WETLAND RESOURCES
ENVIRONMENTAL CONSULTING

December 9, 2021

Sea Pac Homes
120 SW Everett Mall Way, Suite 100
Everett, WA 98204

**RE: Revised Critical Area Reconnaissance Report for 9110 53rd Avenue West; Parcel 00611600015900**

## SITE DESCRIPTION

Wetland Resources, Inc. (WRI) performed a site reconnaissance on March 29, 2021, to evaluate wetland and stream conditions on and near the subject property. The site is composed of one 1.33-acre parcel, located at 9110 53rd Avenue West, within the city limits of Mukilteo, Washington. The Public Land Survey System (PLSS) locator for the property is Section 16, Township 28N, Range 4E, W.M. It is located within the Puget Sound Drainage of the Snohomish Watershed, Water Resources Inventory Area (WRIA) 8.


**Figure 1** - Aerial photograph of the subject property and data site locations.

The parcel is located in a residential setting, situated between 53rd Ave W and Hargreaves Place, north of Big Gulch Park. A single-family home lies in the northern portion property. Vegetation is generally forested, with an upland species assemblage.

Topography has a gentle northern aspect. The forested vegetation that remains on the site is dominated by Douglas-fir, Western red cedar, Himalayan blackberry, salmonberry, Oso-berry, trailing blackberry, and swordfern. Observed soil pits generally display very dark grayish brown (10YR 3/2) loam from the surface to eight inches below. Between eight and sixteen inches below the surface, soils are dark yellowish brown (10YR 3/4 to 10YR 4/4). Soils were dry at the time of our March 2021 inspection, during a period of normal precipitation.

## PUBLIC INFORMATION

Prior to conducting the site reconnaissance, publicly available information was reviewed to gather background information on the subject property and the surrounding area regarding wetlands, streams, and other critical areas. These sources include the following:

- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI)
  No wetlands are mapped on or near the subject property by this source. A forested/scrub-shrub wetland is mapped approximately 250 feet off-site to the east, across 53rd Ave W. A riverine feature is mapped approximately 400 feet off-site to the west.

- USDA/Natural Resources Conservation Service (NRCS) Web Soil Survey
  The NRCS Web Soil Survey indicates that the site is underlain by Alderwood-Urban land complex, 2 to 15 percent slopes. This unit is not listed as a hydric soil. A small area of Mukilteo muck is mapped near 53rd Ave W, however, the mapping appears to be incorrect as no muck soils are present in this area.

- WDFW Priority Habitat and Species (PHS) Interactive Map
  There are no priority habitats or species mapped on or near the site. The same forested/scrub-shrub wetland mapped by NWI is displayed approximately 250 feet off-site to the east. Big Gulch Creek is mapped approximately 0.4 miles off-site to the south and is listed as a habitat for Coho Salmon and Resident Coastal Cutthroat Trout.

  Washington Department of Fish and Wildlife (WDFW) SalmonScape Mapping System
  No streams are mapped by this source on or near the site. The closest fish-bearing features are Big Gulch Creek, approximately 0.4 miles off-site to the south, and another unnamed waterway approximately 0.4 miles off-site to the west. Both streams are documented as Coho habitat and Big Gulch Creek is listed as habitat for Resident Coastal Cutthroat Trout.

  Washington Department of Natural Resources (DNR) Forest Practices Application Mapping Tool (FPAMT)
  No wetlands or streams are mapped on site by DNR. A wetland is mapped approximately 250 feet off-site to the east of the subject property, mapped as non-fish habitat. The two off-site streams mapped by WDFW are the closest streams to the site. DNR depicts a water type break for the unnamed stream 0.4 miles west of the site where it becomes a Type F stream.

- Snohomish County PDS Map Portal
  No wetlands or streams are mapped on or near the site by Snohomish County. The closest mapped stream is a non-fish seasonal stream located approximately 250 feet south of the property. A wetland is mapped approximately 250 feet off-site to the east, east of 53rd Ave W. A remote sensing-based potential wetland is mapped approximately 200 feet off-site to the west, west of Hargreaves Place.

- City of Mukilteo Online Critical Areas Map
  No wetlands or streams are mapped on site by this source. Smuggler's Gulch Creek is mapped off-site to the east and north. According to Mukilteo Municipal Code (MMC) 17.52C.080, this stream is classified as a Type 4. As a low mass wasting channel, a 50 foot buffer is required by MMC 17.52C.090.A.1 The buffer does not reach the subject property. The same off-site wetlands mapped by Snohomish County are shown by this source.

## METHODOLOGY

The presence of wetlands was determined using the routine determination approach described in the Corps of Engineers Wetlands 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). Under the routine methodology, the process for making a wetland determination is based on three steps:

1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
2.) Examination of the site for hydric soils;
3.) Determining the presence of wetland hydrology

The ordinary high-water marks (OHWM) of streams and waterbodies were identified using the methodology described in *Determining the Ordinary High-Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016). Streams and lakes were classified according to the water typing system provided in Mukilteo Municipal Code (MMC) 17B.52C.080.

## FINDINGS

No wetlands, streams or buffers are located on the subject property. No areas on or near the site exhibit the combined positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. A depressional area in the eastern portion of the property, adjacent to 53rd Ave W, contains a non-hydrophytic vegetation community and bright, non-hydric soils. Buffers from off-site critical areas do not reach the site.

## USE OF THIS REPORT

This Critical Area Reconnaissance Report is supplied to Sea Pac Homes as a means of determining the presence of on-site and nearby critical areas. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at

any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

This report conforms to the standard of care employed by ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

*Wetland Resources, Inc.*

John Laufenberg
*Principal Ecologist*
*Professional Wetland Scientist*

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Sea Pac Homes - 53rd Ave W City/County: Mukilteo Sampling Date: 3/29/21

Applicant/Owner: Sea Pac Homes State: WA Sampling Point: S1

Investigator(s): JL Section, Township, Range: SEC 16, TWP 28N, RGE 4E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): LRR-A Lat: 47.916617 Long: -122.306578 Datum: WSP1984

Soil Map Unit Name: Alderwood NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] 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 [✓] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✓] |
| Hydric Soil Present? Yes [ ] No [✓] | |
| Wetland Hydrology Present? Yes [ ] No [✓] | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 10m x 10m) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Pseudotsuga menziesii | 90 | Y | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 90 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 5m x 5m) | | | |
| 1. Rubus spectabilis | 30 | Y | FAC |
| 2. Rubus armeniacus | 20 | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 50 | = Total Cover | |
| **Herb Stratum** (Plot size: 1m x 1m) | | | |
| 1. Rubus ursinus | 20 | Y | FACU |
| 2. Polystichum munitum | 10 | N | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 30 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 1m x 1m) | | | |
| 1. | | | |
| 2. | | | |
| | 0 | = Total Cover | |

% Bare Ground in Herb Stratum 70

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | | x 1 = | 0 |
| FACW species | | x 2 = | 0 |
| FAC species | 50 | x 3 = | 150 |
| FACU species | 120 | x 4 = | 480 |
| UPL species | | x 5 = | 0 |
| Column Totals: | 170 (A) | | 630 (B) |

Prevalence Index = B/A = 3.7

**Hydrophytic Vegetation Indicators:**

- [ ] Rapid Test for Hydrophytic Vegetation
- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] 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 [✓]

Remarks:

## SOIL

Sampling Point: S1

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-8 | 10YR 3/2 | 100 | | | | | | |
| 8-16 | 10 YR 4/4 | 100 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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 ☑

Remarks:

## 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 (2 or more 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 ☑ Depth (inches): _____

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

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

**Wetland Hydrology Present?** Yes ☐ No ☑

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Sea Pac Homes - 53rd Ave W City/County: Mukilteo Sampling Date: 3/29/21

Applicant/Owner: Sea Pac Homes State: WA Sampling Point: S2

Investigator(s): JL Section, Township, Range: SEC 16, TWP 28N, RGE 4E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): LRR-A Lat: 47.916617° Long: -122.306578° Datum: WGS84

Soil Map Unit Name: Alderwood NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ 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 ☑<br>Hydric Soil Present? Yes ☐ No ☑<br>Wetland Hydrology Present? Yes ☐ No ☑ | **Is the Sampled Area within a Wetland?** Yes ☐ No ☑ |

Remarks:

### VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| Tree Stratum (Plot size: 10) | | | |
| 1. Pseudotsuga menziesii | 70 | Y | FACU |
| 2. Thuja plicata | 20 | Y | FAC |
| 3. | | | |
| 4. | | | |
| | 90 | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: 5) | | | |
| 1. Rubus armeniacus | 20 | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | = Total Cover | |
| Herb Stratum (Plot size: 1) | | | |
| 1. Polystichum munitum | 10 | Y | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 10 | = Total Cover | |
| Woody Vine Stratum (Plot size: 1) | | | |
| 1. | | | |
| 2. | | | |
| | 0 | = Total Cover | |

% Bare Ground in Herb Stratum 90

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 80 | x 4 = | 320 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 120 (A) | | 440 (B) |

Prevalence Index = B/A = 3.7

**Hydrophytic Vegetation Indicators:**

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 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 ☑

Remarks:

## SOIL

Sampling Point: S2

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 10YR 3/2 | 100 | | | | | | |
| 10-16 | 10 YR 4/4 | 100 | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

[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**)
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- ☐ 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 ☑

Remarks:

## 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 (2 or more 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 ☑ Depth (inches): _____

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

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

**Wetland Hydrology Present?** Yes ☐ No ☑

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

Remarks:

plant materials with which to work. On disturbed sites where plants such as blackberry, Scot's broom, thistle, dock, tansy and Bracken fern predominate, you may want to judiciously clear them out and establish native or ornamental plantings. This can require a lot of work and dedication on the part of the landowner. It should be done by hand to reduce damage to potentially unstable areas. In the case of horsetail, be fore-warned that trying to dig them out only makes them thrive, but sometimes establishing a dense growth of evergreen shrubs will discourage their growth. Refer to Slope Stabilization and Erosion Control Using Vegetation for some helpful suggestions.

**Note:** English ivy is common on many sites. It has a tendency to climb trees and can constrict tree growth and contribute to mortality. It should therefore be removed from the trunks of trees. Ivy also tends to cascade over sheer bluff faces. While it offers little rooting protection it does protect exposed bluff faces from wind and rain erosion. Ivy is emphatically not recommended for new plantings, but if it exists on a site it can be of some protective value. It is almost impossible to eradicate once it has become established.

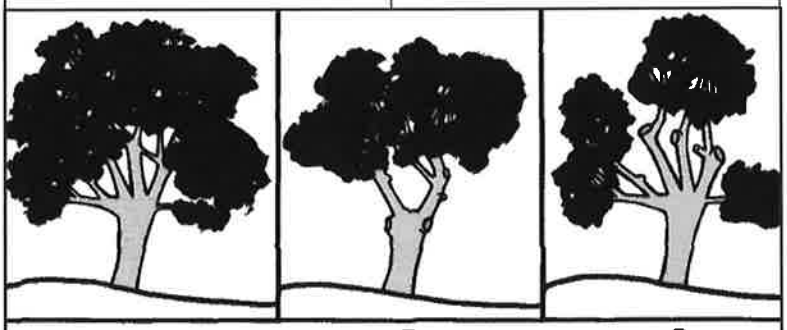



Illustration 13:
PRINING PRACTICES: Broad leaved trees

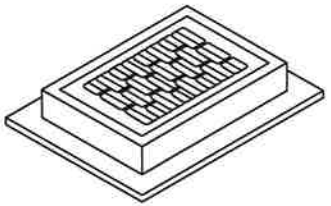
## When is the best time to cut back vegetation?

Generally, the best time to trim woody vegetation is the period between late fall and early spring, when the plant is dormant. The frequency of trimming should not be so often that the food reserves needed for growth are depleted. Generally, a five-year maintenance schedule for most brush species will be adequate. Severity of pruning or trimming should be commensurate with the ability of the plant to tolerate the pruning damage.

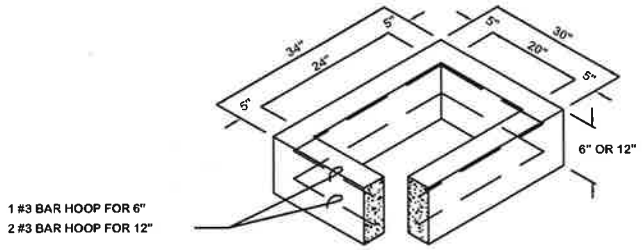
## Should I install a lawn?

Bluff-top property owners often install large expanses of lawn subsequent to land clearing. Lawns are relatively inexpensive to establish and maintain, and allow free access and open space around residences. They are especially good groundcovers for septic drainfields because of their shallow rooting. However, the shallow rooting of most grasses that makes them attractive cover for drainfields means their erosion control values are limited.

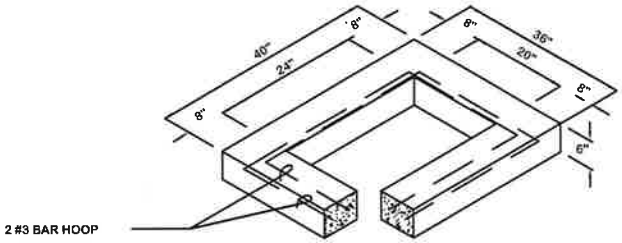
On sites where soil erosion and surface water runoff could be of concern it would be wise to limit the area of lawn. While low-growing or closely cropped vegetation (like lawns) helps filter and trap sediments to some extent, its capacity to do so is limited when compared to other groundcovers. During heavy rain periods, areas covered by



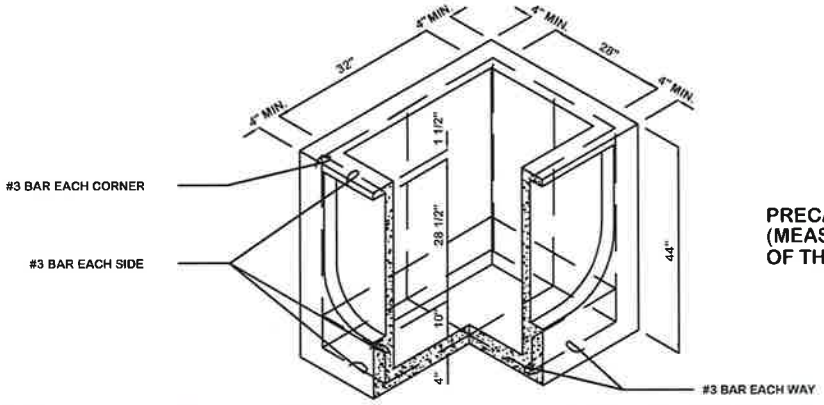
FRAME AND
VANED GRATE




RISER SECTION




6" REDUCING SECTION




PRECAST BASE SECTION
(MEASUREMENT AT THE TOP
OF THE BASE)

NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTOM 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (AASHTOM 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN AND 2.5" MAX. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS.
6. KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIAM. OF 28". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
7. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
8. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED $\frac{1}{2}$"/FT.
9. CATCH BASIN INSERT FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND MEET STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-62ID. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
10. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
11. FOR CATCH BASINS IN PARKING LOTS REFER TO WSDOT/APWA STANDARD DWG. B-5.60.
12. EDGE OF REDUCING SECTION OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.
13. MINIMUM 4" ADJUSTMENT SECTION BETWEEN BOTTOM OF GRATE AND TOP OF BASE SECTION.

CITY OF MUKILTEO

REVISION DATE

11/18/2016
DATE

APPROVED FOR PUBLICATION

11/22/2016
CITY ENGINEER DATE

# CATCH BASIN TYPE-1L (18"-28" PIPE DIA.)

STANDARD PLAN NO. SW-002