

WETLAND DETERMINATION REPORT

FOR THE

SOUTHEAST 40TH SITE

Prepared for:

Firestone Pacific Developing
C/O Stan Firestone
P.O. Box 61928
Vancouver, WA 98666
360-772-3445

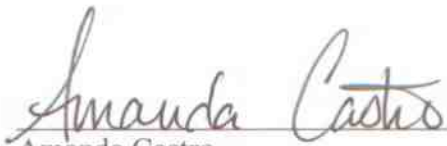
Prepared by:

Ecological Land Services, Inc.
1157 3rd Avenue, Suite 220
Longview, WA 98632
360-578-1371

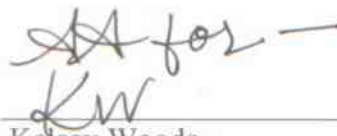
October 18, 2007

SIGNATURE PAGE

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



Amanda Castro
Biologist



Kelsey Woods
Biologist



Andrea Aberle
Biologist/ Project Manager

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INTRODUCTION

Ecological Land Services, Inc. (ELS) has completed a wetland determination for Firestone Pacific Developing on an approximately 11-acre site located at 20305 S.E. 40th Street in the City of Camas, Clark County, Washington (Figure 1). The site consists of four parcels (tax parcel numbers 125646-000, 125645-000, 125634-000, and 125635-000) located in the Northwest 1/4 of Section 8, Township 1 North, Range 3 East of the Willamette Meridian. The site was investigated for the presence of critical areas on October 5, 2007 in accordance with Camas Municipal Code (CMC 16.50). the property boundaries have not been professionally surveyed.

SITE DESCRIPTION

Much of the subject site is pastureland with a few scattered trees. Site topography generally slopes south and west, with the lowest point being a man-made ditch in the southwestern region of the site. A single family residence is located in the northwestern region of the site (Figure 2). Surrounding land uses include residential homes to the east and west, NE 40th Street to the north and a functionally isolated wetland to the south. The residence is accessed by a paved driveway from Southeast 40th Street and a gravel driveway off of 202nd Court. A private road, 202nd Court, bisects the property and runs the entire length of the property from north to south. An above-ground water conveyance pipe, located near the southern property boundary in the eastern parcel, transports water draining from a neighboring development to the east. The pipe is approximately 320 feet long on-site, extending from the eastern property boundary to 202nd Court.

METHODS

The wetland determination completed by ELS followed the Routine Determination Method for delineating wetlands according to the U.S. Army Corps of Engineers, *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the Washington State Department of Ecology, *Washington State Wetlands Identification and Delineation Manual* (1997).

The Routine Determination Method examines three parameters—vegetation, hydrology, and soils—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as “Waters of the United States” by the U.S. Army Corps of Engineers (USACE), as “Waters of the State” by the Department of Ecology (DOE), and locally by Clark County.

ELS evaluated the property for wetlands on October 5, 2007. Vegetation, hydrology, and soil data were collected from six test plots. Test plots were chosen randomly throughout the property in order to verify the absence of wetland hydrology, soils, and vegetation.

VEGETATION

Dominant vegetation observed within the perimeter of test plots are listed below. The indicator status, following the common and scientific names, indicates how likely a species is to be found in wetlands. Listed from most-likely to least-likely to be found in wetlands, the categories are:

- **OBL** (obligate wetland) - occur almost always (estimated probability >99%) under natural conditions in wetlands.
- **FACW** (facultative wetland) - usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
- **FAC** (facultative) - equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- **FACU** (facultative upland) - usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- **UPL** (obligate upland) - occur almost always (estimated probability >99%) under natural conditions in non-wetlands.
- **NI** (no indicator) - insufficient data to assign to an indicator category.
- A positive (+) or negative (-) sign, when used with indicators, attempts to more-specifically define the frequency of occurrence in wetlands. The positive sign indicates "slightly more frequently found in wetlands: and the negative sign indicates "slightly less-frequently found in wetlands".

On-site vegetation included tall fescue (*Festuca arundinacea*, FAC-), velvet grass (*Holcus lanatus*, FAC), English plantain (*Plantago lanceolata* var. *lanceolata*, FAC), northern bentgrass (*Agrostis borealis*, FACU).

SOILS

On-site soil types are mapped as Hesson clay loam, 0-8 percent slopes (HcB), Olympic stony clay loam, 3-30 percent slopes (OmE) and Powell silt loam, 8-20 percent slopes (PoD; Figure 3). Hesson clay loam is a well drained soil occurring on high ridges along mountain foot slopes. Olympic stony clay loam is a well drained soil that occurs on ridgetops, on long side slopes, and on short slopes along drainage. Powell silt loam is a somewhat poorly drained soil that occurs on long, smooth side slopes below ridges and on foot slopes (NRCS 2006). None of the soils mapped on-site by the NRCS are listed as hydric in Clark County.

Soils observed on-site generally agreed with the mapped soil series. No hydric soils were located on-site during site investigation.

Mapped hydric soils do not necessarily mean that the area is a wetland; hydrology, wetland vegetation, and hydric soils must all be present to classify an area as a wetland. Conversely, wetlands may be found in areas where the soils are not mapped as hydric.

HYDROLOGY

Soils on the subject site did not display primary or secondary hydric soil indicators above 10 inches below ground surface (BGS) as described in the USACE 1987 Wetlands Delineation Manual. Significant redoximorphic features, including oxidized root channels and/or Iron or

Manganese concretions were not observed in test holes to a depth of 16 inches BGS. Site topography generally sloped to the south with few or no depressional areas to trap water. Mottles were observed in some test plots; however, they are likely relic due to the absence of evidence of recent hydrology in the form of oxidized channels of living roots.

A Type N (non fish-bearing) stream is mapped off-site to the south by Washington Department of Natural Resources Stream Type Mapping (Figure 6). As mapped, the stream originates off-site to the east from the current location of a single family residence. This discrepancy is likely due to a mapping error. An above-ground pipe was located on-site near the southern property boundary and drains beneath 202nd Court into a man-made ditch in the western region of the property. DNR Stream Type maps are created on a large scale and can be inaccurate due to a lack of ground-truthing. There is an adjacent wetland south of parcel 125635-000 with a functionally isolated buffer, due to the existing gravel road. No wetland buffer will extend onto the site.

NATIONAL AND LOCAL WETLANDS INVENTORIES

The National Wetlands Inventory (NWI) map did not show any wetlands on or adjacent to the subject site. ELS agrees that no wetlands are located on-site (Figure 4). As a cautionary note, National Wetlands Inventory map information should be used with discretion because they are used to gather general wetland information about a regional area; therefore, they are limited in accuracy for smaller sites because of their large scale.

The Clark County Wetland Inventory maps does not show any wetlands on or adjacent to the subject site. ELS agrees no wetland were located on-site (Figure 5).

CLARK COUNTY CRITICAL AREAS MAPPING

The Clark County Priority Species-Habitat map shows a Riparian Habitat Conservation Area designated within the buffer of the mapped stream (Figure 5). ELS does not concur with the location of the mapped stream as shown encroaching within the site boundary. It is possible that a type Ns stream is located south of the site; ELS has not conducted field reconnaissance outside the site boundaries.

CONCLUSIONS

ELS found no jurisdictional wetlands on the subject site. The upland areas investigated were dominated by facultative (FAC) and facultative upland (FACU) herbaceous vegetation. There were no hydrologic indicators present within 10 inches BGS in the form of redoximorphic features, oxidized root channels, and/or concretions. The soils mapped and observed on-site were not hydric.

Buffers

No wetlands or streams are present on-site. The wetland and stream located south of the subject site are functionally isolated by a gravel road. CMC states that pre-existing roads are excluded from the buffer, terminating the buffer to the south (CMC 16.60.040 (B)(4)(b)(i)).

LIMITATIONS

We base the above listed determinations and conclusions on standard scientific methodology and best professional judgment. In our opinion, the conclusions should agree with local, state, and federal regulatory agencies. However, it should be considered a Preliminary Jurisdictional Determination and used at your own risk until it has been reviewed and approved in writing by the appropriate regulatory agencies.

REFERENCES

- Camas Municipal Code. <http://bpc.iserver.net/codes/camas/index.htm>. Accessed October 2007.
- Clark County Geographic Information System website. <http://gis.clark.wa.gov/applications/gishome/index.cfm>. Accessed October 2007.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Waterways Experiment Station, Vicksburg, Mississippi.
- Hruby, T. 2006. Washington State Wetland Rating System for Western Washington – Revised. Washington State Department of Ecology Publication #04-06-025.
- Soils Conservation Service. 2006. Hydric Soils for Washington. Online document<http://soils.usda.gov/soils_use/hydric/states/wa.htm>. Accessed October 2007.
- U.S.D.A. Natural Resources Conservation Service website for Clark County. Accessed October 2007. http://www.or.nrcs.usda.gov/pnw_soil/washington/wa015.html.
- Washington State Department of Ecology. 1997. Washington State Wetlands Identification and Delineation Manual. Publication #96-94. Olympia, Washington.

Appendix A

Figures

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**ECOLOGICAL LAND SERVICES, INC.**
1157 3rd Ave., Suite 220 Longview, WA 98632
(360) 578-1371 Fax: (360) 414-9305

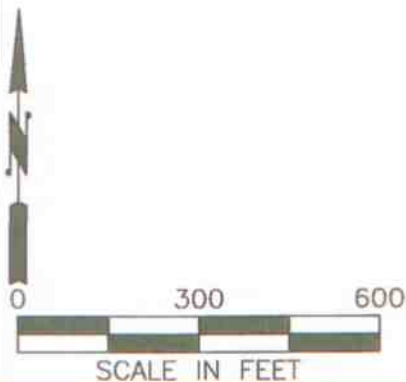
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Figure 2
AERIAL SITE MAP
SE 40th Street
Stan Firestone
City of Camas, Clark County, Washington
Section 8, Township 1N, Range 3E, W.M.

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PoB - Powell silt loam, 0 to 8 percent slopes. Not hydric.
 PoD - Powell silt loam, 8 to 20 percent slopes. Not hydric.
 PoE - Powell silt loam, 20 to 30 percent slopes. Not hydric.
 HcB - Hesson clay loam, 8 to 20 percent slopes. Not hydric.
 OmE - Olympic stony clay loam, 3 to 30 percent slopes. Not hydric.



NOTE: Map provided on-line by NRCS at web address:
www.wa.nrcs.usda.gov/prw_soil/wa_reports.html

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 1157 3rd Ave., Suite 220 Longview, WA 98632
 (360) 578-1371 Fax: (360) 414-9305

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Figure 3
 SOIL SURVEY MAP
 SE 40th Street
 Stan Firestone
 City of Camas, Clark County, Washington
 Section 8, Township 1N, Range 3E, W.M.

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No mapped wetlands indicated on site by US Fish & Wildlife Service.



NOTES:

1. Map provided on-line by US Fish & Wildlife Service at web address:
<http://www.wetlandsfws.er.usgs.gov/NWI/index.html>
2. Map not to scale. Property boundary location and size is approximate.



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Figure 4
NATIONAL WETLANDS INVENTORY MAP
SE 40th Street
Stan Firestone
City of Camas, Clark County, Washington
Section 8, Township 1N, Range 3E, W.M.

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Clark County Wetland and Hydric Soils Inventory

No Wetlands Mapped On-site



Wetlands



Hydric Soils

SITE



Clark County Species-Habitat



Riparian Habitat
Conservation Area

SITE



Clark County Topography



Topographic
Contours

SITE



NOTE: Map provided on-line by Clark County, Washington at
web address: <http://gis.clark.wa.gov/gishome/property>



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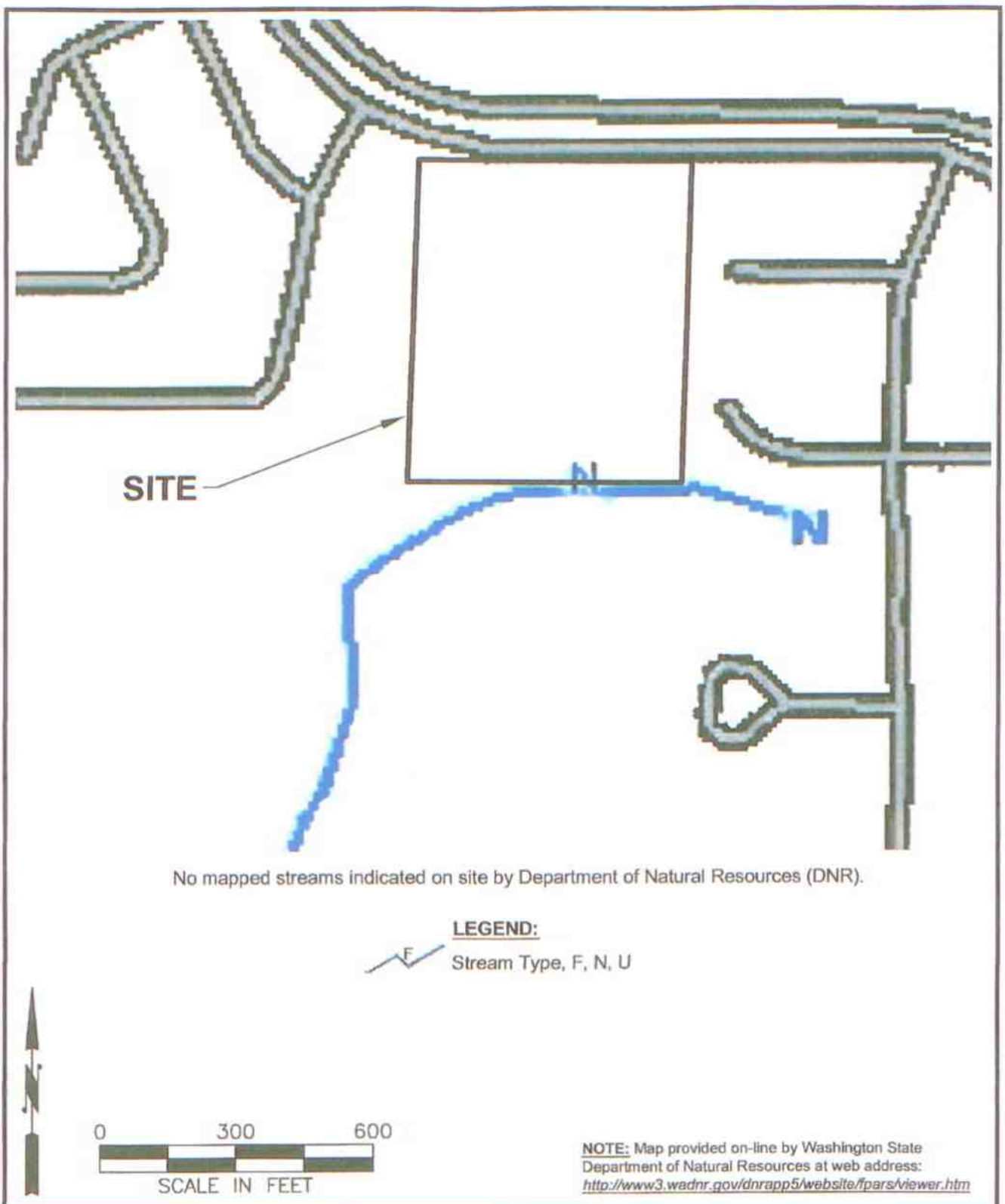
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Figure 5
SENSITIVE & HABITAT AREAS MAP
SE 40th Street
Stan Firestone

City of Camas, Clark County, Washington
Section 8, Township 1N, Range 3E, W.M.

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Figure 6
DNR STREAM TYPING MAP
SE 40th Street
Stan Firestone
City of Camas, Clark County, Washington
Section 8, Township 1N, Range 3E, W.M.

Appendix B

Routine On-site Wetland Determination Data Forms



ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: E of SE 202 nd Ct in southern region	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP1
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Trailing blackberry*	<i>Rubus ursinus</i>	Herb	20	FACU
2. Tall fescue	<i>Festuca arundinacea</i>	Herb	10	FAC-
3. Velvet grass*	<i>Holcus lanatus</i>	Herb	20	FAC
4. Northern bentgrass*	<i>Agrostis borealis</i>	Herb	40	FACU
5. Canadian thistle	<i>Cirsium arvense</i>	Herb	10	FACU+
6.		-		-
7.		-		-
8.		-		-

Other species present: English plantain trace
% of dominant species OBL, FACW, FACW-, FAC+, FAC 33% (more than 50% required)
Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No
Is it the growing season? ☐ Yes ☒ No
Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A
Depth to free water in pit: N/A
Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators (2 required)
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels < 12in. bgs
<input type="checkbox"/> Saturated < 12 in.	<input type="checkbox"/> Local Soil Survey Data
<input type="checkbox"/> Water Marks	<input type="checkbox"/> Water Stained Leaves
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Sediment Deposits	<input type="checkbox"/> Other (Explain in remarks)
<input type="checkbox"/> Drainage Patterns in wetlands	

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Hesson clay loam (HcB)
(Series and Phase)
Taxonomy (Subgroup): Clayey, kaolinitic, mesic Xeric Palehumults

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

<input type="checkbox"/> Excessively Drained
<input type="checkbox"/> Somewhat Excessively Drained
<input checked="" type="checkbox"/> Well Drained
<input type="checkbox"/> Moderately Well Drained
<input type="checkbox"/> Somewhat Poorly Drained
<input type="checkbox"/> Poorly Drained
<input type="checkbox"/> Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-12"	-	10YR 3/3	-	-	-	silt loam

Hydric Soil Indicators

<input type="checkbox"/> Histosol (-ists)	<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Histic Epipedon (8-16")	<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Organic Pans
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Mn or Fe Concretions	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> High Organic Content in Layer of Sandy Soils	<input type="checkbox"/> Other (explain in remarks)

Remarks: charcoal observed throughout 0-12"

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soil Present? ☐ Yes ☒ No

Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

Sheet 1 of 6



ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: East Central of SE 202 nd Ct.	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP2
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Velvet grass*	<i>Holcus lanatus</i>	Herb	50	FAC
2. Soft rush*	<i>Juncus effusus</i>	Herb	40	FACW
3. Evergreen blackberry*	<i>Rubus laciniatus</i>	Shrub	5	FACU
4. Himalayan blackberry*	<i>Rubus armeniacus</i>	Shrub	5	FACU
5.		-		-
6.		-		-
7.		-		-
8.		-		-

Other species present: Reed canary grass-trace, Canadian thistle-trace
% of dominant species OBL, FACW, FACW-, FAC+, FAC 50% (more than 50% required)
Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No
Is it the growing season? ☐ Yes ☒ No
Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A
Depth to free water in pit: N/A
Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators

- ☐ Inundated
- ☐ Saturated < 12 in.
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in wetlands

Secondary Indicators (2 required)

- ☐ Oxidized Root Channels < 12in. bgs
- ☐ Local Soil Survey Data
- ☐ Water Stained Leaves
- ☐ FAC-Neutral Test
- ☐ Other (Explain in remarks)

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Powell silt loam (PoB)
(Series and Phase)
Taxonomy (Subgroup): Fine silty, mixed, mesic Typic Fragiochrepts

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

- ☐ Excessively Drained
- ☐ Somewhat Excessively Drained
- ☐ Well Drained
- ☐ Moderately Well Drained
- ☒ Somewhat Poorly Drained
- ☐ Poorly Drained
- ☐ Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-14"	-	10YR 3/4	10YR 4/6	common	medium	silt loam

Hydric Soil Indicators

- ☐ Histosol (-ists)
- ☐ Histic Epipedon (8-16")
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low Chroma Colors
- ☐ Mn or Fe Concretions
- ☐ High Organic Content in Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Organic Pans
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks: charcoal observed throughout 0-14"

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soil Present? ☐ Yes ☒ No
Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

Sheet 2 of 6



ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St.	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: Northeast of SE 202nd Ct.	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP3
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Tall fescue*	<i>Festuca arundinacea</i>	Herb	100	FAC-
2.		-	-	-
3.		-	-	-
4.		-	-	-
5.		-	-	-
6.		-	-	-
7.		-	-	-
8.		-	-	-

Other species present: velvet grass trace
% of dominant species OBL, FACW, FACW-, FAC+, FAC 0% (more than 50% required)
Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No
Is it the growing season? ☐ Yes ☒ No
Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A
Depth to free water in pit: N/A
Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators

- ☐ Inundated
- ☐ Saturated < 12 in.
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in wetlands

Secondary Indicators (2 required)

- ☐ Oxidized Root Channels < 12in. bgs
- ☐ Local Soil Survey Data
- ☐ Water Stained Leaves
- ☐ FAC-Neutral Test
- ☐ Other (Explain in remarks)

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Powell silt loam (PoB)
(Series and Phase)
Taxonomy (Subgroup): Fine silty, mixed, mesic Typic Fragiochrepts

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

- ☐ Excessively Drained
- ☐ Somewhat Excessively Drained
- ☐ Well Drained
- ☐ Moderately Well Drained
- ☒ Somewhat Poorly Drained
- ☐ Poorly Drained
- ☐ Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-15"	-	10YR 3/2	-	-	-	silt loam
15-16"	-	10YR 4/3	10YR 4/6	common	medium	silt loam

Hydric Soil Indicators

- ☐ Histosol (-ists)
- ☐ Histic Epipedon (8-16")
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low Chroma Colors
- ☐ Mn or Fe Concretions
- ☐ High Organic Content in Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Organic Pans
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks: charcoal observed throughout 0-16"

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soil Present? ☐ Yes ☒ No

Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

Sheet 3 of 6



ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: Northwest of SE 202 nd Ct.	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP4
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Himalayan blackberry	<i>Rubus armeniacus</i>	Shrub	5	FACU
2. English hawthorne*	<i>Crataegus monogyna</i>	Shrub	40	FAC
3. Tall fescue	<i>Festuca arundinacea</i>	Herb	10	FAC-
4. Northern bentgrass*	<i>Agrostis borealis</i>	Herb	75	FACU
5. Lance-leaf plantain	<i>Plantago lanceolata</i>	Herb	10	FAC
6.		-		-
7.		-		-
8.		-		-

Other species present:

% of dominant species OBL, FACW, FACW-, FAC+, FAC 50% (more than 50% required)

Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No

Is it the growing season? ☐ Yes ☒ No

Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A

Depth to free water in pit: N/A

Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators

- ☐ Inundated
- ☐ Saturated < 12 in.
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in wetlands

Secondary Indicators (2 required)

- ☐ Oxidized Root Channels < 12in. bgs
- ☐ Local Soil Survey Data
- ☐ Water Stained Leaves
- ☐ FAC-Neutral Test
- ☐ Other (Explain in remarks)

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Powell silt loam (PoB)

(Series and Phase)

Taxonomy (Subgroup): Fine silty, mixed, mesic Typic Fragiochrepts

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

- ☐ Excessively Drained
- ☐ Somewhat Excessively Drained
- ☐ Well Drained
- ☐ Moderately Well Drained
- ☒ Somewhat Poorly Drained
- ☐ Poorly Drained
- ☐ Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-16"	-	10YR 3/3	-	-	-	silt loam

Hydric Soil Indicators

- ☐ Histosol (-ists)
- ☐ Histic Epipedon (8-16")
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low Chroma Colors
- ☐ Mn or Fe Concretions
- ☐ High Organic Content in Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Organic Pans
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks: charcoal observed throughout 0-12"

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Hydric Soil Present? ☐ Yes ☒ No

Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

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ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: Northwest of SE 202 nd Ct.	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP5
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Himalayan blackberry*	<i>Rubus armeniacus</i>	Shrub	15	FACU
2. Tall fescue	<i>Festuca arundinacea</i>	Herb	15	FAC-
3. Pearly everlasting	<i>Anaphalis margaritacea</i>	Herb	5	NI
4. Northern bentgrass*	<i>Agrostis borealis</i>	Herb	40	FACU
5. Lance-leaf plantain*	<i>Plantago lanceolata</i>	Herb	25	FAC
6.		-		-
7.		-		-
8.		-		-

Other species present:
% of dominant species OBL, FACW, FACW-, FAC+, FAC 33% (more than 50% required)
Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No
Is it the growing season? ☐ Yes ☒ No
Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A
Depth to free water in pit: N/A
Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators (2 required)
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels < 12in. bgs
<input type="checkbox"/> Saturated < 12 in.	<input type="checkbox"/> Local Soil Survey Data
<input type="checkbox"/> Water Marks	<input type="checkbox"/> Water Stained Leaves
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Sediment Deposits	<input type="checkbox"/> Other (Explain in remarks)
<input type="checkbox"/> Drainage Patterns in wetlands	

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Hesson clay loam (HcB)
(Series and Phase)
Taxonomy (Subgroup): Clayey, kaolinitic, mesic Xeric Palehumults

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

<input type="checkbox"/> Excessively Drained
<input type="checkbox"/> Somewhat Excessively Drained
<input checked="" type="checkbox"/> Well Drained
<input type="checkbox"/> Moderately Well Drained
<input type="checkbox"/> Somewhat Poorly Drained
<input type="checkbox"/> Poorly Drained
<input type="checkbox"/> Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-10"	-	10YR 3/3	-	-	-	silt loam
11-13"	-	10YR 4/4	-	-	-	silt loam

Hydric Soil Indicators

<input type="checkbox"/> Histosol (-ists)	<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Histic Epipedon (8-16")	<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Organic Pans
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Mn or Fe Concretions	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> High Organic Content in Layer of Sandy Soils	<input type="checkbox"/> Other (explain in remarks)

Remarks: charcoal observed throughout 0-13"

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soil Present? ☐ Yes ☒ No

Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

Sheet 5 of 6



ECOLOGICAL LAND SERVICES, INC.

1157 3rd Avenue, Suite 220, Longview, Washington 98632
(360)578-1371 FAX (360)414-9305
DATA FORM - Routine Onsite Wetland Determination
1987 COE Wetlands Delineation Manual
1997 Washington State Delineation Manual

Project Site: SE 40 th St	Date: 10/5/07	Project #: 1543.02
Applicant/Owner: Stan Firestone	County/State: Clark, WA	
Test Plot Location: Southwest of SE 202 nd Ct.	Sec/Town/Range: S08, T1N, R3E	

Do normal circumstances exist at the site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plot ID: TP6
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Community ID: --
Is the site a potential problem area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Transect ID: --

VEGETATION (Strata: tree, sapling, shrub, woody vine, herb)

Dominant Plant Species

Common Name	Scientific Name	Strata	% Cover	Indicator Status
1. Soft rush	<i>Juncus effusus</i>	Herb	10	FACW
2. Tall fescue*	<i>Festuca arundinacea</i>	Herb	30	FAC-
3. Velvet grass*	<i>Holcus lanatus</i>	Herb	30	FAC
4. Northern bentgrass*	<i>Agrostis borealis</i>	Herb	30	FACU
5.		-		-
6.		-		-
7.		-		-
8.		-		-

Other species present: Robert's geranium trace
% of dominant species OBL, FACW, FAC-, FAC+, FAC 33% (more than 50% required)
Remarks: * = dominant species per the 50/20 rule.

Vegetation Criteria Met? ☐ Yes ☒ No

HYDROLOGY

Recorded data available? ☐ Yes ☒ No
Is it the growing season? ☐ Yes ☒ No
Is site inundated? ☐ Yes ☒ No

Depth of surface water: N/A
Depth to free water in pit: N/A
Depth to saturated soils: N/A

Type(s): --

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators (2 required)
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels < 12in. hgs
<input type="checkbox"/> Saturated < 12 in.	<input type="checkbox"/> Local Soil Survey Data
<input type="checkbox"/> Water Marks	<input type="checkbox"/> Water Stained Leaves
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Sediment Deposits	<input type="checkbox"/> Other (Explain in remarks)
<input type="checkbox"/> Drainage Patterns in wetlands	

Hydrology Criteria Met? ☐ Yes ☒ No

Remarks:

SOILS:

Map Unit Name: Hesson clay loam (HcB)
(Series and Phase)
Taxonomy (Subgroup): Clayey, kaolinitic, mesic Xeric Palehumults

Field observations confirm mapped soil type? ☒ Yes ☐ No

Drainage Class:

<input type="checkbox"/> Excessively Drained
<input type="checkbox"/> Somewhat Excessively Drained
<input checked="" type="checkbox"/> Well Drained
<input type="checkbox"/> Moderately Well Drained
<input type="checkbox"/> Somewhat Poorly Drained
<input type="checkbox"/> Poorly Drained
<input type="checkbox"/> Very Poorly Drained

Profile Description

Depth (inches)	Horizon	Matrix color	Mottle Color	Mottle Abundance (few, common, many)	Mottle Size (fine, med, coarse)	Texture
0-16"	-	10YR 3/2	-	-	-	silt loam

Hydric Soil Indicators

<input type="checkbox"/> Histosol (-ists)	<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Histic Epipedon (8-16")	<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Organic Pans
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Mn or Fe Concretions	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> High Organic Content in Layer of Sandy Soils	<input type="checkbox"/> Other (explain in remarks)

Remarks:

Soils Criteria Met? ☐ Yes ☒ No

WETLAND DETERMINATION

Hydrophytic Vegetation Dominant? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soil Present? ☐ Yes ☒ No

Remarks: Wetland criteria not met

Is test plot within a wetland? ☐ Yes ☒ No

Name: Amanda Castro & Kelsey Woods

Sheet 6 of 6