNICATIONS (TV)

REV	DATE	BY	DESCRIPTION
			INTERMEDIATE DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED CAROLLO
DRAWN MRO
CHECKED MRO
DATE FEBRUARY 2025

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City of Camas WASHINGTON

CITY OF CAMAS

CAMAS PFAS EVALUATION & WELL 13 TREATMENT

SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203101
DRAWING NO. SP1.0
SHEET NO. OF 15