

## DRAFT CHECKLIST

### Agricultural Lands Analysis – Agricultural 20 Zone Associated with Rural Industrial Land Bank Site 1 Docket Application & Areawide Analysis

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#### STUDY AREA

Description	Comments
Site 1: Docket Application - Ackerland and Lagler Site	
Areawide Analysis: AG-20 Zoning in Vicinity of Site 1	The areawide study area includes AG-20 zoning between the UGAs of Battleground and Vancouver, including areas abutting Site 1 and generally continuing north, east south and west until another non-AG-20 zone designation abuts, or until the contiguous AG-20 pattern changes (such as to the east where the AG-20 area is split by Rural designations or takes access from other roads).



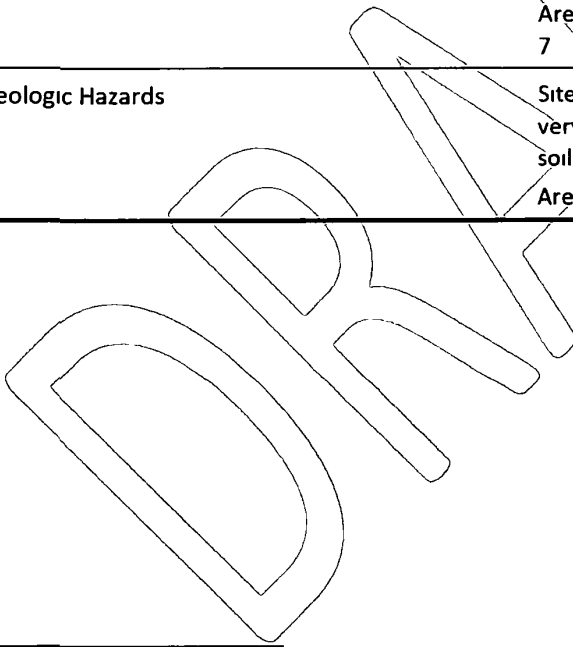
## MAPS REVIEWED

Maps	Comments
<input type="checkbox"/> Comprehensive Plan	<p>Site 1: Eastern property of 378.71 acres fully in Industrial Urban Reserve with Agriculture designation. About 30 acres of western 234 acres are in the Railroad Industrial Urban Reserve. Thus most of western property is outside of the overlays. All property designated Agriculture. See Appendix A, Exhibit 1.</p> <p>Areawide: Agriculture. Area south of Ackerland property has Agriculture with Railroad Industrial Urban Reserve Overlay. See Appendix D, Exhibit 11.</p>
<input type="checkbox"/> Zoning	<p>Site 1: AG-20. See Appendix A, Exhibit 2.</p> <p>Areawide: AG-20, small portion of Airport. See Appendix D, Exhibit 13.</p>
<input type="checkbox"/> Soils	<p>Site 1: Hillsboro silt loam (39.8%), Dollar loam (36.9%), McBee silt loam (17.7%), and Hillsboro loam (9.3%) make up over 93% of the study area soils. These are considered prime farmland soils, but McBee silt loam is considered prime farmland if drained. See soil report, Appendix B.</p> <p>Areawide: Soil types are similar to Site 1. The Soil Capability Classifications show a mix of Class 1-4 and 6-7 types. Class 1 and 2 are more prevalent to the west of SR 503 and a greater mix of soil capability classes is found east of SR 503. However, most of the area is considered prime farmland or prime farmland if drained, according to the NRCS. See Appendix D, Exhibit 16 and Appendix E.</p>
<input type="checkbox"/> Topography	<p>Site 1: Generally flat 0-5% per soils survey; maximum slope 8-15% per SEPA checklist submitted with docket application. See soil report, Appendix B.</p> <p>Areawide: Slopes are generally 0-5% per NRCS soil data.</p>

Maps	Comments
<input type="checkbox"/> Aerial photography	<p>Site 1: Primary structures in study area are dairy buildings east of SR 503 on Lagler property. See Appendix A, Exhibit 2. There are manure treatment lagoons on the Lagler property, and ditches on both properties.</p> <p>Areawide: Agricultural structures and agricultural land extend through most of the study area. There are residential uses on the agricultural properties and pockets of residential neighborhoods such as to the south (outside of the study area) of the Ackerland Site and to the east, and south of the Lagler site (outside of the study area). Southwest of the Ackerland site in the study area is Glennwood Heights Elementary School and Laurin Middle School. Southeast of the Lagler site in the study area is Hartwood Golf Course.</p>
<input type="checkbox"/> Current Use	<p>Site 1: Agriculture with current use taxation. See Appendix A, Exhibit 2.</p> <p>Areawide: Nearly all parcels are in the current use taxation program. See Appendix D, Exhibit 13. See above for land uses in the study area.</p>
<input type="checkbox"/> Parcel size	<p>Site 1: Variable. Parcel on east is 221 acres. Parcels on west range from 5 to 155.85 acres. See Appendix A, Exhibit 1.</p> <p>Areawide: The Ackerland and Lagler properties are the largest properties in the study area. Other sites are 0.26 - 0.99, 5-19.9 acres and 20-74.99 acres in size. See Appendix D, Exhibit 12.</p>
<input type="checkbox"/> Infrastructure: Roads, Sewer, Water	<p>Site 1: SR 503 splits subject property. Existing and future arterial classes serve properties. Water lines run along SR 503 and NE 119<sup>th</sup> and NE 149<sup>h</sup> Street and serve the properties. Sewer is located in the UGA south of the sites around NE 119<sup>th</sup> Street. See Appendix A, Exhibit 3.</p> <p>Areawide: Water lines traverse the area. Sewer lines are closest located south of the area in the Vancouver UGA and along SR 503 in proximity to the Lagler Property. SR 503 serves as an arterial and freight route. See Appendix D, Exhibit 14</p>
<input type="checkbox"/> Floodplains	<p>Not applicable</p>

**AGRICULTURAL LANDS ANALYSIS – AGRICULTURAL 20 ZONE  
ASSOCIATED WITH RURAL INDUSTRIAL LAND BANK**

Maps	Comments
☐ Wetlands	<p>Site 1 Wetlands are mapped, as are hydric soils See Appendix A, Exhibit 4 Also a critical areas report (Anchor QEA January 2015) indicates there are wetlands likely Category III that are less extensive than the mapped wetlands <sup>1</sup> See Appendix C</p> <p>Areawide Wetlands are mapped throughout the study area, particularly to the east of SR 503 See Appendix D, Exhibit 15</p>
☐ Streams	<p>Site 1 There are no onsite streams Site 1 is connected or adjacent to tributaries to Salmon Creek near the intersection of SR 503 and the railroad tracks on the northern portion of the site (Anchor QEA January 2015) See Appendix C</p> <p>Areawide Streams are found in the north and east of the study area See Appendix D, Exhibit 15</p>
☐ Aquifer Recharge	<p>Site 1 Extensive Category 2, Limited Category 1 See Appendix A, Exhibit 7</p> <p>Areawide Same as for Site 1, See Appendix D, Exhibit 7</p>
☐ Geologic Hazards	<p>Site 1 No presence of landslide or erosion hazards, very low to low liquefaction hazards, except in peat soils See Appendix D</p> <p>Areawide Same as Site 1</p>



<sup>1</sup> Based on the Anchor QEA reconnaissance and research (January 2015), due to the intensity of land management at Site 1, wetlands as mapped in the NWI and County dataset appeared significantly different than conditions encountered in the field, where the distribution of potential wetland areas appeared much more limited. There may be potential wetlands associated with muck soils on the eastern property adjacent to drainage ditches. These would likely be categorized as Depressional Category III wetlands (46 points using the 2004 rating system, 18 points using the 2014 rating system<sup>1</sup>). Potential wetland areas associated with McBee Silt Loam and not connected to ditches as shown in Figure 7 would likely be categorized as Depressional Category III wetlands (36 points using the 2004 rating system, 16 points using the 2014 rating system). None of the potential wetlands identified in Figure 7 would rate well for habitat function or water quality. However, these ratings are preliminary and subject to change based on a formal delineation of the site and additional information, such as the downstream basin flood regime. Further site study will be required to make definitive determinations on wetland presence or absence, as well as potential wetland boundaries for the determination of wetland buffer widths.

## ANALYSIS

WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
<p>(1) In classifying and designating agricultural resource lands, counties must approach the effort as a county-wide or area-wide process. Counties and cities should not review resource lands designations solely on a parcel-by-parcel process. Counties and cities must have a program for the transfer or purchase of development rights prior to designating agricultural resource lands in urban growth areas. Cities are encouraged to coordinate their agricultural resource lands designations with their county and any adjacent jurisdictions.</p>	<p>Conducted as part of Comprehensive Plan Update in 2007</p>	<p>Areawide analysis is being prepared for four RILB inventory sites including Site 1, Ackerland and Lagler See right</p>	<p>The areawide study area includes AG-20 zoning between the UGAs of Battleground and Vancouver, including areas abutting Site 1 and generally continuing north, east south and west until another non-AG-20 zone designation abuts, or until the contiguous AG-20 pattern changes (such as to the east where the AG-20 area is split by Rural designations or takes access from other roads) See Appendix D</p>
<p>2) Once lands are designated, counties and cities planning under the act must adopt development regulations that assure the conservation of agricultural resource lands. Recommendations for those regulations are found in WAC 365-196-815</p>	<p>The County has adopted development regulations to conserve agricultural resource lands</p>	<p>The County has adopted development regulations to conserve agricultural resource lands</p>	<p>The County has adopted development regulations to conserve agricultural resource lands</p>
<p>(3) Lands should be considered for designation as agricultural resource lands based on three factors</p>			

WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
<p>(a) The land is not already characterized by urban growth. To evaluate this factor, counties and cities should use the criteria contained in WAC 365-196-310</p>	<ul style="list-style-type: none"> <li>• The 35 parcels range in size from 0.19-222 acres</li> <li>• Water lines are located within the sub area boundaries</li> <li>• No sewer lines within the sub area</li> <li>• Sub area is within urban reserve overlay</li> <li>• Surrounded by Urban Reserve zoning</li> </ul>	<p>The Site 1 study area parcels range from 0.26 to 100.0 acres or greater with two at 100 acres or greater. The parcels are in agricultural or rural residential use. There are agricultural buildings with a dairy operation east of SR-503. See Appendix A, Exhibit 1</p>	<p>The Ackerland and Lagler properties are the largest properties in the study area. Other sites are 0.25-0.99 acre, 5-19.9 acres and 20-74.99 acres in size. See Appendix D, Exhibit 12</p>
<p>(b) The land is used or capable of being used for agricultural production. This factor evaluates whether lands are well suited to agricultural use based primarily on their physical and geographic characteristics. Some agricultural operations are less dependent on soil quality than others, including some livestock production operations</p>	<p>IN COMMERCIAL PRODUCTION?</p> <ul style="list-style-type: none"> <li>• 3 farms are located within the sub area as identified in the Globalwise report maps</li> <li>• 84% in ag/farm current use program</li> <li>• CAPABLE?</li> <li>• 79% prime ag soils</li> <li>• 66.41% critical land</li> <li>• hydric soils, wetland, priority species buffer</li> </ul>	<p>The Lagler property is primarily in use as a dairy. The Ackerland property is used for hay production. USDA soil data show most of the land in the study area is capable of production (see land capability ratings below), some is considered to have limitations depending on whether the land is drained or due to other limiting factors. See Appendix A, Exhibit 5 and Appendix B</p> <p>The eastern portion of the Lagler property is in Drainage District 5. The Lagler property is largely in the China Ditch sub-watershed and the Ackerland property is largely within the Salmon Creek watershed. See Appendix A, Exhibit 6</p> <p>The pastures and fields of Site 1 are extensively managed to control surface water through drain tile in certain</p>	<p>Much of the study area is in current use taxation for agriculture, see Appendix D. The USDA soil data show most of the land in the study area is considered prime farmland soil and (see land capability rating below) and capable of production with some limitations as described for Site 1. See Appendix E</p> <p>East of SR 503, some of the land is in Drainage District 5 and mostly in the China Ditch sub-watershed. West of SR 503, the study area is within the Salmon Creek and Curtain Creek watersheds. See Appendix A, Exhibit 6</p> <p>Similar to Site 1, it is anticipated that much of the land non-irrigated and is drained. A student research paper addressing a Lacamas Lake Watershed Research Project indicated that the China Ditch sub-basin contains fields and pasture that have manmade</p>

WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		parcels (per description provided by property owner) and maintenance of the District 5 drainage system on the eastern property (Anchor QEA January 2015) See Appendix C	channels to drain wetlands for agricultural use, and that the marshy land is not suited for urban development (Beam 2004 <sup>2</sup> )
(i) Lands that are currently used for agricultural production and lands that are capable of such use must be evaluated for designation. The intent of a landowner to use land for agriculture or to cease such use is not the controlling factor in determining if land is used or capable of being used for agricultural production. Land enrolled in federal conservation reserve programs is recommended for designation based on previous agricultural use, management requirements, and potential for reuse as agricultural land.		The property is used for agriculture. Based on USDA Crop Scape data, the Lagler property east of SR 503 is shown as in Alfalfa production, and the Ackerland property west of SR 503 is mapped as growing oats and wheat. See Appendix A, Exhibit 2 and Exhibit 8.	Based on current use taxation records it appears that much of the land is used for agriculture, though some for residential, school, or golf course uses. The USDA Crop Scape data indicates Alfalfa, hay, cranberries, and barley are being grown in the study area, but a large part of the area is in grass/pasture, and non-Agriculture. See Appendix D, Exhibit 17.
(ii) In determining whether lands are used or capable of being used for agricultural production, counties and cities shall use the land-capability classification system of the United States Department of Agriculture Natural Resources Conservation Service as defined in	Prime farmland classes considered. Land capability class appears not to have been addressed.	The study area contains non-irrigated Class 1, 2, and 3 farmland soils with some Class 6 soils. See Appendix A, Exhibit 5. According to the NRCS, capability levels are high or moderate for Class 1 and 2 soils and limited for Class 3, and in particular Class 6. Class 1 soils have few limitations that	The areawide information shows that the area contains non-irrigated Class 1, 2, 3, 4, 6, and 7 soils. See Appendix D, Exhibit 16. Capability levels are high or moderate for Class 1 and 2 soils and limited for Class 3, and more limited for categories 4, 6, and 7. Classes not described at left are

<u>WAC 365-190-050 Criteria</u>	2007 Analysis Site 1	2015 Analysis. Site 1	2015 Analysis Site 1 Areawide
<p>relevant Field Office Technical Guides These eight classes are incorporated by the United States Department of Agriculture into map units described in published soil surveys, and are based on the growing capacity, productivity and soil composition of the land</p>		<p>restrict their use</p> <p>Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices</p> <p>Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both</p> <p>Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat</p>	<p>Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both</p> <p>Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat</p> <p>Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat</p>
<p>(c) The land has long-term commercial significance for agriculture In determining this factor, counties and cities should consider the following nonexclusive criteria, as applicable</p>			



WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide																												
<p>(i) The classification of prime and unique farmland soils as mapped by the Natural Resources Conservation Service,</p>	<p>79% prime ag soils</p>	<p>About 77% Category 1, 2, and 3 soils are considered prime farmland. A portion of Category 6 soils, 18% of total soils, is prime farmland if drained. The site is drained by ditches and tiles (See Appendix C). Therefore between up to 98.5% of the soils are considered as prime farmland. See Appendix B.</p> <table border="0"> <tr><td>Cat 1</td><td>40%</td></tr> <tr><td>Cat 2</td><td>9%</td></tr> <tr><td>Cat 3</td><td>28%</td></tr> <tr><td>Cat 6</td><td>22%</td></tr> <tr><td>Water</td><td>1%</td></tr> <tr><td>Total</td><td>100%</td></tr> </table>	Cat 1	40%	Cat 2	9%	Cat 3	28%	Cat 6	22%	Water	1%	Total	100%	<p>About 71.0% of Category 1, 2, and 3 soils are considered prime farmland. A portion of Category 3, 6 and 7 soils (21.6%) are considered prime farmland if drained. Therefore between 71-92.6% of soils are considered prime farmland. See Appendix E.</p> <table border="0"> <tr><td>Cat 1</td><td>18.3%</td></tr> <tr><td>Cat 2</td><td>15.0%</td></tr> <tr><td>Cat 3</td><td>38.3%</td></tr> <tr><td>Cat 4</td><td>0.1%</td></tr> <tr><td>Cat 6</td><td>28.1%</td></tr> <tr><td>Cat 7</td><td>0.0%</td></tr> <tr><td>Water</td><td>0.2%</td></tr> <tr><td>Total</td><td>100.0%</td></tr> </table>	Cat 1	18.3%	Cat 2	15.0%	Cat 3	38.3%	Cat 4	0.1%	Cat 6	28.1%	Cat 7	0.0%	Water	0.2%	Total	100.0%
Cat 1	40%																														
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Cat 4	0.1%																														
Cat 6	28.1%																														
Cat 7	0.0%																														
Water	0.2%																														
Total	100.0%																														
<p>(ii) The availability of public facilities, including roads used in transporting agricultural products</p>	<p>Water lines are located within the sub area boundaries.  Education facilities adjacent  Airport adjacent  The sub area is split by SR-503</p>	<p>SR 503 splits the two properties under consideration. It is a designated freight route and an arterial. See Appendix A, Exhibit 3. SR 503 average daily traffic northbound at NE 119<sup>th</sup> Street at the southern property boundary carries 13,959 ADT (2012). Southbound SR 503 at 19<sup>th</sup> Street carries 14,015 ADT (2012).</p> <p>The state route carries urban traffic, and is not a rural road used primarily for the transport of agricultural products.</p> <p>WSDOT has indicated a concern about adding no new traffic signals between</p>	<p>The analysis is similar as for Site 1 by itself. Water lines traverse the area. Sewer lines are closest located south of the area in the Vancouver UGA and along SR 503 in proximity to the Lagler Property. SR 503 serves as an arterial and freight route.</p>																												

WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		<p>NE 119th and NE 159th Streets along SR 503</p> <p>There is a small airport landing strip north of the Lagler property. There are adjacent education facilities near the Ackerland property.</p> <p>Water lines run along SR 503 and NE 119<sup>th</sup> and NE 149<sup>h</sup> Street and serve the properties. Sewer is located in the UGA south of the sites around NE 119<sup>th</sup> Street.</p>	
<p>(iii) Tax status, including whether lands are enrolled under the current use tax assessment under chapter 84 34 RCW and whether the optional public benefit rating system is used locally, and whether there is the ability to purchase or transfer land development rights,</p>	<p>84 01% in ag/farm current use program</p>	<p>All of the subject property is in the agricultural current use taxation program. See Appendix A, Exhibit 2.</p>	<p>Most of the properties in the study area are in current use taxation. See Appendix D, Exhibit 13.</p>
<p>(iv) The availability of public services,</p>	<p>See ii above</p>	<p>The property north of the Lagler site east of SR 503 is zoned as Airport and is privately owned. The property is called the Brush Prairie Aerodrome and allows usage by 10 single engine aircraft. (AirNav com, 2014)</p> <p>Summit View High School lies north of the Ackerland property west of SR 503. Laurin Middle School and Glennwood Heights Elementary school are southwest of the Ackerland property.</p> <p>Fire protection is provided by Fire District 3 for the vast majority of the</p>	<p>Airport. See Site 1 information.</p> <p>Schools: Laurin Middle School and Glennwood Heights Elementary school are in the study area boundary. Summit View High School lies north of the Ackerland property west of SR 503.</p> <p>Fire protection: Fire Protection District 3 services areas east of SR 503 and most of the Ackerland property and some adjacent areas west of SR 503. Fire District 5 serves most of the area west of SR 503.</p>

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		<p>property The southwest portion of the Ackerland property is in Fire District 5 Sheriff Law enforcement is provided by the Clark County Sheriff, from the Central Precinct at 505 NW 179th Street-Ridgefield, WA 98642</p>	<p>Sheriff Same as for Site 1</p>
(v) Relationship or proximity to urban growth areas,	<p>Southern tip of sub area boundary borders Vancouver's northern UGA boundary</p>	<p>The site is connected to the Vancouver UGA on the south See Appendix A, Exhibit 1</p>	<p>The area is between the UGAs of Battleground and Vancouver but lies closer to the Vancouver UGA and its infrastructure and services</p>
(vi) Predominant parcel size,	<p>Range 0 19- 222 16 acres Median parcel size 22 42 acres</p>	<p>The property contains parcels of just less than 0 26 acres to more than 100 acres See Appendix A, Exhibit 1</p>	<p>The Ackerland and Lagler properties are the largest properties in the study area Other sites are 0 26 - 0 99 acre, 5-19 9 acres and 20-74 99 acres in size See Appendix D, Exhibit 12</p>
(vii) Land use settlement patterns and their compatibility with agricultural practices,	<p>The land within the sub area boundary is characterized by rural land uses (open fields, farms, rural residential) Farms are classified as Livestock/Dairy, Vegetable/Fruit, and Specialty</p>	<p>The property is generally open in character, except for the dairy buildings and some homes UGA territory is to the south and commercial and residential uses have been developed Permit activity shows both commercial and residential permits See Appendix A, Exhibit 10</p>	<p>Agricultural structures and agricultural land extend through most of the study area There are residential uses on the agricultural properties and pockets of residential neighborhoods such as to the east of the Lagler site Southwest of the Ackerland site in the study area is the Glennwood Heights Elementary School and Laurin Middle School Southeast of the Lagler site in the study area is Hartwood Golf Course</p>

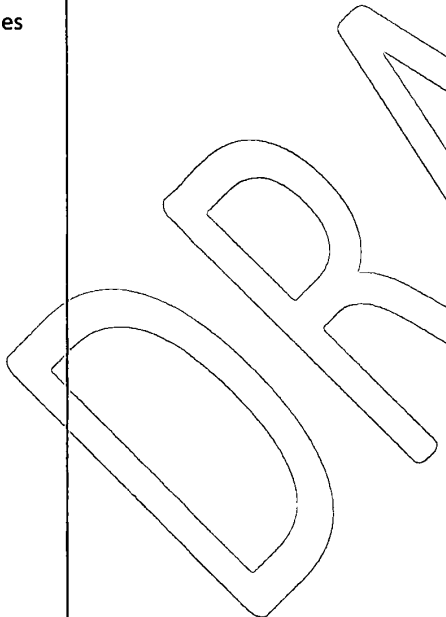
WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
(viii) Intensity of nearby land uses,	Surrounding area is comprised of open space, rural residential (R-5 zone) and there is a Rural Center to the North Urban Holding overlay was recently lifted on parcels to the south of sub area	Residential density south of NE 119 <sup>th</sup> Street ranges from 5-10 units per acre, 10-20 units per acre, and 20+ units per acre See Appendix A, Exhibit 9	Same as for Site 1 south of the study area Within the study area, the densities range with some lots closer to urban densities (0.26 - 0.99 acre) and other rural in character (< 5 acres) Most lots have homes on them
(ix) History of land development permits issued nearby,	150-unit condo project (Delyria) to south within UGA	Over time there have been a series of permit applications south of the sites along NE 119 <sup>th</sup> Street and north of NE 149 <sup>th</sup> Street See Appendix A, Exhibit 10	Same as for Site 1 The permit applications have been more prevalent in areas encircling the study area in the Vancouver and Battleground UGAs There have been some permits in the study area such as t the Golf Course or sites along the arterials near Ackerland
(x) Land values under alternative uses, and	AG-20 \$16/acre Proposed zoning Light Industrial \$127/acre	Land values for non-agricultural uses of the Lagler and Ackerland properties are significantly greater than for agricultural uses  The 2014 market value of the Lagler land east of SR 503, according to the Assessor, is \$1,490,797.00 With buildings the value is \$2,268,396.00 Due to the current use assessment the property is being taxed at a lower rate than its market value at \$885,058.00 The land value under market conditions is higher  The 2014 market value of the Ackerland land west of SR 503 is \$2,074,436.00 With buildings the value is \$2,219,692.00 The property is taxed at a value of \$307,031.00 given	Similar results as for Site 1 as most of the properties are in current use taxation

<u>WAC 365-190-050 Criteria</u>	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		<p>its current use assessment The land value under market conditions is higher</p> <p>If the docket study area were used for light industrial purposes rather than rural purposes, it is likely the value of the land would be higher than the difference already seen between the assessed value and market value</p>	
(xi) Proximity to markets	In close proximity to Vancouver UGA market	Vancouver is the primary market for local food However, the Lagler dairy provides its milk products to the Tilamook Cooperative The Ackerland property provides hay/silage for animal feed to the Lagler dairy [Confirm] <sup>3</sup>	Vancouver is the primary market for local food
(4) When designating agricultural resource lands, counties and cities may consider food security issues, which may include providing local food supplies for food banks, schools and institutions, vocational training opportunities in agricultural operations, and preserving heritage or artisanal foods		<p>In Clark County the number of small farms has been increasing over time, and represent more intensive, value-added, urban-oriented farming (BERK 2012)</p> <p>As described above, the Lagler dairy does not sell its product locally Other small operators in the County do, such as</p> <p>Dobler Hill Dairy, LLC, Woodland Spanish Sunrise Dairy, Yacolt Vantol Dairy, La Center (WSU Extension Farm and Crop</p>	Similar analysis as for Site 1 In Clark County the number of large and medium size farms has been declining and small farms has been increasing over time, and represent more intensive, value-added, urban-oriented farming (BERK 2012)

<sup>3</sup> Email has been sent to Steve Horenstein to confirm

<u>WAC 365-190-050 Criteria</u>	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		<p>Locator,  <a href="http://smallfarms.wsu.edu/farms/search_result.asp">http //smallfarms wsu edu/farms/search result asp</a>)</p> <p>The Clark County Food System Council addresses food security in the County and is promoting the use of locally grown food for the emergency food system, supporting the trend of urban farming, the availability of locally grown food in local stores, as well as promoting agricultural activity and production across the county (Food System Council 2013)</p>	

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WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide															
<p>(5) When applying the criteria in subsection (3)(c) of this section, the process should result in designating an amount of agricultural resource lands sufficient to maintain and enhance the economic viability of the agricultural industry in the county over the long term, and to retain supporting agricultural businesses, such as processors, farm suppliers, and equipment maintenance and repair facilities</p>		<p>The number of farms across the County increased between 1997 and 2012, but between 2007 and 2012 had a slight decline</p> <table border="1" data-bbox="1038 446 1442 673"> <thead> <tr> <th></th> <th>1997</th> <th>2002</th> </tr> </thead> <tbody> <tr> <td>Total Farms with Sales - Specified Products</td> <td>1,124</td> <td>1,651</td> </tr> <tr> <td>Total Farms with Sales Not Specified</td> <td>1,765</td> <td>1,596</td> </tr> </tbody> </table> <p>The number of dairies in the County has steadily decreased in the county according to the US Census of Agriculture. Between 1997 and 2012 the number of dairies went from 32 to 9, the most recent decline went from 25 in 2002 and 2007 to 9 in 2012</p> <p>Hay and forage land represents the top cropland in acres in the County, 17,541 acres of 74,758 acres in farms. The number of farms with crops and hay shows an increase between 2002 and 2007 and a more recent decline in 2012</p> <table border="1" data-bbox="1038 1128 1442 1209"> <thead> <tr> <th></th> <th>1997</th> <th>2002</th> </tr> </thead> <tbody> <tr> <td>Crops &amp; Hay</td> <td>Not available</td> <td>284</td> </tr> </tbody> </table> <p>Regarding trends of agriculture across the County, findings of the Rural Lands Study (May 2012) included</p> <p>Key Finding #1 Agriculture in Clark</p>		1997	2002	Total Farms with Sales - Specified Products	1,124	1,651	Total Farms with Sales Not Specified	1,765	1,596		1997	2002	Crops & Hay	Not available	284	<p>Similar analysis regarding economic viability as for Site 1</p> <p>The Docket Site 1 consists of about 613 acres. This is about 19% of the areawide acreage of 3,214</p> <p>If Site 1 were removed from the AG-20 designation most of the study area would remain in AG-20 zoning. The area west of SR 503 would be more isolated from the AG-20 areas east of SR 503. However, there is not a known dependence among the agricultural businesses as there is between the Ackerland and Lagler sites (Ackerland site provides feed and pasture for Lagler dairy)</p>
	1997	2002																
Total Farms with Sales - Specified Products	1,124	1,651																
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	1997	2002																
Crops & Hay	Not available	284																

<u>WAC 365-190-050 Criteria</u>	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		<p>County in 2011 is in the midst of a decade's long transition from large scale commodity farming into more intensive, value-added, urban-oriented farming</p> <p>Key Finding #2 Large farm and mid-size farms are declining in number, acres, and value. However, they remain a viable enterprise but face a multitude of challenges</p> <p>Key Finding #3 A Diverse set of small farms and enterprises are increasingly becoming part of the rural landscape</p> <p>The findings show the number of farms has been increasing (e.g. 2002-2007) but has been experiencing a decline in average size and are becoming more urban-oriented</p> <p>Based on the Rural Lands Study (BERK 2012), there has been a "decline in the number of commercial and mid-sized farms in Clark County between 1997 and 2007, and presumably through 2012 (relayed anecdotally from key informants)." The long-term outlook for larger farms in Clark County is in transition due to water rights, labor, and access farm supportive services "Consolidation in some sectors of the agricultural industry is taking crop production out of the State (and occasionally out of the country) Increasing labor costs and uncertainty</p>	



WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
		<p>(due to federal immigration policies) make labor intensive crop production unattractive to many commercial farms " (BERK 2012)</p> <p>The 2012 Rural Lands Study indicated that milk production was experiencing some stability due to milk prices "There is some sense that certain agricultural products—particularly those that are established and are not labor-intensive—have a future in the county Milk products provide the greatest share of commodity totals in Clark County and the number of milk-producing farms has stayed constant between 2002 and 2007, while experiencing modest growth in output due to rebound in commodity value of milk Some farmers also mentioned that demand is not currently being met in this commodity area" (BERK 2012)</p> <p>It should be noted that the Rural Lands Study did not have access to the 2012 Census of Agriculture results at the time Though the number of dairies was at 25 in both the 2002 and 2007 Census reports, dairies have since been reduced to 9 according to the 2012 Census of Agriculture</p> <p>The value of milk production from cows in 2012 is \$14.5 million out of the total value of all agricultural products at \$50.9 million Presently, milk</p>	

WAC 365-190-050 Criteria	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis. Site 1 Areawide
		<p>production is a relatively large share in the total value of agricultural products, though the long-term trends of large and mid-size farms is one of decline</p> <p>Reasons for the decline in dairies, may include The cost of running a smaller dairy has increased, as have regulatory requirements such as water quality Lower land prices, lower rainfall, and the efficiencies gained with a larger operation and management have led many dairies to move from Western Washington to Eastern Washington <sup>4 5</sup></p>	
<p>(6) Counties and cities may further classify additional agricultural lands of local importance Classifying additional agricultural lands of local importance should include, in addition to general public involvement, consultation with the board of the local conservation district and the local committee of the farm service agency It may also be useful to consult with any existing local organizations marketing or using local produce, including the boards of local farmers markets, school districts,</p>		<p>The County has not designated agricultural land of local importance This is an optional policy choice</p>	<p>Same as for Site 1</p>

<sup>4</sup> Dairy Herd News Source January 17, 2011 Washington dairies moving to eastern part of state <http://www.dairyherd.com/dairy-news/latest/washington-dairies-moving-to-eastern-part-of-state-113939604.html>

<sup>5</sup> Emailed WSU Extension and Clark Conservation Districts to discuss Pending response

<u>WAC 365-190-050 Criteria</u>	2007 Analysis Site 1	2015 Analysis Site 1	2015 Analysis Site 1 Areawide
<p>other large institutions, such as hospitals, correctional facilities, or existing food cooperatives</p> <p>These additional lands may include designated critical areas, such as bogs used to grow cranberries or farmed wetlands. Where these lands are also designated critical areas, counties and cities planning under the act must weigh the compatibility of adjacent land uses and development with the continuing need to protect the functions and values of critical areas and ecosystems.</p>			

DRAFT

## SUMMARY

### Site 1

The Site 1 Ackerland and Lagler properties are zoned and used for agriculture and contain a majority of prime farmland soils. The type of farm operations are large in the County's range of agricultural properties. The long-term trend is of decline in large and mid-size operations, and rather an increase in small farms oriented to the urban, local food movement.

The agricultural market is showing an increase in small value added production and direct sales, CSAs, and other newer local food trends. The subject properties are not part of the local food system. Larger and mid-size farms by contrast have been ceasing operations as they are consolidated or moved to other areas of the state or country where such operations can be profitably operated.

The subject sites are in proximity of urban uses at urban densities, with urban services including water and sewer. Schools are located in proximity to the sites. Fire protection is by special districts and police protection would remain with the Clark County Sheriff. There has been recent permit activity regarding commercial and residential uses to the south and north of the sites. The volume of traffic on SR 503 is that of an urban arterial.

Subject sites are under current use taxation, and thus the effect of growth pressures is not felt fiscally. The value of the land under urban uses would be greater.

### Areawide

Site 1 consists of about 613 acres. This is about 19% of the areawide acreage of 3,214. If Site 1 were removed from the AG-20 designation, about 80% of the areawide study area would remain in AG-20 zoning. The area west of SR 503 would be more isolated from the AG-20 areas east of SR 503. There is not a known dependence among the agricultural businesses as there is between the Ackerland and Lagler sites (Ackerland site provides feed and pasture for Lagler dairy).

Within the study area, the uses are typically agriculture but there are pockets of residential lots, educational and recreational uses.

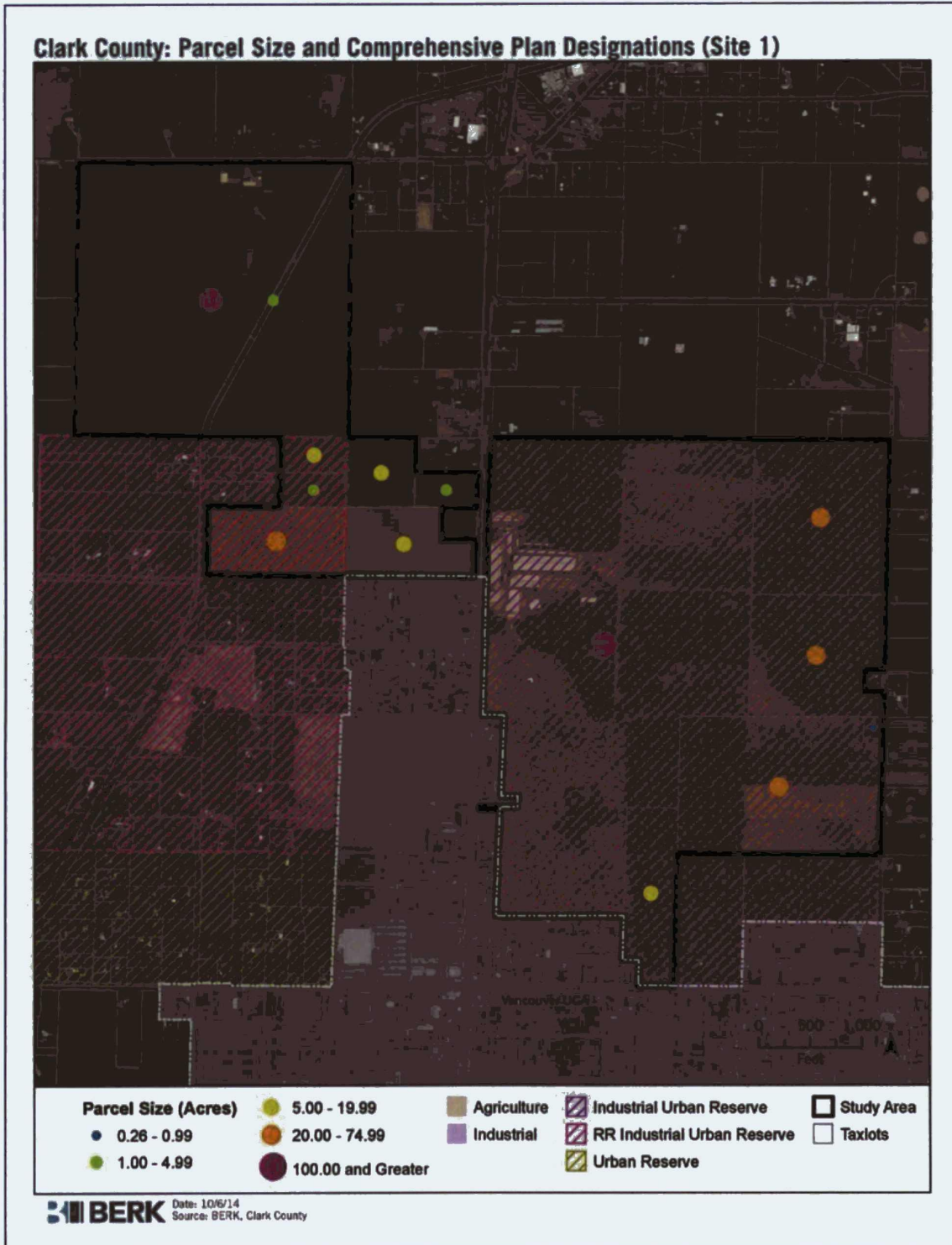
The removal of the Site 1 properties from the areawide acreage would continue the decline in large and mid-size operations, and would remove some of the larger parcels in the County's AG-20 inventory. This trend would likely continue with or without the Site 1 properties, and the trend towards small farms would likely continue.

As with Site 1, the areawide AG-20 study area lies in proximity of urban uses at urban densities, with urban services including water and sewer, particularly from the Vancouver UGA. There are schools within the study area. Emergency services are provided by two fire districts and the Clark County Sheriff and these would continue in any case. There has been recent permit activity regarding commercial and residential uses encircling the study area. The volume of traffic on SR 503 is that of an urban arterial; other arterial border the study area.

Most of the area is in current use taxation, and it is likely the value of the land for urban uses would be higher than for the use under agriculture.

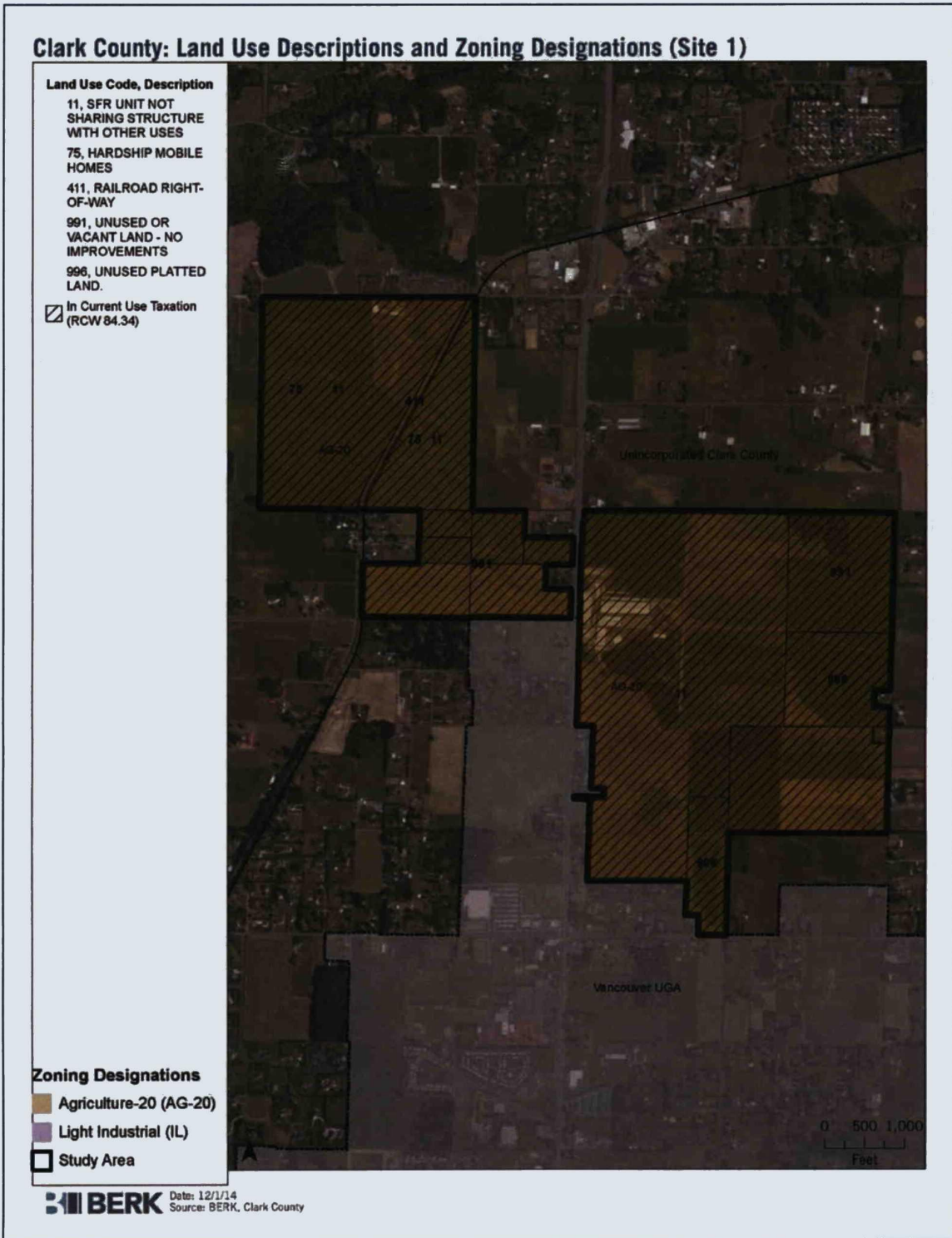
# APPENDIX A. MAPS AND DATA

Exhibit 1. Docket Comprehensive Plan Designation and Parcel Sizes



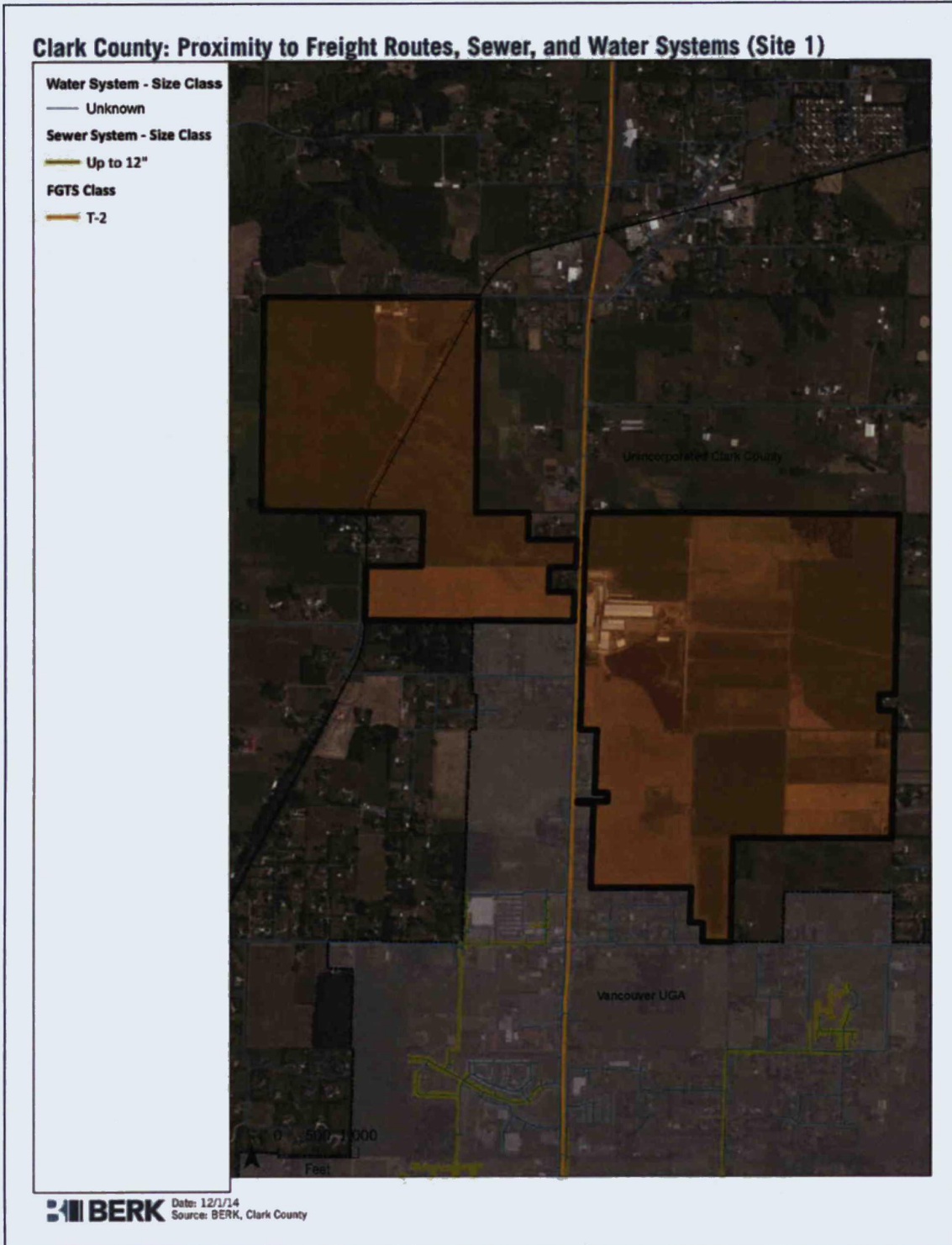
Source: Clark County GIS, BERK Consulting 2014

Exhibit 2. Docket Current Land Uses and Zoning



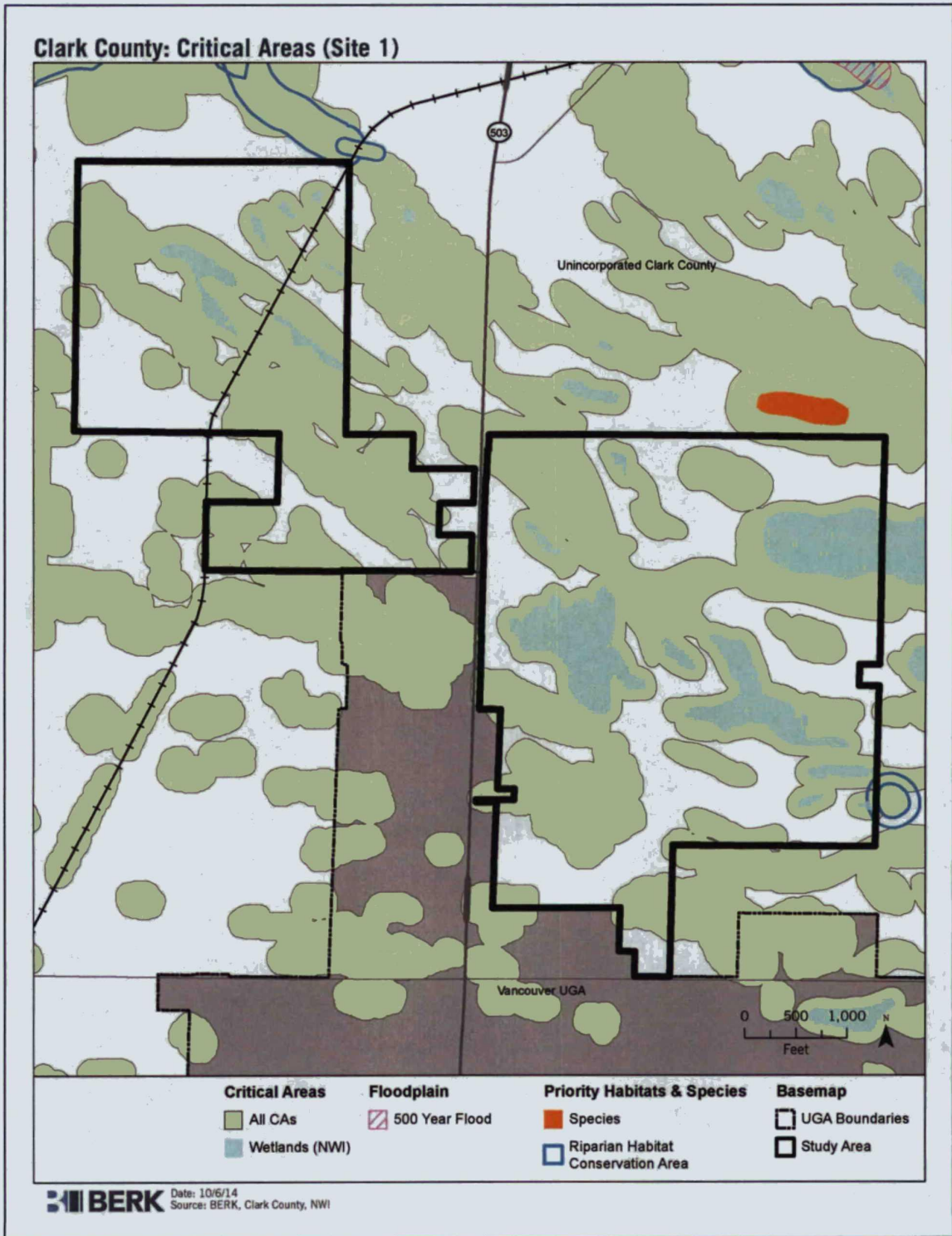
Source: Clark County GIS, BERK Consulting 2014

Exhibit 3. Docket Proximity of Freight Routes, Water, and Sewer Facilities



Source: Clark County GIS, BERK Consulting 2014

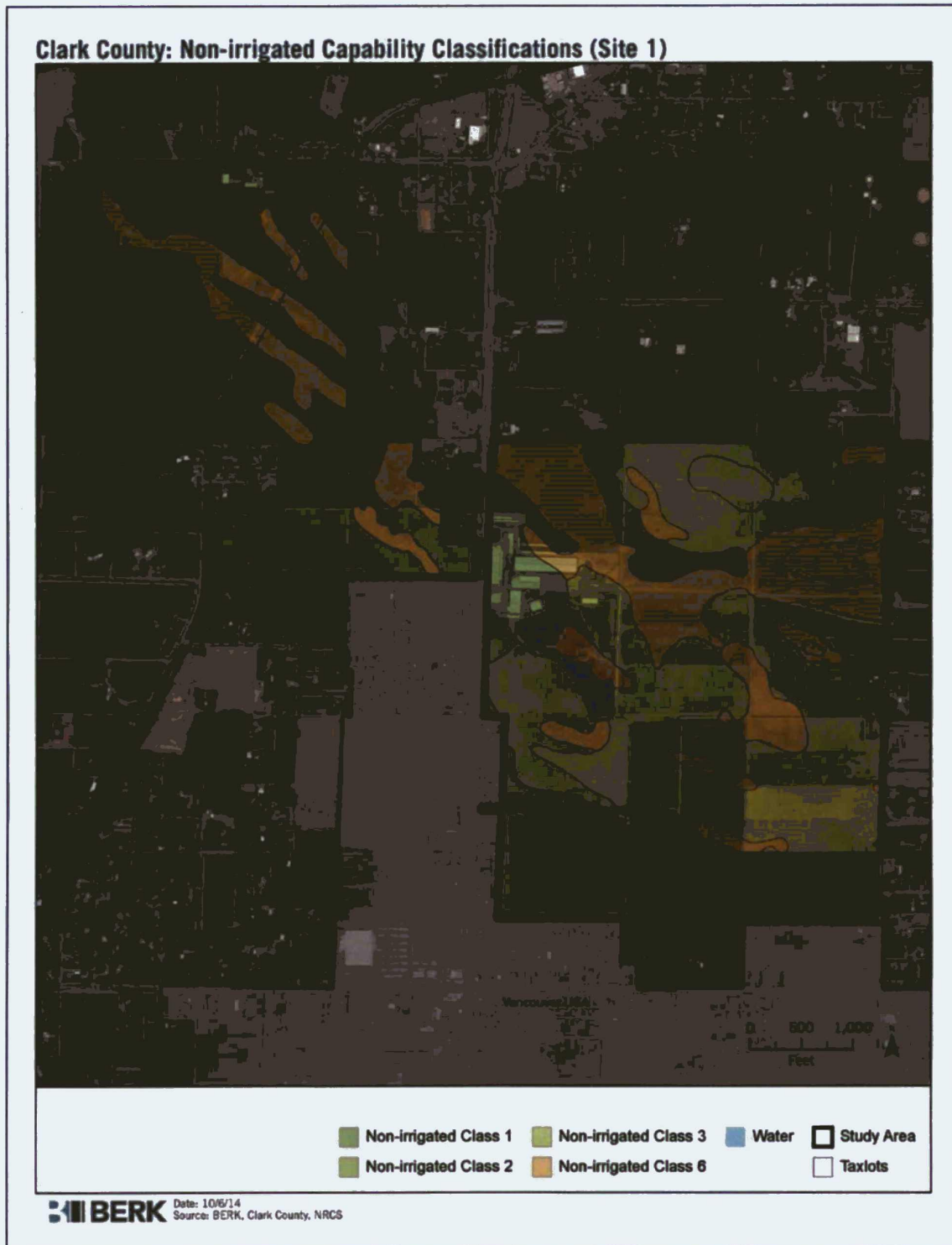
Exhibit 4. Docket Mapped Presence of Critical Areas



Source: Clark County GIS, BERK Consulting 2014

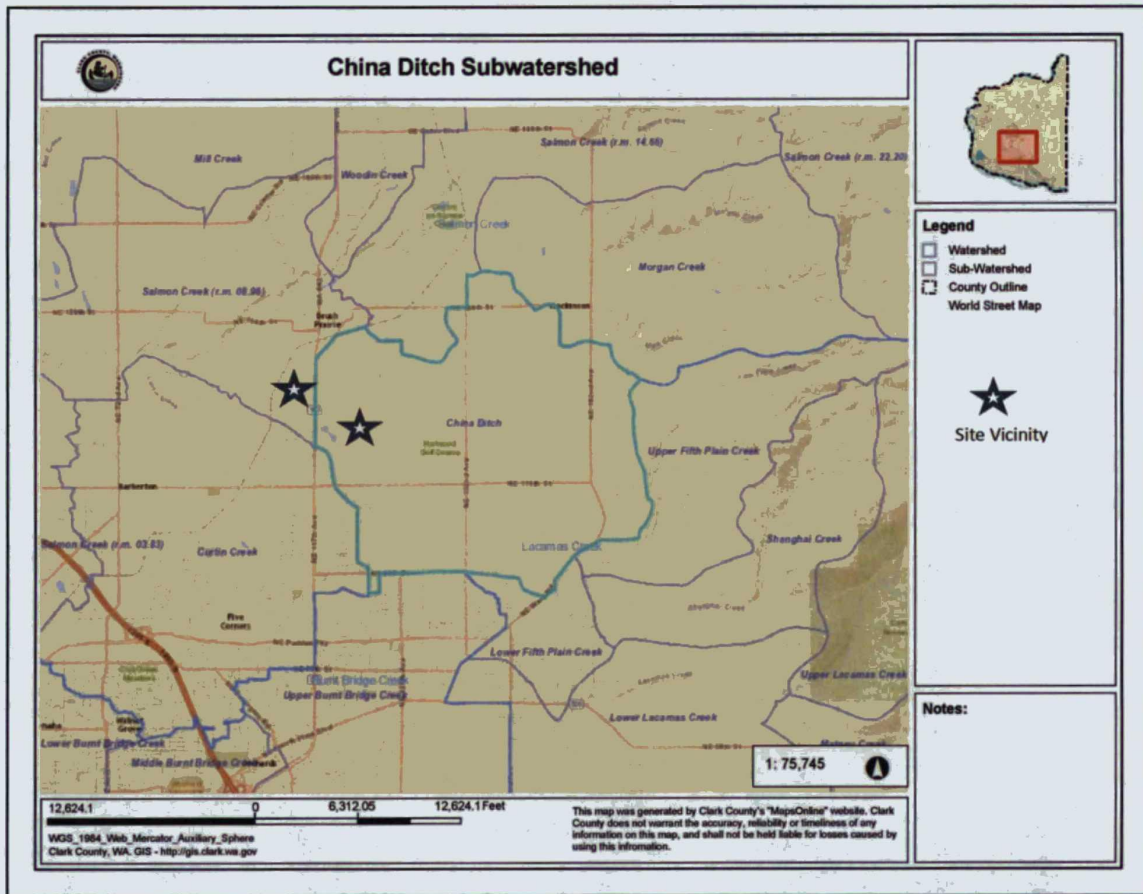


### Exhibit 5. Docket Soil Capability Classes



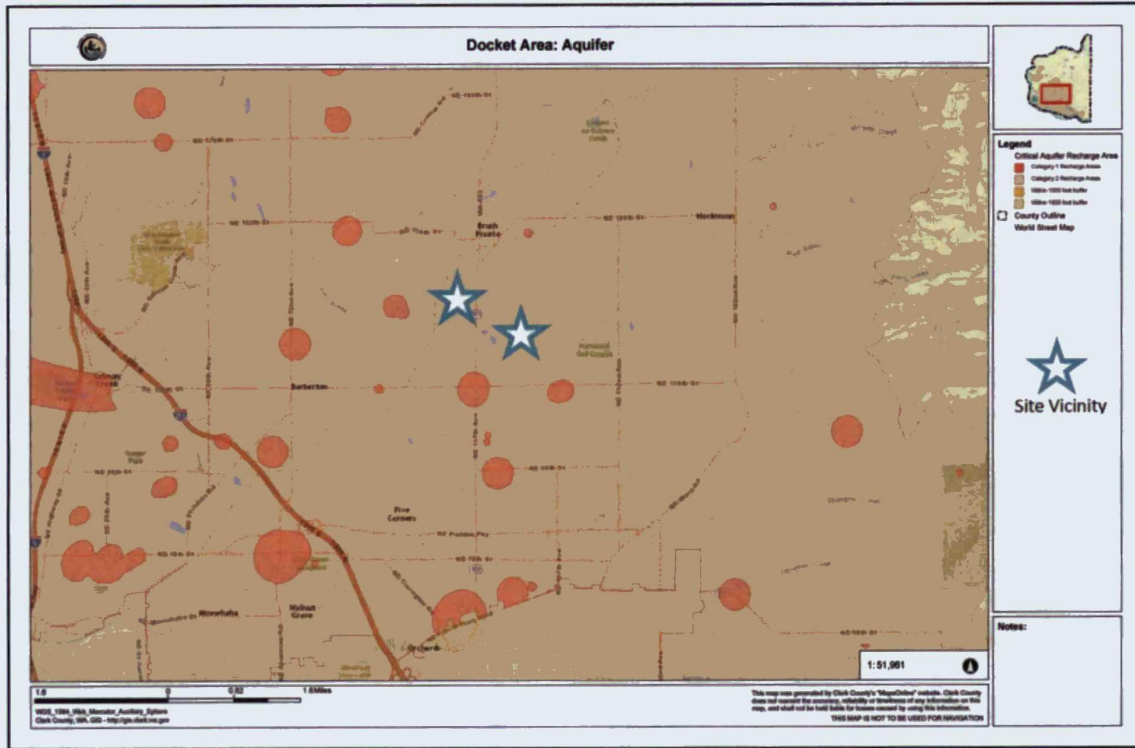
Source: Clark County GIS, BERK Consulting 2014

### Exhibit 6. Vicinity Drainage Basins

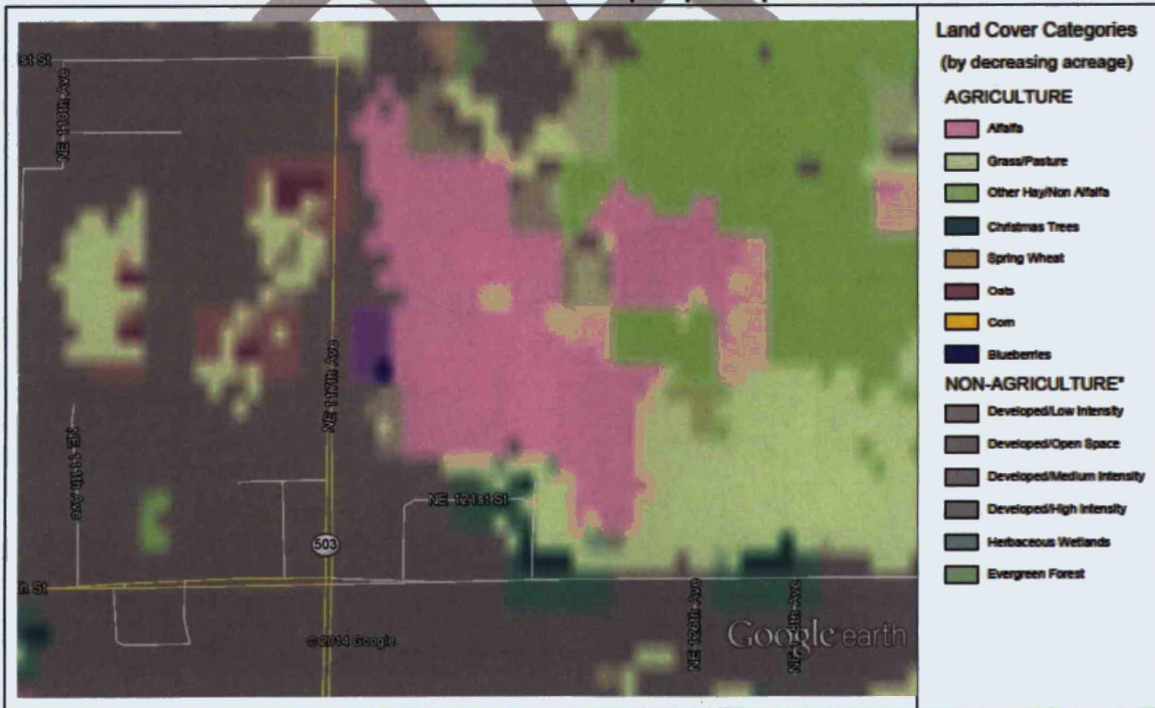


Source: Clark County GIS 2014

### Exhibit 7, Aquifer Classifications in Vicinity

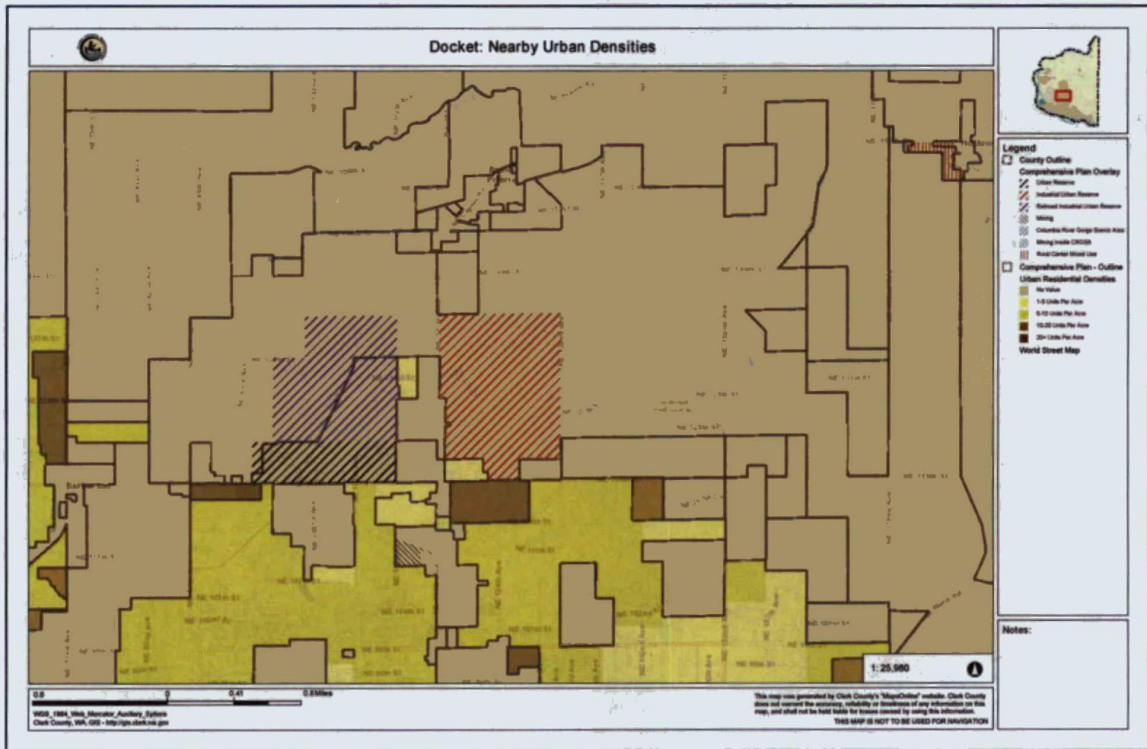


### Exhibit 8. USDA CropScape Map



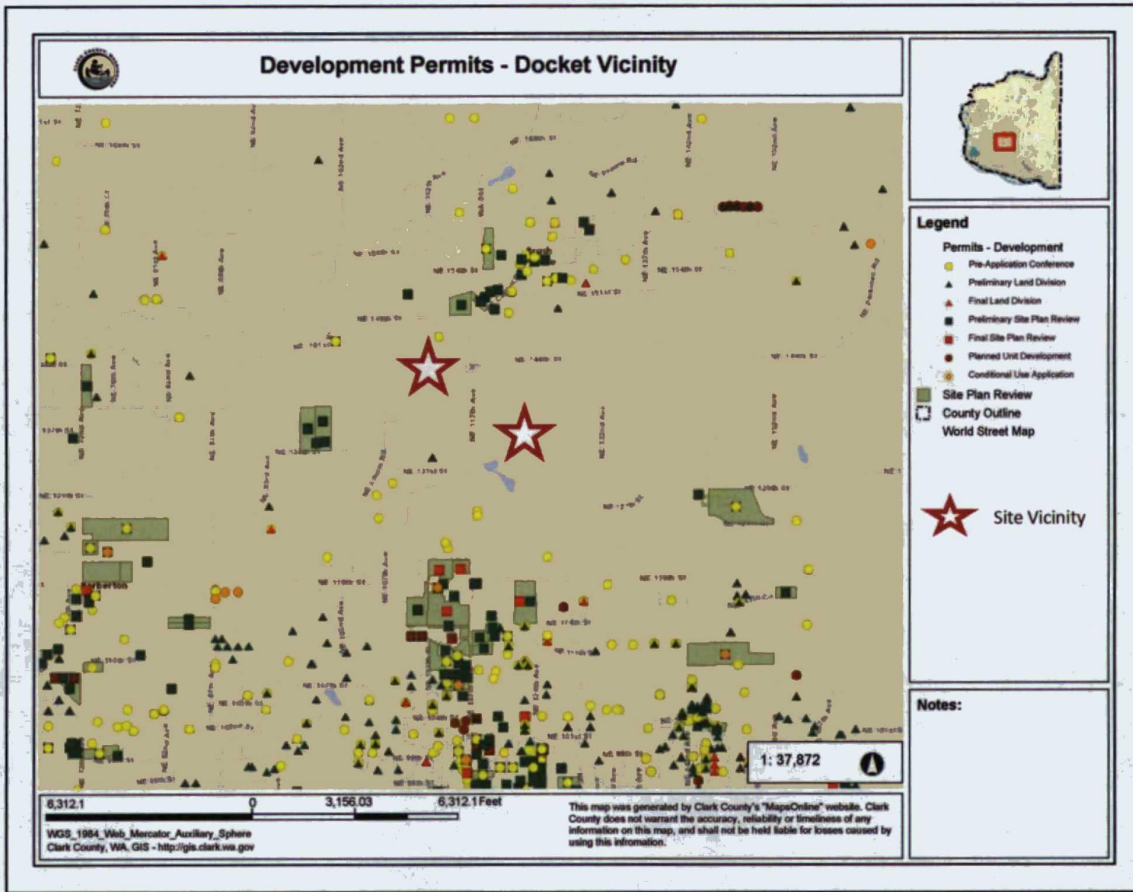
Source: USDA 2013

### Exhibit 9. Nearby Urban Densities



Source: Clark County GIS

### Exhibit 10. Nearby Permit Activity



APPENDIX B. USDA SOILS REPORT

DRAFT



United States  
Department of  
Agriculture

NRCS

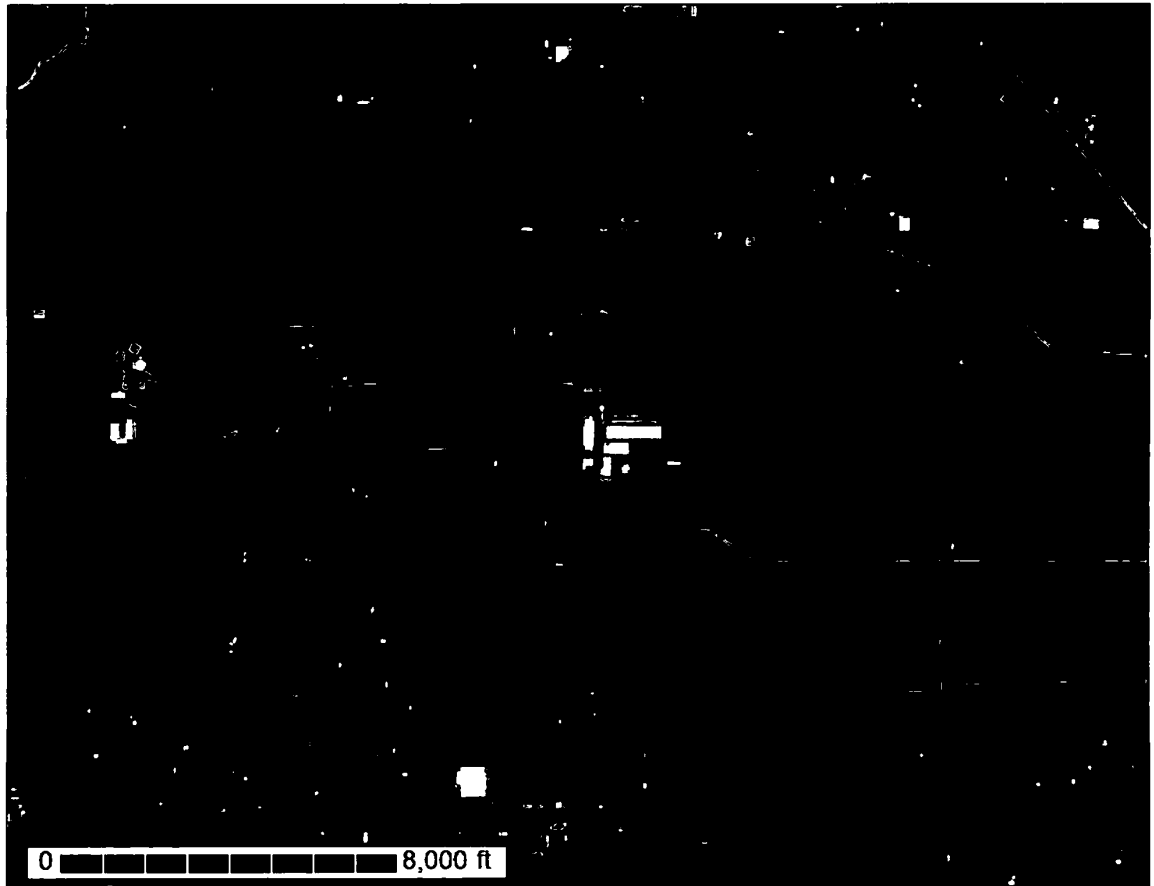
Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Clark County, Washington

## Rural Industrial Land Bank

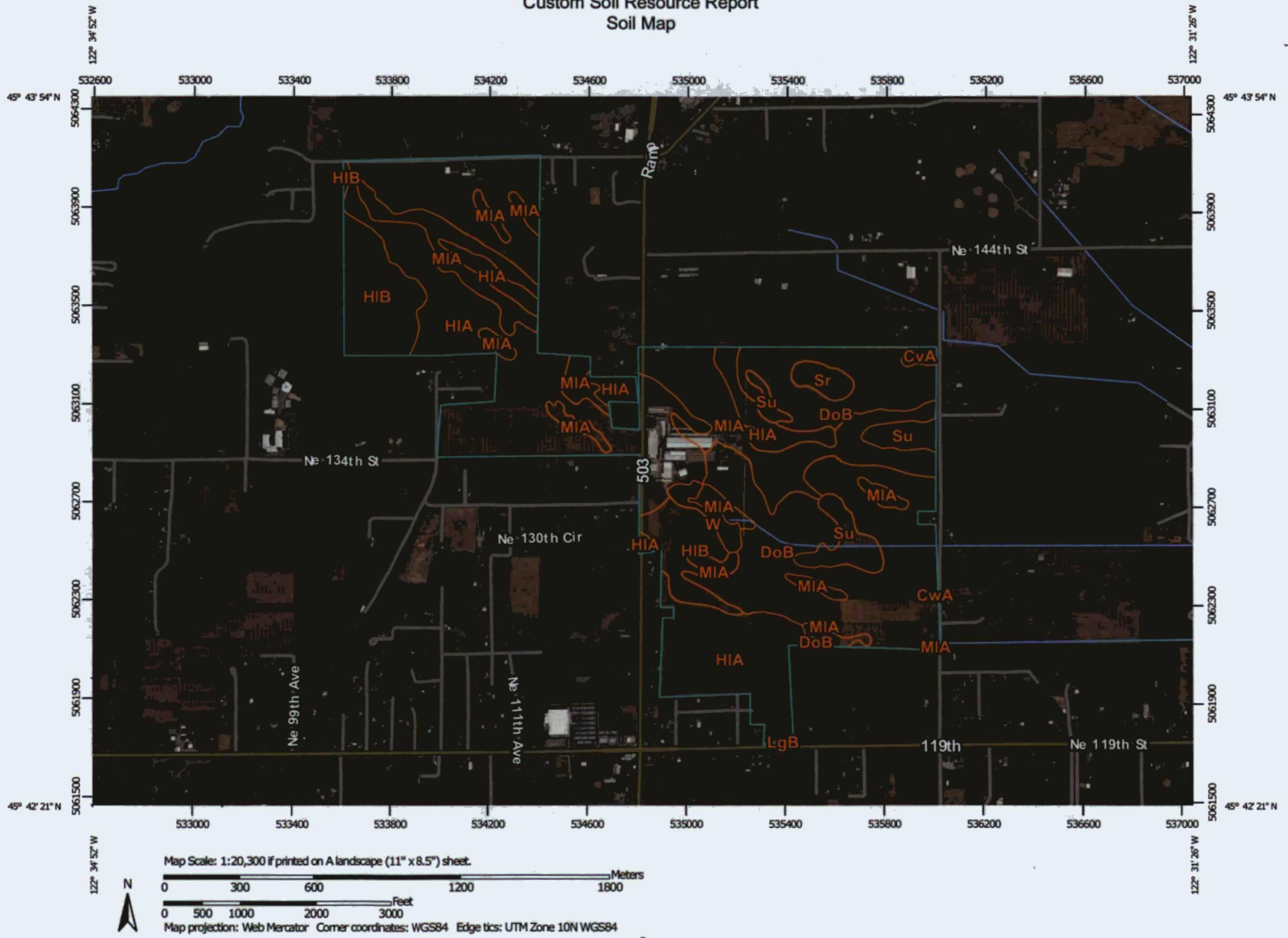
This is an abbreviated version - see Critical Areas  
Report for Full Copy



October 4, 2014





































000584

# Custom Soil Resource Report Soil Map





## Custom Soil Resource Report

MAP LEGEND	MAP INFORMATION	
<p><b>Area of Interest (AOI)</b></p> <p> Area of Interest (AOI)</p> <p><b>Soils</b></p> <p> Soil Map Unit Polygons</p> <p> Soil Map Unit Lines</p> <p> Soil Map Unit Points</p> <p><b>Special Point Features</b></p> <p> Blowout</p> <p> Borrow Pit</p> <p> Clay Spot</p> <p> Closed Depression</p> <p> Gravel Pit</p> <p> Gravelly Spot</p> <p> Landfill</p> <p> Lava Flow</p> <p> Marsh or swamp</p> <p> Mine or Quarry</p> <p> Miscellaneous Water</p> <p> Perennial Water</p> <p> Rock Outcrop</p> <p> Saline Spot</p> <p> Sandy Spot</p> <p> Severely Eroded Spot</p> <p> Sinkhole</p> <p> Slide or Slip</p> <p> Sodic Spot</p>	<p> Spoil Area</p> <p> Stony Spot</p> <p> Very Stony Spot</p> <p> Wet Spot</p> <p> Other</p> <p> Special Line Features</p> <p><b>Water Features</b></p> <p> Streams and Canals</p> <p><b>Transportation</b></p> <p> Rails</p> <p> Interstate Highways</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p> <p><b>Background</b></p> <p> Aerial Photography</p>	<p>The soil surveys that comprise your AOI were mapped at 1:20,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service                  Web Soil Survey URL: <a href="http://websoilsurvey.nrcs.usda.gov">http://websoilsurvey.nrcs.usda.gov</a>                  Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Clark County, Washington                  Survey Area Data: Version 10, Dec 9, 2013</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jul 8, 2010—Sep 4, 2011</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>

## Map Unit Legend

Clark County, Washington (WA011)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CvA	Cove silty clay loam, 0 to 3 percent slopes	2.4	0.4%
CwA	Cove silty clay loam, thin solum, 0 to 3 percent slopes	0.2	0.0%
DoB	Dollar loam, 0 to 5 percent slopes	163.8	26.9%
HIA	Hillsboro silt loam, 0 to 3 percent slopes	242.4	39.8%
HIB	Hillsboro loam, 3 to 8 percent slopes	56.8	9.3%
LgB	Lauren gravelly loam, 0 to 8 percent slopes	0.3	0.0%
MIA	McBee silt loam, coarse variant, 0 to 3 percent slopes	108.0	17.7%
Sr	Semiahmoo muck	6.5	1.1%
Su	Semiahmoo muck, shallow variant	22.7	3.7%
W	Water	6.0	1.0%
<b>Totals for Area of Interest</b>		<b>609.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different

## Custom Soil Resource Report

management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Clark County, Washington

### **CvA—Cove silty clay loam, 0 to 3 percent slopes**

#### **Map Unit Setting**

*National map unit symbol* 2dwz  
*Elevation* 100 to 2,500 feet  
*Mean annual precipitation* 18 to 60 inches  
*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 140 to 210 days  
*Farmland classification* Not prime farmland

#### **Map Unit Composition**

*Cove and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

#### **Description of Cove**

##### **Setting**

*Landform* Flood plains

##### **Typical profile**

*H1 - 0 to 4 inches* silty clay loam  
*H2 - 4 to 36 inches* clay  
*H3 - 36 to 60 inches* gravelly silty clay loam

##### **Properties and qualities**

*Slope* 0 to 3 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Very low (0.00 in/hr)  
*Depth to water table* About 0 to 12 inches  
*Frequency of flooding* Occasional  
*Frequency of ponding* None  
*Available water storage in profile* High (about 9.7 inches)

##### **Interpretive groups**

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* D  
*Other vegetative classification* Unnamed (G002XV102WA)

### **CwA—Cove silty clay loam, thin solum, 0 to 3 percent slopes**

#### **Map Unit Setting**

*National map unit symbol* 2dx0  
*Elevation* 100 to 2,500 feet  
*Mean annual precipitation* 18 to 60 inches  
*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 140 to 210 days  
*Farmland classification* Not prime farmland

## Custom Soil Resource Report

### Map Unit Composition

*Cove and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Cove

#### Setting

*Landform* Flood plains

#### Typical profile

*H1 - 0 to 14 inches* silty clay loam

*H2 - 14 to 21 inches* clay

*H3 - 21 to 60 inches* silt loam

#### Properties and qualities

*Slope* 0 to 3 percent

*Depth to restrictive feature* More than 80 inches

*Natural drainage class* Poorly drained

*Capacity of the most limiting layer to transmit water (Ksat)* Very low (0.00 in/hr)

*Depth to water table* About 0 to 12 inches

*Frequency of flooding* Occasional

*Frequency of ponding* None

*Available water storage in profile* High (about 11.7 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 6w

*Hydrologic Soil Group* D

*Other vegetative classification* Unnamed (G002XV102WA)

## DoB—Dollar loam, 0 to 5 percent slopes

### Map Unit Setting

*National map unit symbol* 2dx1

*Mean annual precipitation* 50 inches

*Mean annual air temperature* 50 degrees F

*Farmland classification* All areas are prime farmland

### Map Unit Composition

*Dollar and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Dollar

#### Setting

*Landform* Terraces

*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 6 inches* loam

*H2 - 6 to 32 inches* loam

*H2 - 32 to 60 inches* loam

## Custom Soil Resource Report

### Properties and qualities

*Slope* 0 to 5 percent  
*Depth to restrictive feature* 20 to 40 inches to fragipan  
*Natural drainage class* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table* About 18 to 36 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Low (about 5.4 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 3w  
*Hydrologic Soil Group* C  
*Other vegetative classification* Unnamed (G002XV202WA)

## HIA—Hillsboro silt loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxh  
*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Faermland classification* All areas are prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 7 inches* loam  
*H2 - 7 to 36 inches* loam  
*H3 - 36 to 48 inches* sandy loam  
*H4 - 48 to 60 inches* sand

### Properties and qualities

*Slope* 0 to 3 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None

## Custom Soil Resource Report

*Available water storage in profile* Moderate (about 8.6 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 1

*Hydrologic Soil Group* B

*Other vegetative classification* Unnamed (G002XV502WA)

## HIB—Hillsboro loam, 3 to 8 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxj

*Mean annual precipitation* 40 to 50 inches

*Mean annual air temperature* 54 degrees F

*Frost-free period* 165 to 210 days

*Farmland classification* All areas are prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces

*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 7 inches* loam

*H2 - 7 to 36 inches* loam

*H3 - 36 to 48 inches* sandy loam

*H4 - 48 to 60 inches* sand

#### Properties and qualities

*Slope* 3 to 8 percent

*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification

*Natural drainage class* Well drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)

*Depth to water table* More than 80 inches

*Frequency of flooding* None

*Frequency of ponding* None

*Available water storage in profile* Moderate (about 8.6 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 2e

*Hydrologic Soil Group* B

*Other vegetative classification* Unnamed (G002XV502WA)

## **LgB—Lauren gravelly loam, 0 to 8 percent slopes**

### **Map Unit Setting**

*National map unit symbol* 2dy8  
*Mean annual precipitation* 48 inches  
*Mean annual air temperature* 50 degrees F  
*Farmland classification* All areas are prime farmland

### **Map Unit Composition**

*Lauren and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### **Description of Lauren**

#### **Setting**

*Landform* Terraces  
*Parent material* Alluvium with volcanic ash

#### **Typical profile**

*H1 - 0 to 6 inches* gravelly medial loam  
*H2 - 6 to 33 inches* very gravelly medial loam  
*H3 - 33 to 44 inches* very gravelly coarse sandy loam  
*H4 - 44 to 60 inches* very gravelly loamy coarse sand

#### **Properties and qualities**

*Slope* 0 to 8 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Somewhat excessively drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Low (about 4.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 2e  
*Hydrologic Soil Group* B  
*Other vegetative classification* Unnamed (G002XV402WA)

## **MIA—McBee silt loam, coarse variant, 0 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol* 2dyj  
*Mean annual precipitation* 50 inches



## Custom Soil Resource Report

*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Prime farmland if drained

### Map Unit Composition

*Mcbee variant and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Mcbee Variant

#### Setting

*Landform* Depressions, drainageways  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 11 inches* silt loam  
*H2 - 11 to 19 inches* loam  
*H3 - 19 to 44 inches* gravelly fine sandy loam  
*H4 - 44 to 62 inches* very gravelly loamy sand

#### Properties and qualities

*Slope* 0 to 3 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table* About 0 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 6.7 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* B/D  
*Other vegetative classification* Unnamed (G002XV102WA)

## Sr—Semiahmoo muck

### Map Unit Setting

*National map unit symbol* 2dzt  
*Elevation* 10 to 1,300 feet  
*Mean annual precipitation* 35 to 70 inches  
*Mean annual air temperature* 46 to 50 degrees F  
*Frost-free period* 125 to 250 days  
*Farmland classification* Prime farmland if drained

### Map Unit Composition

*Semiahmoo and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

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### Description of Semiahmoo

#### Setting

*Landform* Depressions

*Parent material* Herbaceous organic material

#### Typical profile

*H1 - 0 to 13 inches* muck

*H2 - 13 to 15 inches* fine sand

*H3 - 15 to 60 inches* muck

#### Properties and qualities

*Slope* 0 to 1 percent

*Depth to restrictive feature* More than 80 inches

*Natural drainage class* Very poorly drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high  
(0.57 to 1.98 in/hr)

*Depth to water table* About 18 to 36 inches

*Frequency of flooding* None

*Frequency of ponding* None

*Available water storage in profile* Very high (about 18.7 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 3w

*Hydrologic Soil Group* C

*Other vegetative classification* Unnamed (G002XV102WA)

### Su—Semiahmoo muck, shallow variant

#### Map Unit Setting

*National map unit symbol* 2dzv

*Elevation* 10 to 1,300 feet

*Mean annual precipitation* 35 to 70 inches

*Mean annual air temperature* 46 to 50 degrees F

*Frost-free period* 125 to 250 days

*Famland classification* Prime farmland if drained

#### Map Unit Composition

*Semiahmoo variant and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Semiahmoo Variant

#### Setting

*Landform* Depressions

*Parent material* Herbaceous organic material

#### Typical profile

*H1 - 0 to 13 inches* muck

*H2 - 13 to 30 inches* muck

*H3 - 30 to 60 inches* very fine sandy loam

## Custom Soil Resource Report

*H4 - 60 to 65 inches* mucky peat

### Properties and qualities

*Slope* 0 to 1 percent

*Depth to restrictive feature* More than 80 inches

*Natural drainage class* Very poorly drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table* About 0 inches

*Frequency of flooding* None

*Frequency of ponding* None

*Available water storage in profile* Very high (about 12.9 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 6w

*Hydrologic Soil Group* C/D

*Other vegetative classification* Unnamed (G002XV102WA)

## W—Water

### Map Unit Composition

*Water* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Water

#### Setting

*Landform* Alluvial cones

# **Soil Information for All Uses**

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## **Suitabilities and Limitations for Use**

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

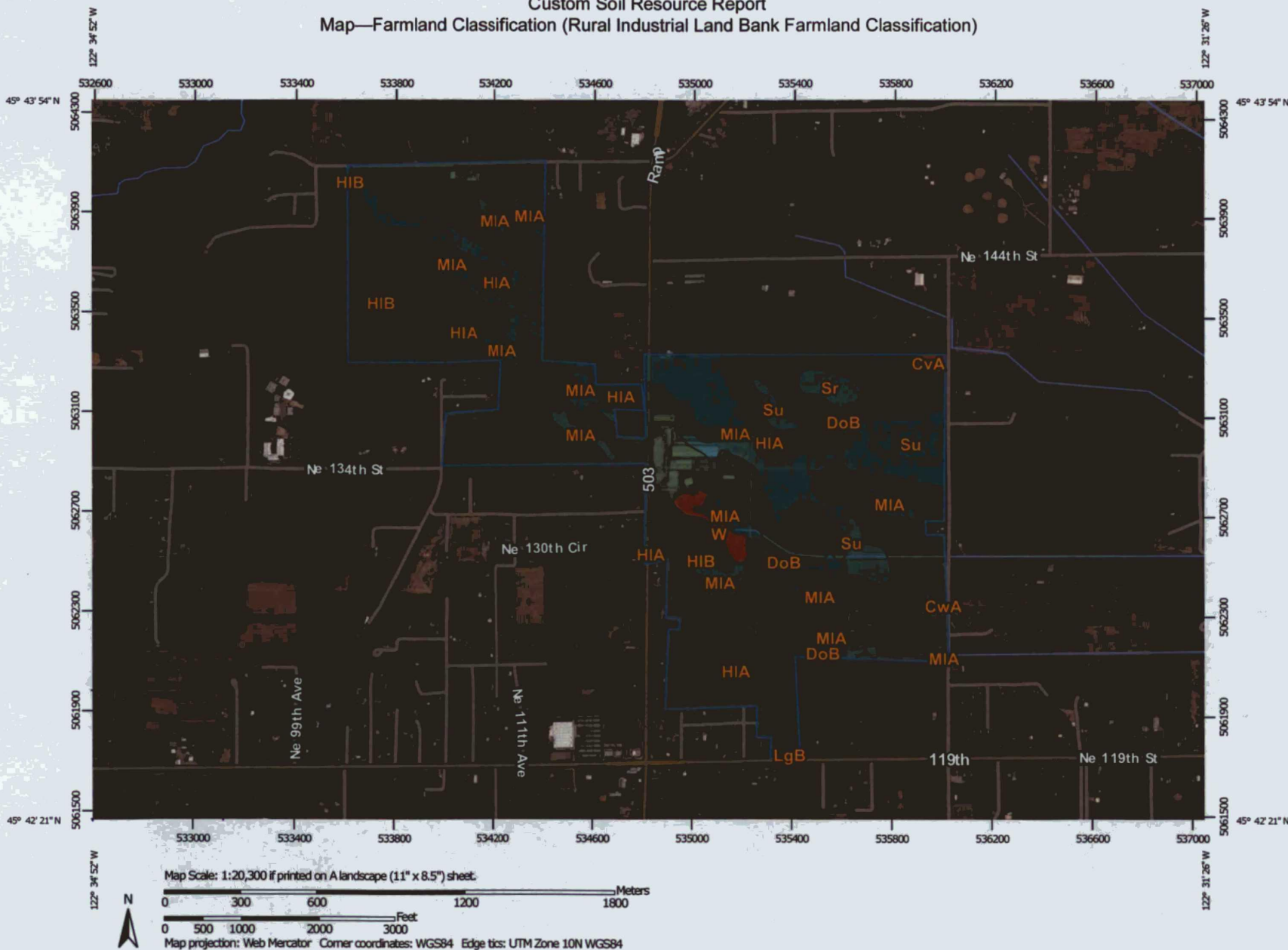
## **Land Classifications**

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## **Farmland Classification (Rural Industrial Land Bank Farmland Classification)**

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

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Map—Farmland Classification (Rural Industrial Land Bank Farmland Classification)



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### MAP INFORMATION

 Streams and Canals

#### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

#### Background

 Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clark County, Washington  
Survey Area Data: Version 10, Dec 9, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 8, 2010—Sep 4, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Farmland Classification (Rural Industrial Land Bank Farmland Classification)**

Farmland Classification— Summary by Map Unit — Clark County, Washington (WA011)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CvA	Cove silty clay loam, 0 to 3 percent slopes	Not prime farmland	2.4	0.4%
CwA	Cove silty clay loam, thin solum, 0 to 3 percent slopes	Not prime farmland	0.2	0.0%
DoB	Dollar loam, 0 to 5 percent slopes	All areas are prime farmland	163.8	26.9%
HIA	Hillsboro silt loam, 0 to 3 percent slopes	All areas are prime farmland	242.4	39.8%
HIB	Hillsboro loam, 3 to 8 percent slopes	All areas are prime farmland	56.8	9.3%
LgB	Lauren gravelly loam, 0 to 8 percent slopes	All areas are prime farmland	0.3	0.0%
MIA	McBee silt loam, coarse variant, 0 to 3 percent slopes	Prime farmland if drained	108.0	17.7%
Sr	Semiahmoo muck	Prime farmland if drained	6.5	1.1%
Su	Semiahmoo muck, shallow variant	Prime farmland if drained	22.7	3.7%
W	Water	Not prime farmland	6.0	1.0%
<b>Totals for Area of Interest</b>			<b>609.1</b>	<b>100.0%</b>

**Rating Options—Farmland Classification (Rural Industrial Land Bank Farmland Classification)**

*Aggregation Method* No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole

A map unit is typically composed of one or more "components" A component is either some type of soil or some nonsoil entity, e.g., rock outcrop For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole Once a single value for each map unit is derived, a thematic map for soil map units can be rendered Aggregation must be done because, on any soil map, map units are delineated but components are not

For each of a map unit's components, a corresponding percent composition is recorded A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit Percent composition is a critical factor in some, but not all, aggregation methods



## Custom Soil Resource Report

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

### *Tie-break Rule* Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

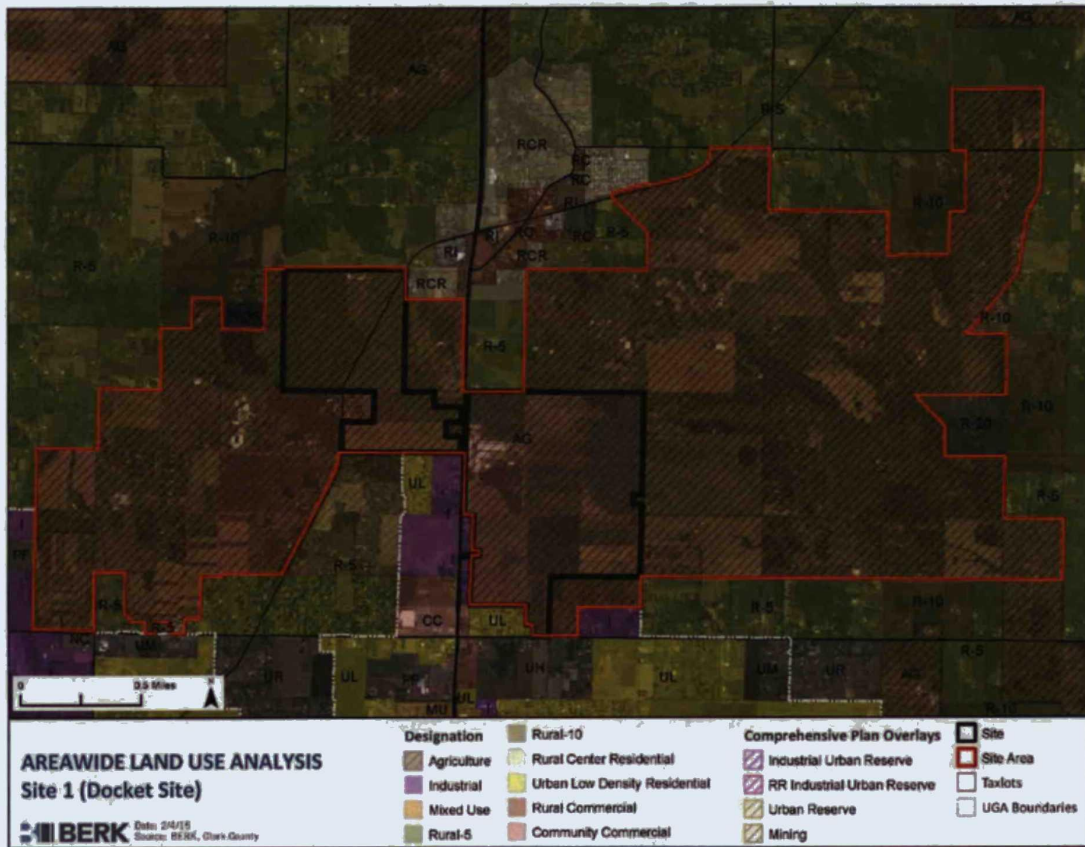
**APPENDIX C. DOCKET SITE CRITICAL AREAS REPORT, ANCHOR QEA**

Available under Separate Cover

**DRAFT**

## APPENDIX D. AREAWIDE ANALYSIS MAPS

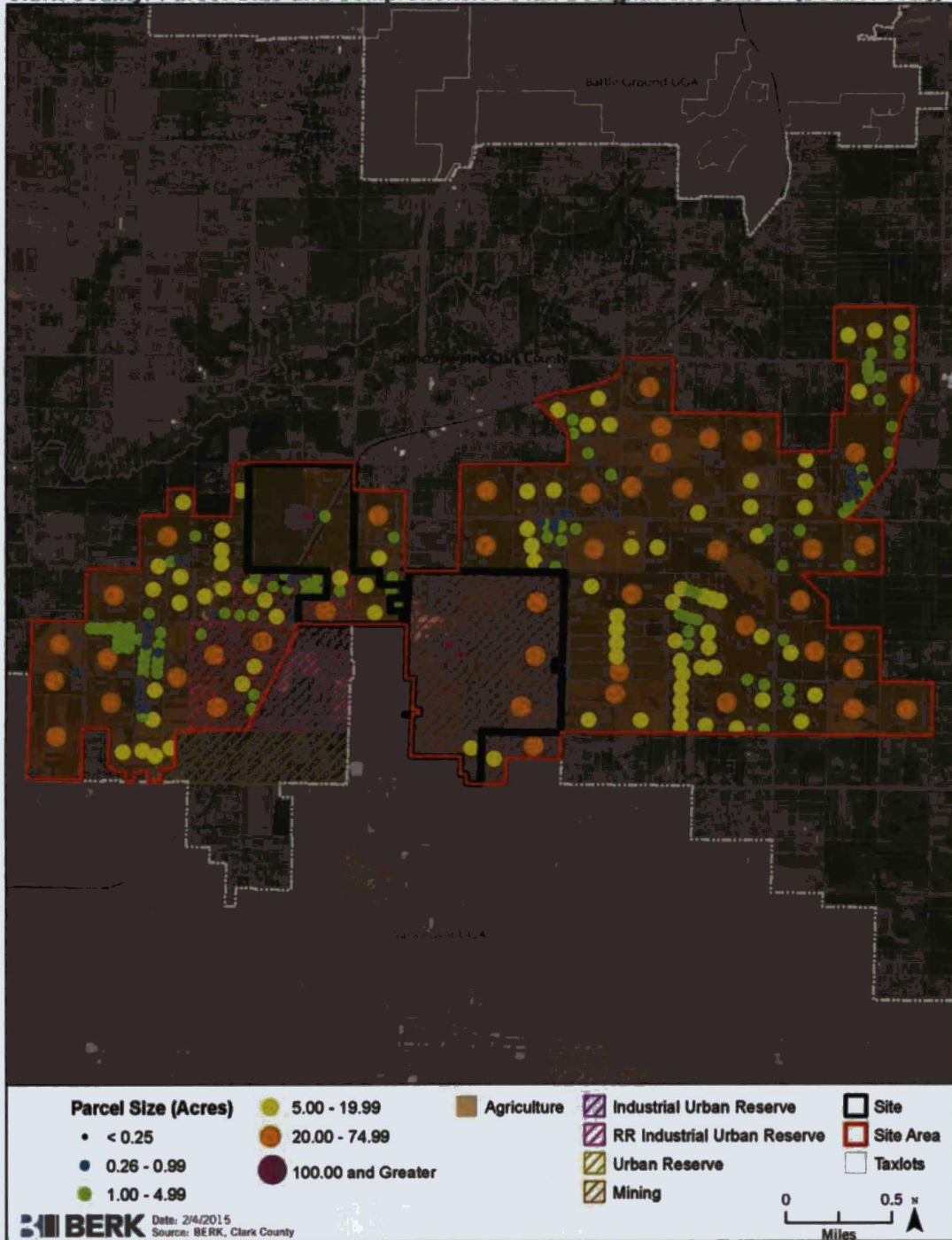
Exhibit 11. Areawide Vicinity Map and Comprehensive Plan Land Use



Source: BERK Consulting 2015

Exhibit 12. Areawide Comprehensive Plan Designation and Parcel Sizes

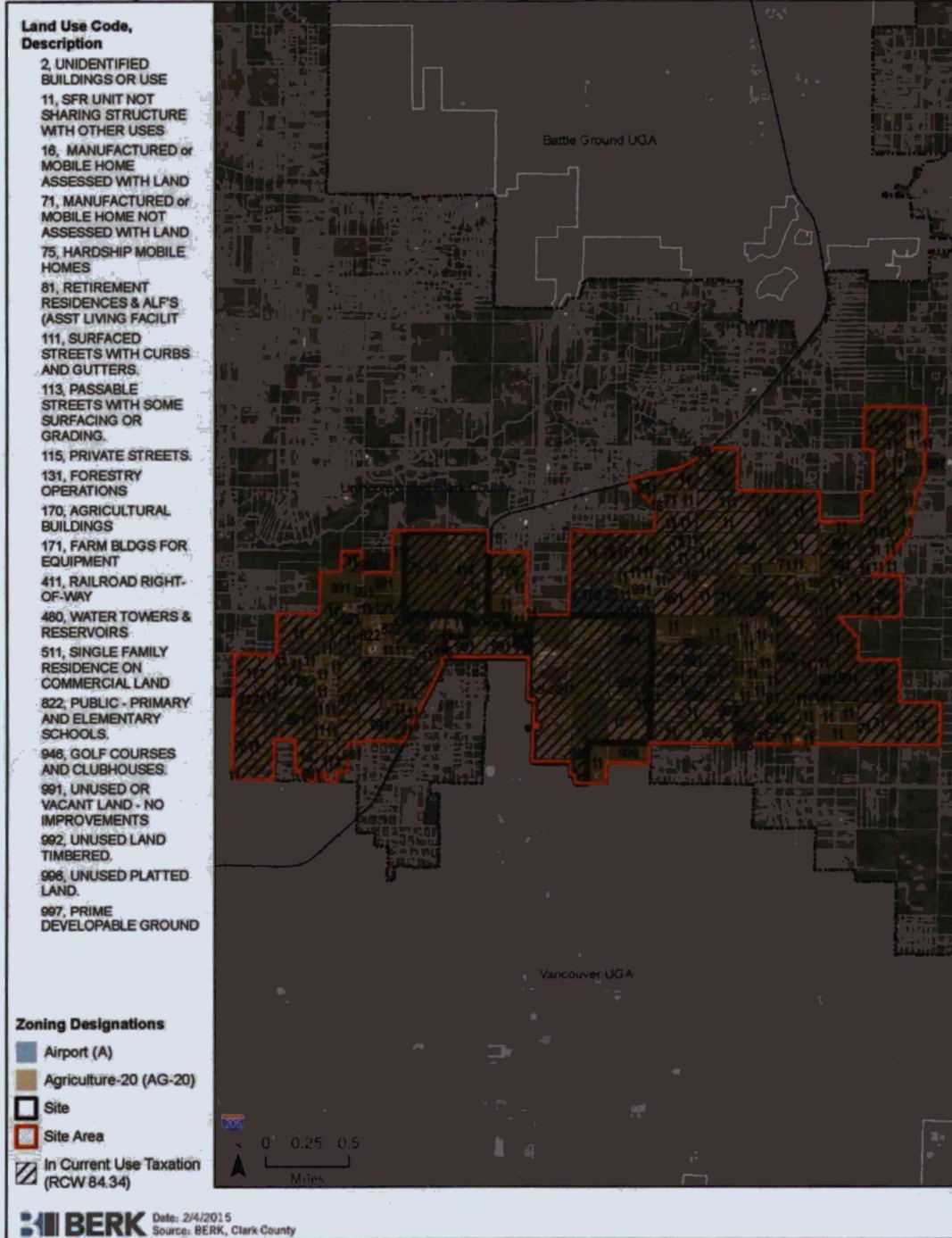
Clark County: Parcel Size and Comprehensive Plan Designations (Site 1 (Docket Site))



Source: BERK Consulting 2015

Exhibit 13. Areawide Current Land Uses and Zoning

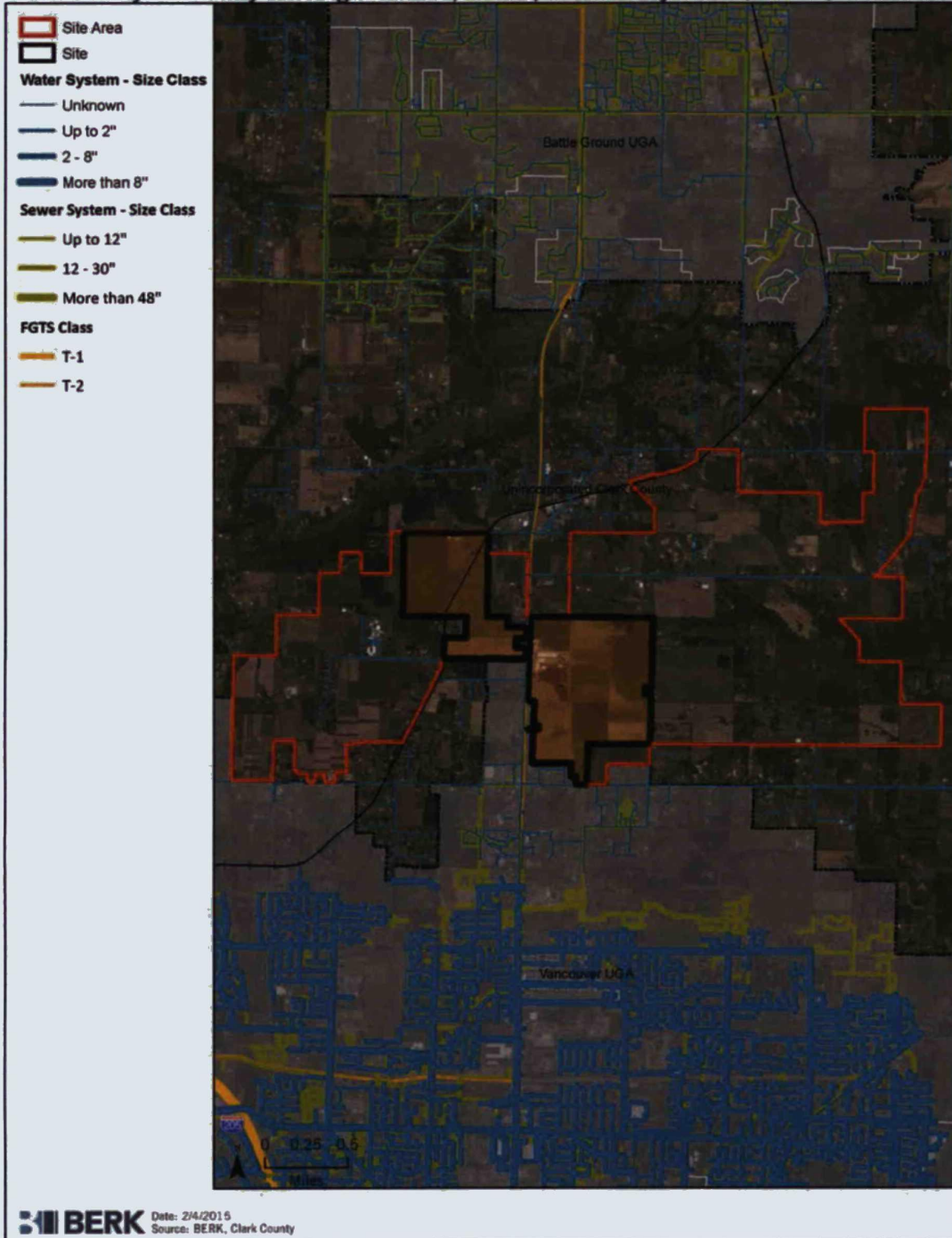
Clark County: Land Use Descriptions and Zoning Designations (Site 1 (Docket Site))



Source: BERK Consulting 2015

Exhibit 14. Areawide Proximity of Freight Routes, Water, and Sewer Facilities

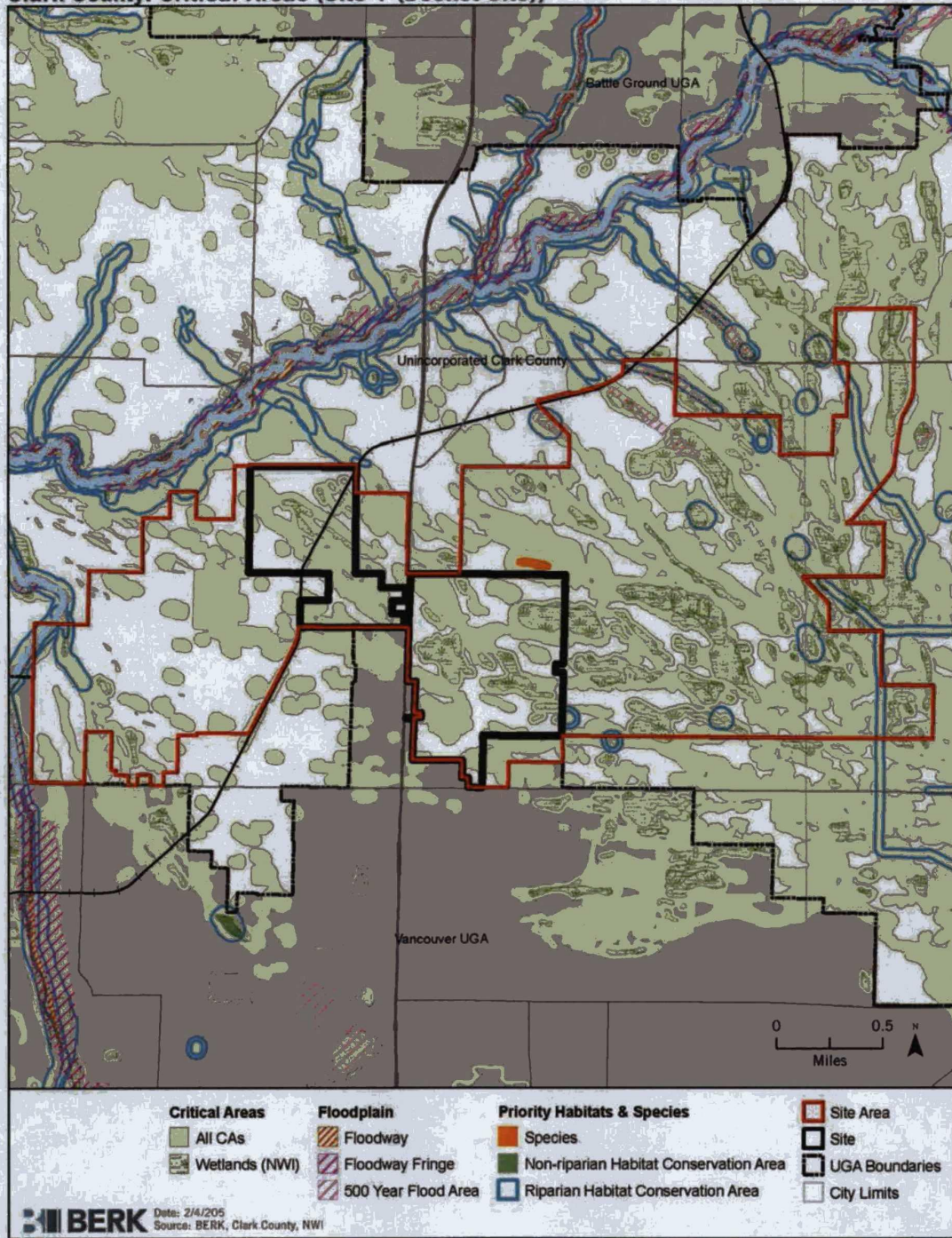
Clark County: Proximity to Freight Routes, Sewer, & Water Systems (Site 1 (Docket Site))



Source: BERK Consulting 2015

Exhibit 15. Areawide Mapped Presence of Critical Areas

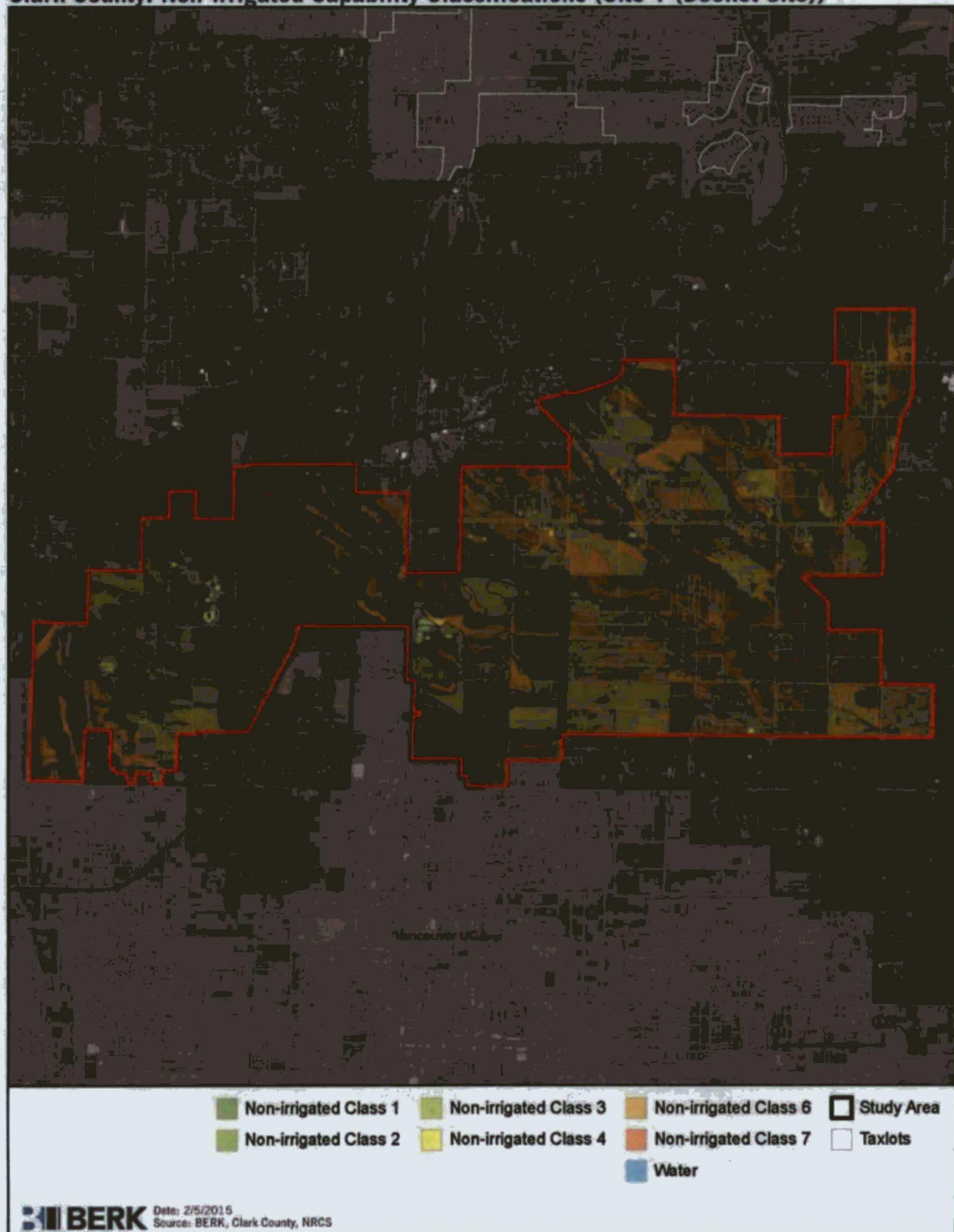
Clark County: Critical Areas (Site 1 (Docket Site))



Source: BERK Consulting 2015

## Exhibit 16. Areawide Soil Capability Classes

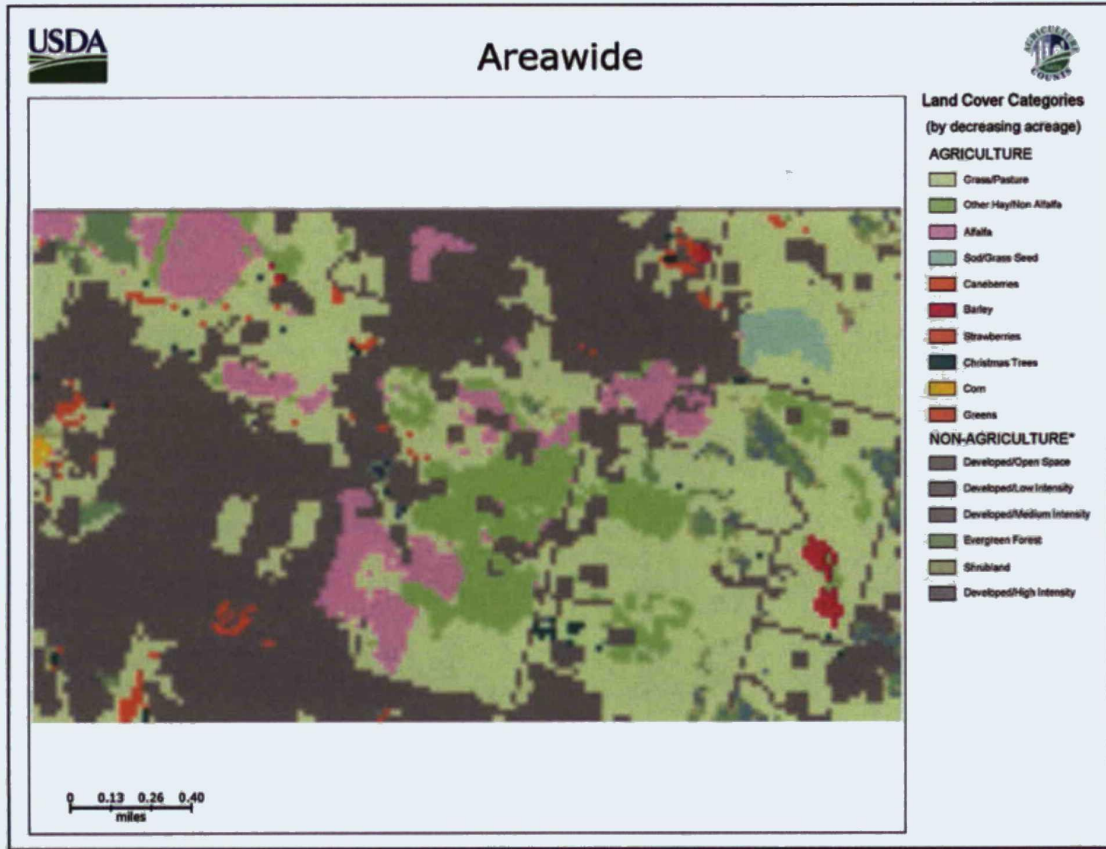
### Clark County: Non-irrigated Capability Classifications (Site 1 (Docket Site))



Source: BERK Consulting 2015



### Exhibit 17. Areawide USDA CropScape Map



Source: BERK Consulting 2015

APPENDIX E. AREAWIDE SOILS REPORT

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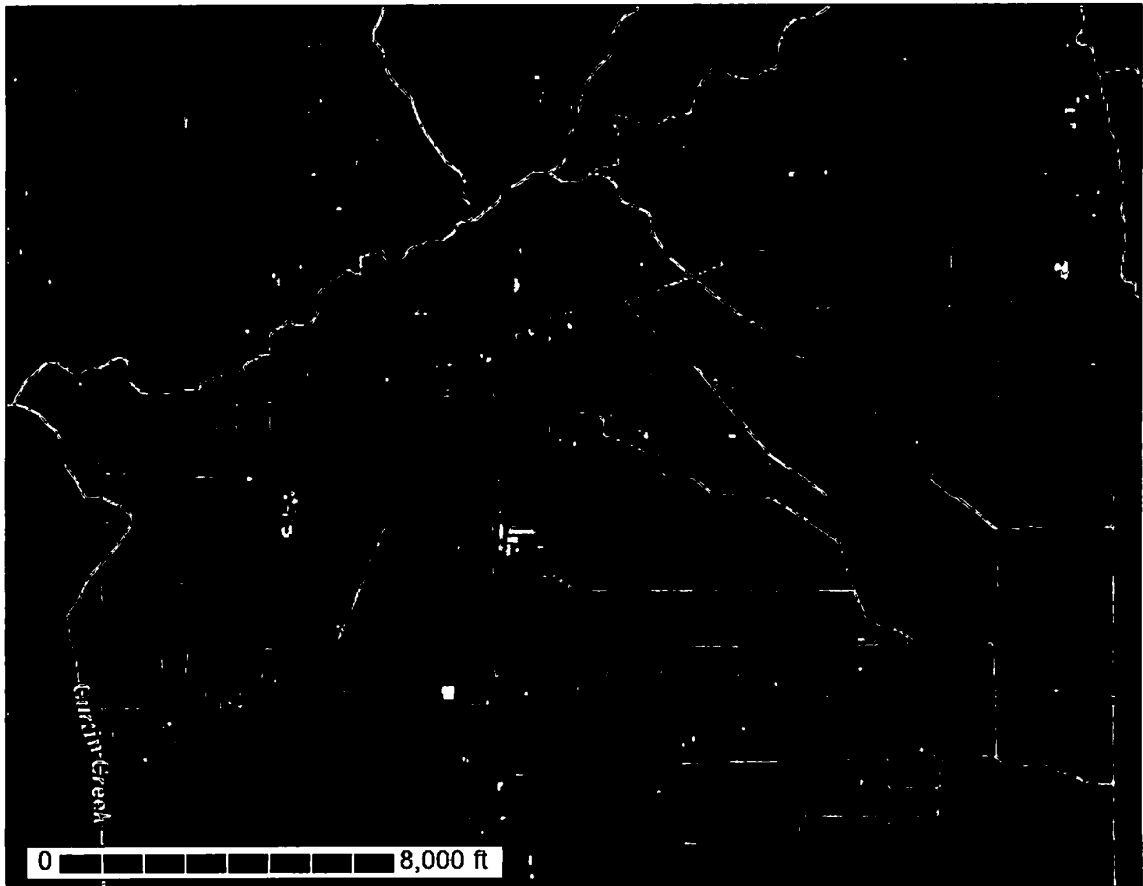


A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Clark County, Washington

## Areawide Site 1

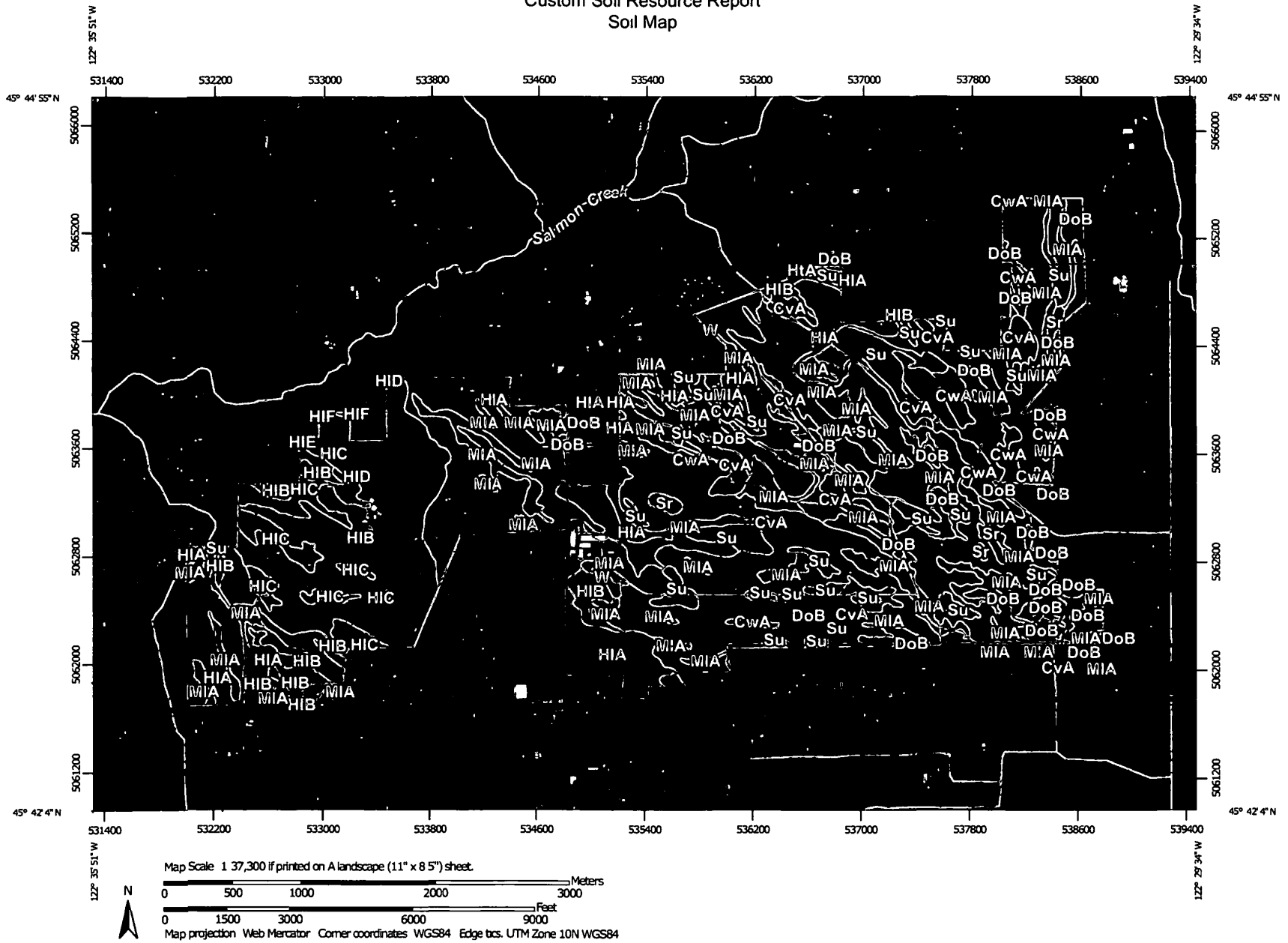
This is an abbreviated version







































February 8, 2015

000612

Custom Soil Resource Report  
Soil Map



## Custom Soil Resource Report

MAP LEGEND	MAP INFORMATION	
<p><b>Area of Interest (AOI)</b></p> <p> Area of Interest (AOI)</p> <p><b>Soils</b></p> <p> Soil Map Unit Polygons</p> <p> Soil Map Unit Lines</p> <p> Soil Map Unit Points</p> <p><b>Special Point Features</b></p> <p> Blowout</p> <p> Borrow Pit</p> <p> Clay Spot</p> <p> Closed Depression</p> <p> Gravel Pit</p> <p> Gravelly Spot</p> <p> Landfill</p> <p> Lava Flow</p> <p> Marsh or swamp</p> <p> Mine or Quarry</p> <p> Miscellaneous Water</p> <p> Perennial Water</p> <p> Rock Outcrop</p> <p> Saline Spot</p> <p> Sandy Spot</p> <p> Severely Eroded Spot</p> <p> Sinkhole</p> <p> Slide or Slip</p> <p> Sodic Spot</p>	<p> Spoil Area</p> <p> Stony Spot</p> <p> Very Stony Spot</p> <p> Wet Spot</p> <p> Other</p> <p> Special Line Features</p> <p><b>Water Features</b></p> <p> Streams and Canals</p> <p><b>Transportation</b></p> <p> Rails</p> <p> Interstate Highways</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p> <p><b>Background</b></p> <p> Aerial Photography</p>	<p>The soil surveys that comprise your AOI were mapped at 1:20,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service            Web Soil Survey URL: <a href="http://websoilsurvey.nrcs.usda.gov">http://websoilsurvey.nrcs.usda.gov</a>            Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Clark County, Washington            Survey Area Data: Version 12, Sep 15, 2014</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jul 8, 2010—Sep 5, 2014</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>

## Map Unit Legend

Clark County, Washington (WA011)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CvA	Cove silty clay loam, 0 to 3 percent slopes	147.5	4.6%
CwA	Cove silty clay loam, thin solum, 0 to 3 percent slopes	79.3	2.5%
DoB	Dollar loam, 0 to 5 percent slopes	1,093.3	34.0%
HIA	Hillsboro silt loam, 0 to 3 percent slopes	587.3	18.3%
HIB	Hillsboro loam, 3 to 8 percent slopes	482.6	15.0%
HIC	Hillsboro loam, 8 to 15 percent slopes	118.6	3.7%
HID	Hillsboro loam, 15 to 20 percent slopes	2.3	0.1%
HIE	Hillsboro loam, 20 to 30 percent slopes	0.9	0.0%
HIF	Hillsboro loam, 30 to 50 percent slopes	1.4	0.0%
HtA	Hockinson loam, 0 to 3 percent slopes	2.4	0.1%
MIA	McBee silt loam, coarse variant, 0 to 3 percent slopes	499.6	15.5%
Sr	Semiahmoo muck	17.8	0.6%
Su	Semiahmoo muck, shallow variant	174.6	5.4%
W	Water	6.0	0.2%
<b>Totals for Area of Interest</b>		<b>3,213.6</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic

## Custom Soil Resource Report

classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar.

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interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Clark County, Washington

### **CvA—Cove silty clay loam, 0 to 3 percent slopes**

#### **Map Unit Setting**

*National map unit symbol* 2dwz  
*Elevation* 100 to 2,500 feet  
*Mean annual precipitation* 18 to 60 inches  
*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 140 to 210 days  
*Farmland classification* Not prime farmland

#### **Map Unit Composition**

*Cove and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

#### **Description of Cove**

##### **Setting**

*Landform* Flood plains

##### **Typical profile**

*H1 - 0 to 4 inches* silty clay loam  
*H2 - 4 to 36 inches* clay  
*H3 - 36 to 60 inches* gravelly silty clay loam

##### **Properties and qualities**

*Slope* 0 to 3 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Very low (0.00 in/hr)  
*Depth to water table* About 0 to 12 inches  
*Frequency of flooding* Occasional  
*Frequency of ponding* None  
*Available water storage in profile* High (about 9.7 inches)

##### **Interpretive groups**

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* D  
*Other vegetative classification* Wet Soils (G002XV102WA)

### **CwA—Cove silty clay loam, thin solum, 0 to 3 percent slopes**

#### **Map Unit Setting**

*National map unit symbol* 2dx0  
*Elevation* 100 to 2,500 feet  
*Mean annual precipitation* 18 to 60 inches  
*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 140 to 210 days  
*Farmland classification* Not prime farmland

## Custom Soil Resource Report

### Map Unit Composition

*Cove and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Cove

#### Setting

*Landform* Flood plains

#### Typical profile

*H1 - 0 to 14 inches* silty clay loam

*H2 - 14 to 21 inches* clay

*H3 - 21 to 60 inches* silt loam

#### Properties and qualities

*Slope* 0 to 3 percent

*Depth to restrictive feature* More than 80 inches

*Natural drainage class* Poorly drained

*Capacity of the most limiting layer to transmit water (Ksat)* Very low (0.00 in/hr)

*Depth to water table* About 0 to 12 inches

*Frequency of flooding* Occasional

*Frequency of ponding* None

*Available water storage in profile* High (about 11.7 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 6w

*Hydrologic Soil Group* D

*Other vegetative classification* Wet Soils (G002XV102WA)

## DoB—Dollar loam, 0 to 5 percent slopes

### Map Unit Setting

*National map unit symbol* 2dx1

*Mean annual precipitation* 50 inches

*Mean annual air temperature* 50 degrees F

*Frost-free period* 120 to 150 days

*Famland classification* All areas are prime farmland

### Map Unit Composition

*Dollar and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Dollar

#### Setting

*Landform* Terraces

*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 6 inches* loam

*H2 - 6 to 32 inches* loam

## Custom Soil Resource Report

*H2 - 32 to 60 inches loam*

### Properties and qualities

*Slope* 0 to 5 percent

*Depth to restrictive feature* 20 to 40 inches to fragipan

*Natural drainage class* Moderately well drained

*Capacity of the most limiting layer to transmit water (Ksat)* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table* About 18 to 36 inches

*Frequency of flooding* None

*Frequency of ponding* None

*Available water storage in profile* Low (about 5.4 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 3w

*Hydrologic Soil Group* C

*Other vegetative classification* Seasonally Wet Soils (G002XV202WA)

## HIA—Hillsboro silt loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxh

*Mean annual precipitation* 40 to 50 inches

*Mean annual air temperature* 54 degrees F

*Frost-free period* 165 to 210 days

*Farmland classification* All areas are prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces

*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 7 inches loam*

*H2 - 7 to 36 inches loam*

*H3 - 36 to 48 inches sandy loam*

*H4 - 48 to 60 inches sand*

### Properties and qualities

*Slope* 0 to 3 percent

*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification

*Natural drainage class* Well drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)

*Depth to water table* More than 80 inches

*Frequency of flooding* None

## Custom Soil Resource Report

*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 8.6 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 1  
*Hydrologic Soil Group* B  
*Other vegetative classification* Soils with Few Limitations (G002XV502WA)

## HIB—Hillsboro loam, 3 to 8 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxj  
*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* All areas are prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 7 inches* loam  
*H2 - 7 to 36 inches* loam  
*H3 - 36 to 48 inches* sandy loam  
*H4 - 48 to 60 inches* sand

#### Properties and qualities

*Slope* 3 to 8 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 8.6 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 2e  
*Hydrologic Soil Group* B  
*Other vegetative classification* Soils with Few Limitations (G002XV502WA)

## Custom Soil Resource Report

### HIC—Hillsboro loam, 8 to 15 percent slopes

#### Map Unit Setting

*National map unit symbol* 2dxk  
*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Farmland of statewide importance

#### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

#### Description of Hillsboro

##### Setting

*Landform* Terraces  
*Parent material* Alluvium

##### Typical profile

*H1 - 0 to 7 inches* loam  
*H2 - 7 to 36 inches* loam  
*H3 - 36 to 48 inches* sandy loam  
*H4 - 48 to 60 inches* sand

##### Properties and qualities

*Slope* 8 to 15 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 8.6 inches)

##### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 3e  
*Hydrologic Soil Group* B  
*Other vegetative classification* Soils with Moderate Limitations (G002XV602WA)

### HID—Hillsboro loam, 15 to 20 percent slopes

#### Map Unit Setting

*National map unit symbol* 2dxl

## Custom Soil Resource Report

*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Not prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 7 inches* loam  
*H2 - 7 to 36 inches* loam  
*H3 - 36 to 48 inches* sandy loam  
*H4 - 48 to 60 inches* sand

#### Properties and qualities

*Slope* 15 to 20 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 8.6 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 4e  
*Hydrologic Soil Group* B  
*Other vegetative classification* Sloping to Steep Soils (G002XV702WA)

## HIE—Hillsboro loam, 20 to 30 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxm  
*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Not prime farmland

### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

## Custom Soil Resource Report

### Description of Hillsboro

#### Setting

*Landform* Terraces  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 5 inches* loam  
*H2 - 5 to 34 inches* loam  
*H3 - 34 to 46 inches* sandy loam  
*H4 - 46 to 60 inches* sand

#### Properties and qualities

*Slope* 20 to 30 percent  
*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification  
*Natural drainage class* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table* More than 80 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 8.2 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 4e  
*Hydrologic Soil Group* B  
*Other vegetative classification* Sloping to Steep Soils (G002XV702WA)

### HIF—Hillsboro loam, 30 to 50 percent slopes

#### Map Unit Setting

*National map unit symbol* 2dxn  
*Mean annual precipitation* 40 to 50 inches  
*Mean annual air temperature* 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Not prime farmland

#### Map Unit Composition

*Hillsboro and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hillsboro

#### Setting

*Landform* Terraces  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 4 inches* loam  
*H2 - 4 to 33 inches* loam

## Custom Soil Resource Report

*H3 - 33 to 45 inches* sandy loam

*H4 - 45 to 60 inches* sand

### Properties and qualities

*Slope* 30 to 50 percent

*Depth to restrictive feature* 40 to 59 inches to strongly contrasting textural stratification

*Natural drainage class* Well drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high (0.57 to 1.98 in/hr)

*Depth to water table* More than 80 inches

*Frequency of flooding* None

*Frequency of ponding* None

*Available water storage in profile* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified

*Land capability classification (nonirrigated)* 7e

*Hydrologic Soil Group* B

## HtA—Hockinson loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol* 2dxx

*Elevation* 200 to 400 feet

*Mean annual precipitation* 51 inches

*Mean annual air temperature* 50 to 52 degrees F

*Frost-free period* 170 to 200 days

*Farmland classification* Prime farmland if drained

### Map Unit Composition

*Hockinson and similar soils* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Hockinson

#### Setting

*Landform* Terraces

*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 6 inches* loam

*H2 - 6 to 23 inches* loam

*H3 - 23 to 60 inches* loam

#### Properties and qualities

*Slope* 0 to 3 percent

*Depth to restrictive feature* More than 80 inches

*Natural drainage class* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat)* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table* About 0 to 18 inches

*Frequency of flooding* None



## Custom Soil Resource Report

*Frequency of ponding* None  
*Available water storage in profile* High (about 10 0 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* C/D  
*Other vegetative classification* Wet Soils (G002XV102WA)

## MIA—McBee silt loam, coarse variant, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol* 2dyj  
*Mean annual precipitation* 50 inches  
*Mean annual air temperature* 50 to 54 degrees F  
*Frost-free period* 165 to 210 days  
*Farmland classification* Prime farmland if drained

### Map Unit Composition

*Mcbee variant and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of McBee Variant

#### Setting

*Landform* Drainageways, depressions  
*Parent material* Alluvium

#### Typical profile

*H1 - 0 to 11 inches* silt loam  
*H2 - 11 to 19 inches* loam  
*H3 - 19 to 44 inches* gravelly fine sandy loam  
*H4 - 44 to 62 inches* very gravelly loamy sand

#### Properties and qualities

*Slope* 0 to 3 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high  
(0 57 to 1 98 in/hr)  
*Depth to water table* About 0 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Moderate (about 6 7 inches)

### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* B/D  
*Other vegetative classification* Wet Soils (G002XV102WA)

## **Sr—Semiahmoo muck**

### **Map Unit Setting**

*National map unit symbol* 2dzt  
*Elevation* 10 to 1,300 feet  
*Mean annual precipitation* 35 to 70 inches  
*Mean annual air temperature* 46 to 50 degrees F  
*Frost-free period* 125 to 250 days  
*Farmland classification* Prime farmland if drained

### **Map Unit Composition**

*Semiahmoo and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### **Description of Semiahmoo**

#### **Setting**

*Landform* Depressions  
*Parent material* Herbaceous organic material

#### **Typical profile**

*H1 - 0 to 13 inches* muck  
*H2 - 13 to 15 inches* fine sand  
*H3 - 15 to 60 inches* muck

#### **Properties and qualities**

*Slope* 0 to 1 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table* About 18 to 36 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Very high (about 18.7 inches)

#### **Interpretive groups**

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 3w  
*Hydrologic Soil Group* C  
*Other vegetative classification* Wet Soils (G002XV102WA)

## **Su—Semiahmoo muck, shallow variant**

### **Map Unit Setting**

*National map unit symbol* 2dzv  
*Elevation* 10 to 1,300 feet

## Custom Soil Resource Report

*Mean annual precipitation* 35 to 70 inches  
*Mean annual air temperature* 46 to 50 degrees F  
*Frost-free period* 125 to 250 days  
*Faermland classification* Prime faermland if drained

### Map Unit Composition

*Semiahmoo variant and similar soils* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Semiahmoo Variant

#### Setting

*Landform* Depressions  
*Parent material* Herbaceous organic material

#### Typical profile

*H1 - 0 to 13 inches* muck  
*H2 - 13 to 30 inches* muck  
*H3 - 30 to 60 inches* very fine sandy loam  
*H4 - 60 to 65 inches* mucky peat

#### Properties and qualities

*Slope* 0 to 1 percent  
*Depth to restrictive feature* More than 80 inches  
*Natural drainage class* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat)* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table* About 0 inches  
*Frequency of flooding* None  
*Frequency of ponding* None  
*Available water storage in profile* Very high (about 12.9 inches)

#### Interpretive groups

*Land capability classification (irrigated)* None specified  
*Land capability classification (nonirrigated)* 6w  
*Hydrologic Soil Group* C/D  
*Other vegetative classification* Wet Soils (G002XV102WA)

## W—Water

### Map Unit Composition

*Water* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit*

### Description of Water

#### Setting

*Landform* Alluvial cones

Summary by Map Unit — Clark County, Washington (WA011)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CvA	Cove silty clay loam, 0 to 3	Not prime farmland	147.5	4.6%
CwA	Cove silty clay loam, thin	Not prime farmland	79.3	2.5%
DoB	Dollar loam, 0 to 5 percent	All areas are prime farmland	1,093.30	34.0%
HIA	Hillsboro silt loam, 0 to 3	All areas are prime farmland	587.3	18.3%
HIB	Hillsboro loam, 3 to 8 percent	All areas are prime farmland	482.6	15.0%
HIC	Hillsboro loam, 8 to 15	Farmland of statewide importance	118.6	3.7%
HID	Hillsboro loam, 15 to 20	Not prime farmland	2.3	0.1%
HIE	Hillsboro loam, 20 to 30	Not prime farmland	0.9	0.0%
HIF	Hillsboro loam, 30 to 50	Not prime farmland	1.4	0.0%
HtA	Hockinson loam, 0 to 3	Prime farmland if drained	2.4	0.1%
MIA	McBee silt loam, coarse	Prime farmland if drained	499.6	15.5%
Sr	Semiahmoo muck	Prime farmland if drained	17.8	0.6%
Su	Semiahmoo muck, shallow	Prime farmland if drained	174.6	5.4%
W	Water	Not prime farmland	6	0.2%
<b>Totals for Area of Interest</b>			<b>3,213.60</b>	<b>100.00%</b>

Summary by Map Unit — Clark County, Washington (WA011)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CvA	Cove silty clay loam, 0 to 3 percent slopes	6	147.5	4.6%
CwA	Cove silty clay loam, thin solum, 0 to 3 percent	6	79.3	2.5%
DoB	Dollar loam, 0 to 5 percent slopes	3	1,093.30	34.0%
HIA	Hillsboro silt loam, 0 to 3 percent slopes	1	587.3	18.3%
HIB	Hillsboro loam, 3 to 8 percent slopes	2	482.6	15.0%
HIC	Hillsboro loam, 8 to 15 percent slopes	3	118.6	3.7%
HID	Hillsboro loam, 15 to 20 percent slopes	4	2.3	0.1%
HIE	Hillsboro loam, 20 to 30 percent slopes	4	0.9	0.0%
HIF	Hillsboro loam, 30 to 50 percent slopes	7	1.4	0.0%
HtA	Hockinson loam, 0 to 3 percent slopes	6	2.4	0.1%
MIA	McBee silt loam, coarse variant, 0 to 3 percent	6	499.6	15.5%
Sr	Semiahmoo muck	3	17.8	0.6%
Su	Semiahmoo muck, shallow variant	6	174.6	5.4%
W	Water		6	0.2%
<b>Totals for Area of Interest</b>			<b>3,213.60</b>	<b>100.00%</b>

Prime Farmland

