PLEASANT VALLEY

CITY OF GRESHAM OREGON

TRANSPORTATION REFINEMENTS

PLEASANT VALLEY TSP REFINEMENT

>>> Natural Resource Baseline Conditions

KITTELSON & ASSOCIATES

MB&G

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PROJECT BACKGROUND

The City of Gresham is beginning a process to review the transportation facilities in the Pleasant Valley Transportation System Plan (TSP) with primary focus on determining how the system can function adequately in the future. Alternatives that include and exclude a potential new arterial Extension of SE 174th Avenue to connect between SE Giese Road and SE Jenne Road will be analyzed to understand the impacts of that connection on the overall function of the Pleasant Valley street network. The SE 174th Avenue Extension was originally identified in the planning for the Powell-Foster corridors and is included in the current Metro Regional Transportation Plan (RTP) project list. A preferred alternative will be incorporated into an updated Pleasant Valley TSP and identify the long-term vision for the area as well as near-term solutions to address community concerns and support growth of the area. In addition, it will identify how improvements can be phased and their costs, as well as right-of-way needs, and impacts.

The Pleasant Valley TSP was adopted in 2005. Since that time, planning has occurred by Clackamas County, Portland, and Metro. These plans are based on the Pleasant Valley TSP, which includes an extension of Giese Road between SE Foster Road and SE 182nd Avenue. In addition, it includes the downgrading of SE Foster Road into a local access street (i.e., retain current two-lane configuration), with the potential to disconnect or vacate the street in the confluence area of Kelley Creek. For example, in 2012, Happy Valley and Clackamas County jointly adopted the 172nd Avenue/190th Drive Corridor Management Plan, including a new arterial connection between SE 172nd Avenue and SE 190th Drive (the "172nd-190th Connector"). That plan considered the constraints of SE Jenne Road and the SE 174th Extension and the need to provide a more robust connection to SE 190th Avenue to supplement north/south connectivity.

The Pleasant Valley TSP (PVTSP) Refinement project is needed to reassess the PVTSP based on the most recent transportation plans for the surrounding areas. It will validate planned projects in the TSP and assess the need and feasibility of the SE 174th Extension north of SE Giese Road.

NATURAL RESOURCE BASELINE CONDITIONS

The objective of this analysis is to compile natural resources information that will support the screening of several transportation improvement alternatives in Pleasant Valley and support the selection of a single preferred alternative.

This report summarizes the results of a desktop-level analysis of natural resources at two scales, one broad and one fine. At the broad scale, natural resource Geographic Information System (GIS) data were overlaid with the entire Project Study Area (PSA). At the finer scale, natural resource data were analyzed within a subset of the PSA that focused in and around specific roadways and intersections. This finer scale Roadway Study Area (RSA) is composed of seven segments: four conceptual roads, two existing roads, and intersections of interest. The RSA segments are:

1. **Intersections** — SE 190th Avenue/SE Giese Road and Powell Boulevard/SE 174th Avenue;
2. **SE Foster Road — Existing Road** — SE Foster Road between SE Jenne Road and Conceptual SE 174th Avenue Extension (South);
3. **SE Jenne Road — Existing Road** — SE Jenne Road between SE 174th Avenue and SE Foster Road;
4. **Knapp Street Extension — Conceptual Road** — an approximately 1,600-foot road that spurs off of the conceptual SE 174th Avenue Extension (South) to the east, paralleling SE Dahlquist Road approximately 600 feet to the north;

5. **SE 174th Avenue Extension (North) — Conceptual Road** — an extension of SE 174th Avenue from where it would meet SE Jenne Road to the north and the conceptual SE Giese Road Extension to the south;
6. **SE 174th Avenue Extension (South) — Conceptual Road** — an extension of SE 174th Avenue from the conceptual SE Giese Road Extension to the north to SE Foster Road; and
7. **SE Giese Road Extension — Conceptual Road** — an extension of SE Giese Road from where it currently dead ends at SE 182nd Avenue, west to SE Foster Road;

The intersection of Powell Boulevard/SE 174th Avenue is located within the City of Portland while the SE 190th Avenue/SE Giese Road intersection is located within the City of Gresham. The PSA comprises approximately 1,027 acres and the RSA comprises approximately 191 acres. A vicinity map of the PSA, RSA, and segments of the RSA is included in Appendix A (Figure 1).

METHODS

This desktop analysis of natural resource baseline conditions was performed using GIS data and software. Natural resources GIS data (Table 1) were used in overlay analyses with both the PSA and the RSA. The RSA was created by buffering the conceptual road lines by 200 feet on both sides and buffering the seven RSA alignments/intersections by 200 feet. The PSA was predefined to include the RSA, allowing a landscape-scale review of natural resources. Overlap of polygonal natural resource data from Table 1 was reported as area (acres) and polyline features as stream miles. The final results are numeric summaries (Tables 2 – 6) and figures (Appendix A, Figures 2 and 3) that show the location and extent of natural resource features and other overlays.

Table 1. GIS data used to analyze baseline natural resource conditions.

Data	Source	Publication Date
National Wetlands Inventory (NWI)	USFWS 2016	May 2016
Local Wetlands Inventory (LWI)	Shapiro & Associates 2004	June 2004
Oregon Department of State Lands (DSL) previously concurred-with wetland delineations	DSL 2017	N/A
Streams/Waterways	City of Gresham National Hydrography Dataset Oregon Dept. of Forestry	August 2017 September 2017 January 2010
100-year flood zones	City of Gresham City of Portland	October 2014 January 2010
Hydric soils (≥ 66% of the mapping unit is rated as hydric)	NRCS	November 2016
Essential Fish Habitat	NOAA	January 2015
Essential Salmonid Habitat	DSL 2016	July 2016
Critical Habitat for all federally-listed species (line and polygon features)	USFWS 2017	September 2017 (last updated)

Species occurrence (existing and historic)	Oregon Biodiversity Information Center (ORBIC)	May 2017
Environmentally Sensitive Restoration Areas (ESRA)	City of Gresham	January 2010
City of Gresham and Metro Lands	Metro Data Resource Center	January 2018
Protection Plan Area (Portland)	City of Portland	January 2015
LiDAR derived DEM & Hillshade	DOGAMI	November 2016
Ortho-rectified aerial imagery, 6-inch resolution	Portland Metro	July 2016 (flown)
Topography	USGS	March 2017

RESULTS

The southern terminus of the conceptual 174th Avenue Extension (South) and SE Jenne Road contains a cluster of overlapping natural resource features. NWI-delineated wetlands occupy 1.51% of the RSA, whereas LWI wetlands occupy 0.33% of the RSA and are only intersecting with the SE Jenne Road RSA segment (Table 2). There were no previous DSL-concurred wetland delineations within the RSA. The City of Gresham-defined ESRA which provides protections for streams, wetlands, riparian areas, and upland wildlife habitat, overlaps with all RSA segments with the exception of the SE Jenne Road and Intersections RSA segments (Figures 2 and 3). ESRA upland wildlife habitat intersects both the SE Giese Road Extension and the Knapp Street Extensions, while the remaining ESRA overlap is associated with wetland/riparian/stream habitat. Four RSA segments intersect the 100-year flood zone as defined by the City of Gresham and the City of Portland. Hydric soil is mapped within SE 174th Avenue Extension (South), SE Foster Road, and SE Jenne Road (Figures 2 and 3). All of the streams within the RSA and PSA are considered to be Essential Fish Habitat for Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*O. kisutch*) per the Magnuson-Stevens Fishery Conservation Act. It is important to note that in many cases the areas of natural resources in Table 2 overlap one another such that their sum (40.90 acres) is greater than the area of their combined footprint (31.55 acres).

RSA Results

Table 2. Overlap of polygonal natural resource features and RSA segments (combined footprint = 31.55 acres).

RSA Segment	NWI Wetlands		LWI Wetlands		ESRA		100 year Flood		Hydric Soils	
	Acres	%RSA	Acres	%RSA	Acres	%RSA	Acres	%RSA	Acres	%RSA
Intersections	-	-	-	-	-	-	-	-	-	-
SE Foster Rd	0.52	0.27%	-	-	5.56	2.91%	0.68	0.36%	1.76	0.92%
SE Jenne Rd	0.73	0.38%	0.62	0.33%	-	-	0.13	0.07%	0.82	0.43%
Knapp Street Ext	-	-	-	-	2.71	1.42%	-	-	-	-
SE 174th Ave Ext (N)	0.93	0.49%	-	-	10.96	5.74%	0.49	0.26%	-	-

SE 174th Ave Ext (S)	0.69	0.36%	-	-	6.41	3.36%	2.52	1.32%	2.28	1.19%
SE Giese Road Ext	-	-	-	-	3.08	1.61%	-	-	-	-
Total	**2.88**	**1.51%**	**0.62**	**0.33%**	**28.72**	**15.04%**	**3.83**	**2.00%**	**4.85**	**2.54%**

Of the 1.40 stream miles that overlap the RSA, 0.26 mile is designated Critical Habitat for LCR[1] coho salmon and steelhead (*O. mykiss*), and are mapped as Essential Salmonid Habitat by the DSL (Table 3). The stream miles of Critical Habitat, Essential Salmonid Habitat, and ORBIC species presence in Table 3 are all associated with the same section of Kelley Creek, near the southern terminus of SE 174th Avenue Extension and SE Jenne Road (Figures 2 and 3).

Table 3. Overlap of polyline natural resource features and the RSA.*

RSA Segment	Stream Miles				
	Streams/ Waterways	LCR Steelhead Critical Habitat	LCR Coho Salmon Critical Habitat	Essential Salmonid habitat	ORBIC species (LCR Coho and Steelhead)
Intersections	-	-	-	-	-
SE Foster Rd	0.19	0.10	0.10	0.10	0.10
SE Jenne Rd	0.52	-	-	-	-
Knapp Street Ext	-	-	-	-	-
SE 174th Ave Ext (N)	0.42	-	-	-	-
SE 174th Ave Ext (S)	0.16	0.16	0.16	0.16	0.16
SE Giese Road Ext	0.11	-	-	-	-
Total	**1.40**	**0.26**	**0.26**	**0.26**	**0.26**

*All distances were calculated from City of Gresham streams/waterways to prevent arbitrary differences in sinuosity between features that represent the same stream/waterbody from skewing results.

PSA Results

Within the PSA, the natural resource features overlap one another such that their sum (332.40 acres) is greater than the area of their combined footprint (191.22 acres) (Table 4). Mapped wetlands and hydric soil respectively occupy 4.4% and 7.8% of the PSA, and designated ESRA occupies 11.3% (Table 4).

[1] LCR (Lower Columbia River) herein refers to both the LCR Evolutionarily Significant Unit for coho salmon and the LCR Distinct Population Segment for steelhead.

Table 4. Overlap of polygonal natural resource features and the PSA (combined footprint = 191.22 acres).

Natural Resource	Square Feet	Acres	% of PSA
NWI Wetlands	734,046	16.85	1.6%
LWI Wetlands	1,244,503	28.57	2.8%
Total Wetlands	1,978,549	45.42	4.4%
ESRA	5,038,520	115.67	11.3%
100 Year Flood Zone	2,014,870	46.26	4.5%
Hydric Soil	3,468,460	79.63	7.8%

The PSA contains parts of Johnson Creek, Mitchell Creek, Kelley Creek, and their tributaries, totaling 6.29 stream miles (Table 5). Critical habitat for LCR coho salmon and Essential Salmonid Habitat occupy 1.85 stream miles associated with Johnson Creek and Kelley Creek. ORBIC-identified fish species and LCR Steelhead Critical Habitat occupy 1.97 stream miles associated with Johnson Creek and Kelley Creek (Figures 2 and 3).

Table 5. Overlap of polyline natural resource features and the PSA.*

Natural Resource	Stream Feet	Stream Miles
Streams/Waterways	33,220	6.29
LCR Steelhead Critical Habitat	10,401	1.97
LCR Coho Salmon Critical Habitat	9,783	1.85
Essential Salmonid habitat	9,783	1.85
ORBIC species (LCR Coho and Steelhead)	10,401	1.97

*All distances were calculated from City of Gresham flowlines to prevent arbitrary differences in sinuosity between features that represent the same stream/waterbody from skewing results.

Other Overlay Results

Two other overlays were analyzed within the RSA and the PSA: Protection Plan Area (Portland) and Metro/City of Gresham lands (broken into three segments: Metro land, Metro/City of Gresham land, and City of Gresham land). The Pleasant Valley Natural Resources overlay zone contains significant natural resources identified in the Protection Plan Area (Portland). The Protection Plan (Portland) area coverage within the study areas provides a general idea of how that land type is allocated. Metro/City of Gresham lands purchased with funds from the 2006 Natural Areas bond were overlaid with the RSA and the PSA. These lands warrant further investigation and could potentially be used in a land exchange with other high value natural resource lands.

The Protection Plan Area (Portland) and City of Gresham/Metro Lands were overlaid with the RSA and PSA (Table 6). The Protection Plan Area (Portland) encompassed 132.82 acres (12.93%) within the PSA and 35.77 acres (18.73%) within the RSA. Metro/City of Gresham lands cumulatively intersected 63.52 acres (12.93%) of the PSA and 7.45 acres (3.90%) within the RSA. Of these two overlays, the Protection Plan Area (Portland) exhibited the largest percentage of overlap with the PSA and RSA, with the SE Jenne Rd segment accounting for the greatest percentage of RSA segments (16.28% of the RSA). Of the Metro/City of Gresham lands, the City of Gresham exhibited the largest percentage of overlap with the PSA and RSA, while Metro lands intersected the least (Table 6).

Table 6. Protection Plan Area (Portland) and City of Gresham and Metro Lands overlaid with the RSA and PSA.

RSA Segment*	Protection Plan Area (Portland)		City of Gresham Lands		Metro/City of Gresham Lands		Metro Lands	
	Acres	%RSA	Acres	%RSA	Acres	%RSA	Acres	%RSA
SE Foster Rd	0.85	0.45%	-	-	-	-	-	-
SE Jenne Rd	31.11	16.28%	1.47	0.77%	-	-	0.26	0.14%
SE 174th Ave Ext (N)	3.81	2.00%	4.32	2.26%	1.40	0.73%	-	-
Total	**35.77**	**18.73%**	**5.79**	**3.03%**	**1.40**	**0.73%**	**0.26**	**0.14%**
PSA	**Protection Plan Area (Portland)**		**City of Gresham Lands**		**Metro/City of Gresham Lands**		**Metro Lands**	
	Acres	**%PSA**	**Acres**	**%PSA**	**Acres**	**%PSA**	**Acres**	**%PSA**
PSA Total	**132.82**	**12.93%**	**47.55**	**4.63%**	**11.86**	**1.16%**	**4.11**	**0.40%**

*Protection Plan Area (Portland) and City of Gresham and Metro lands polygons do not intersect the following RSA segments: Intersections, Knapp Street Ext, SE 174th Ave Ext (S), and SE Giese Road Ext. Hence these segments are not included in the table.

SUMMARY AND RECOMMENDATIONS

Any development within the PSA would require on-site survey and reporting, and potential natural resource permitting, mitigation, and restoration given the extent of impacts to regulated features. The conceptual SE 174th Avenue Extension (North and South) RSA segments contain more mapped, potentially-jurisdictional natural resources specifically at its southern terminus) than the other RSA segments in this analysis. Combined, these segments account for 12.71% of natural resources within the RSA. These segments are followed by the SE Jenne Road RSA segment which contains 4.46% of natural resources within the southern terminus. Kelley Creek crosses both the SE 174th Avenue Extension (South) and the SE Jenne Road RSA segments. Kelley Creek is designated Critical Habitat for coho salmon and steelhead and impacts to the creek and/or its riparian corridor would likely require consultation with the National Marine Fisheries Services and preparation of federal Endangered Species Act compliance documentation.

Of the other overlays, the Protection Plan Area (Portland) encompasses the largest area of the PSA (132.82 acres). Within the RSA, the Protection Plan Area (Portland) accounts for more area (35.77 acres) than the combined footprint of

all the natural resource layers (31.55 acres). In addition, the Protection Plan Area (Portland) intersects the largest area of the SE Jenne Rd segment (31.11 acres). Hence, the Protection Plan Area (Portland) overlay should be carefully considered in terms of the SE Jenne Rd RSA segment and the overall PSA during the alternatives refinement process.

Mason, Bruce & Girard (MB&G) recommends screening of project alternatives with consideration of minimizing the natural resource impacts associated with each alternative. As noted above, regulatory issues for the project pending a final alternative selection are likely to include impacts to jurisdictional wetlands and waters, and impacts on federally-listed fish and/or their critical habitat. MB&G recommends field verification of mapped features after the selection of a preferred alternative, as the available GIS layers are often mapped at coarse scales.

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Appendix A FIGURES

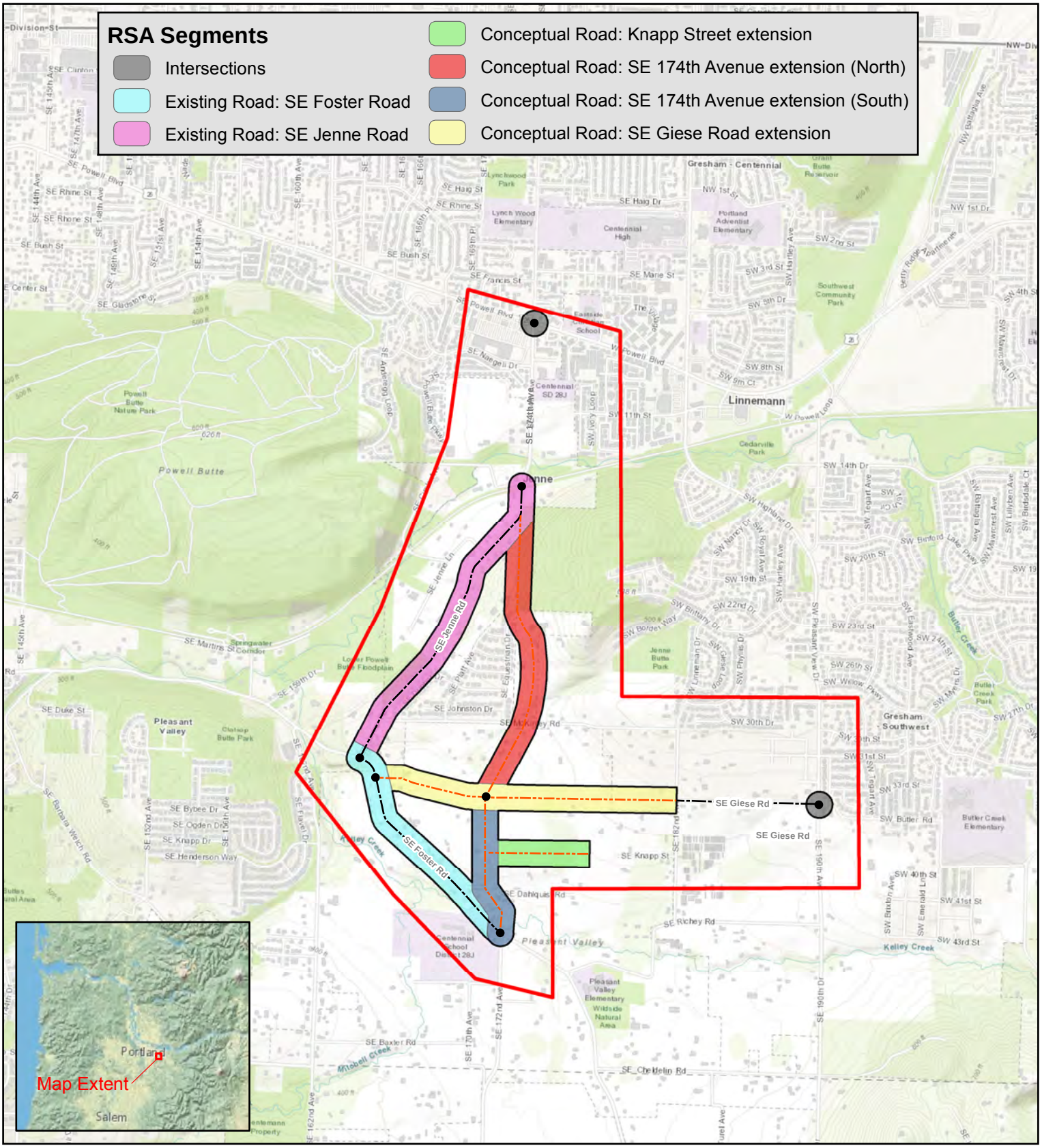

Figure 1.
Vicinity Map

Project Study Area (PSA)
Road Study Area (RSA)
Intersections
Proposed Roads
Existing Roads

MB&G

Source: Basemap from World Topographic Map; project area, study roadways, and study intersections from City of Gresham; all other data from MB&G. Reproduced for informational purposes and may not be suitable for legal, engineering or surveying purposes. Conclusions drawn from such information are the responsibility of the user.

Feet
0 500 1,000 2,000

Pleasant Valley TSP Refinement
Multnomah County, Oregon

Memo_Figure1_Project_Area_Vicinity_addon, 3/1/2018

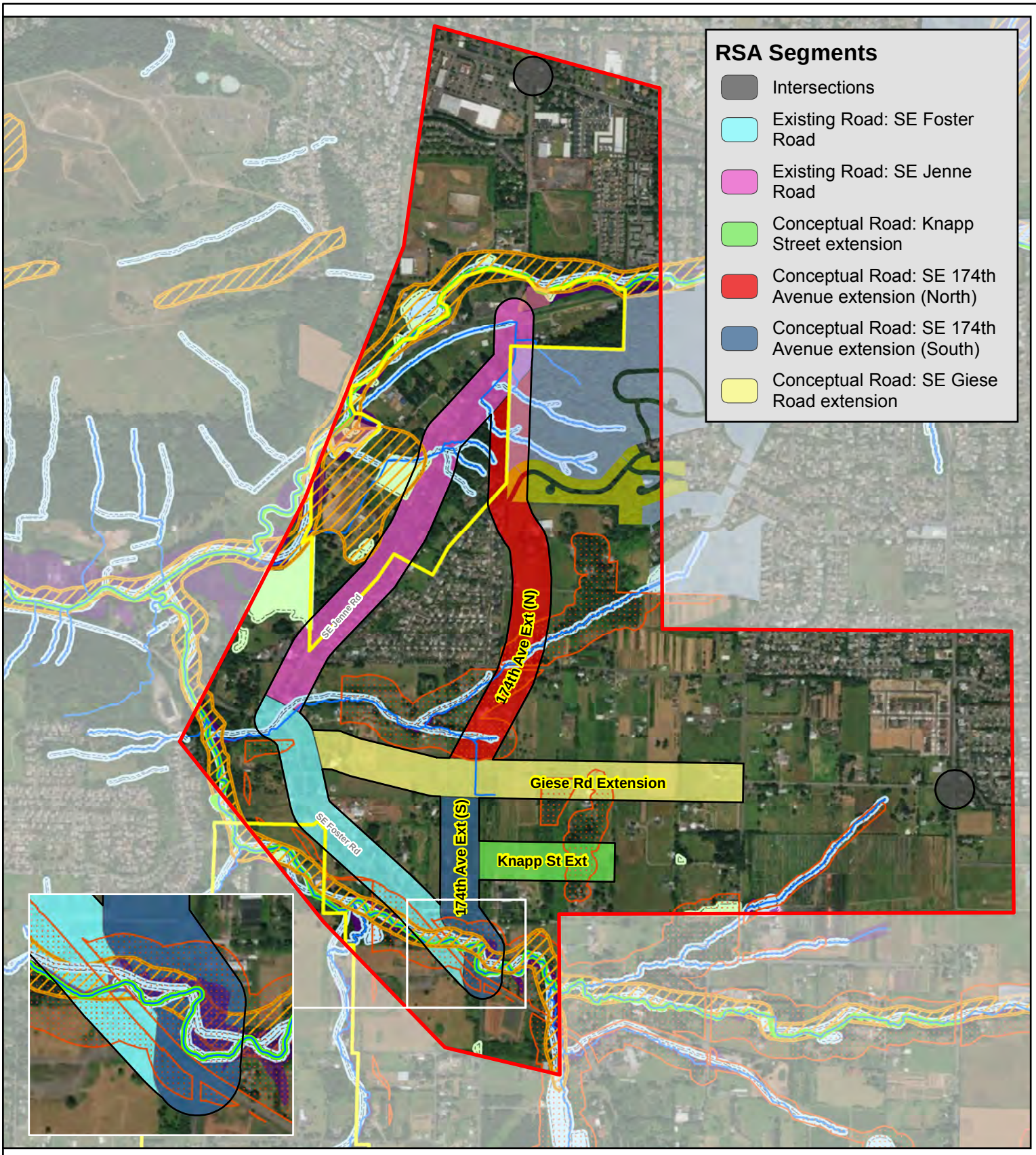

Figure 2.
Natural Resource Features Overlay (Aerial)

Pleasant Valley TSP Refinement
Multnomah County, Oregon

- Project Study Area
- Road Study Area
- Hydric Soils
- ESRA
- NWI Wetlands
- Protection Plan Area (Portland)
- LWI Wetlands
- 100 Year Flood Zones
- Streams/Waterways
- Critical Habitat, ESH, & ORBIC*

City of Gresham and Metro Lands

- City of Gresham
- Metro, City of Gresham
- Metro

MB&G

Source: Basemap from ESRI; Critical habitat and NWI from USFWS; LWI from ODSL; Hydric Soils from NRCS; streams from NHD/USGS project area, study roadways, and study intersections from City of Gresham; all other data from MB&G. Reproduced for informational purposes and may not be suitable for legal, engineering or surveying purposes. Conclusions drawn from such information are the responsibility of the user.

0 400 800 1,600 Feet

Memo_Figure2_Potential_Impacts_addon, 2/28/2018

* ORBIC = Oregoon Biodiversity Information Center records of coho salmon and steelhead. ESH = Essential Salmonid Habitat for coho salmon and steelhead.

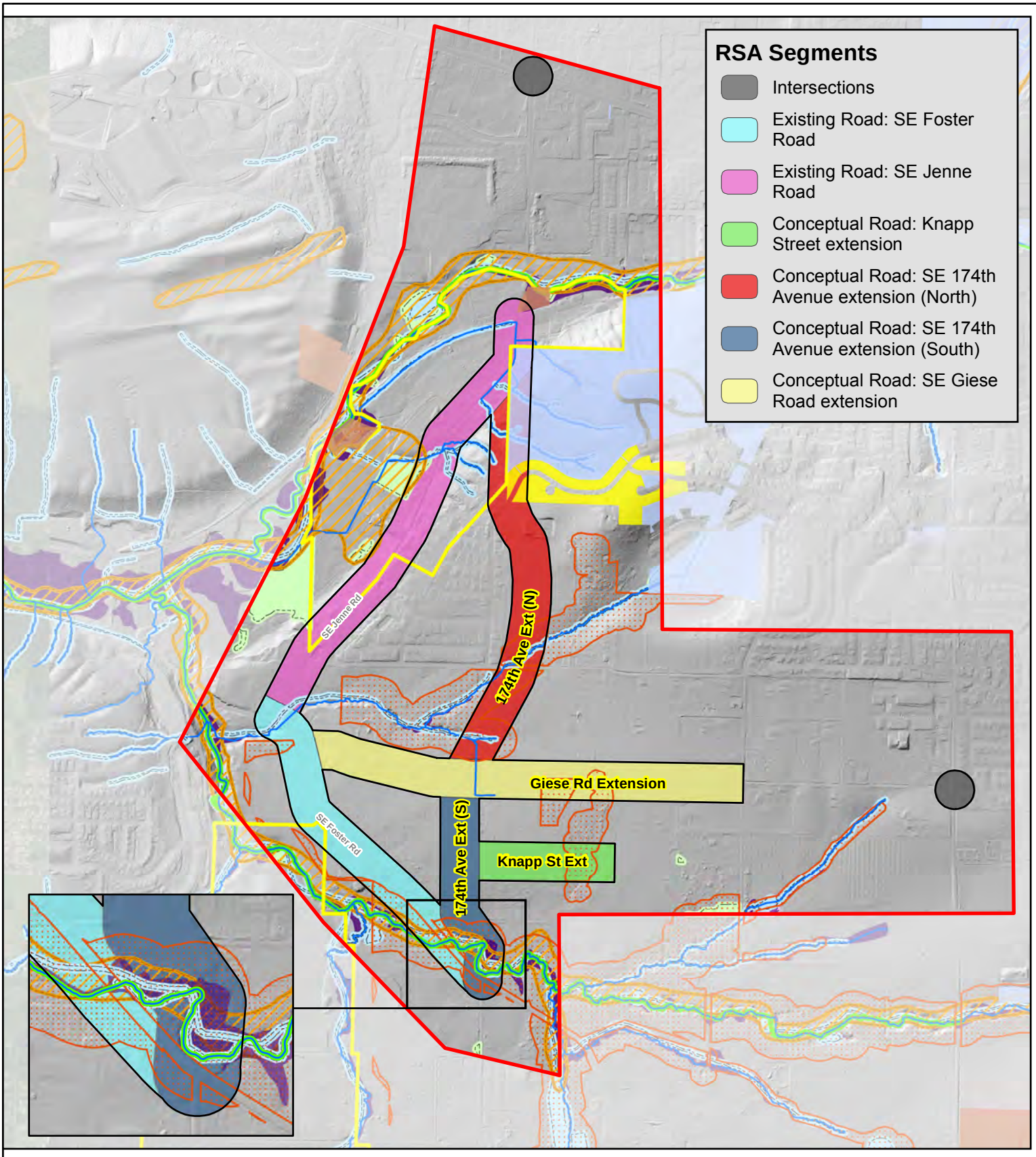

Figure 3.
Natural Resource Features Overlay (Topographic)

Pleasant Valley TSP Refinement
Multnomah County, Oregon

- Project Study Area
- Road Study Area
- Hydric Soils
- ESRA
- NWI Wetlands
- Protection Plan Area (Portland)
- LWI Wetlands
- 100 Year Flood Zones
- Streams/Waterways
- Critical Habitat, ESH, & ORBIC*

City of Gresham and Metro Lands

- City of Gresham
- Metro, City of Gresham
- Metro

MB&G

Source: Basemap from Oregon Lidar Consortium; Critical habitat and NWI from USFWS; LWI from ODSL; Hydric Soils from NRCS; streams from NHD/USGS project area, study roadways, and study intersections from City of Gresham; all other data from MB&G. Reproduced for informational purposes and may not be suitable for legal, engineering or surveying purposes. Conclusions drawn from such information are the responsibility of the user.

Feet
0 400 800 1,600

Memo_Figure3_Potential_Impacts_addon, 2/28/2018

* ORBIC = Oregoon Biodiversity Information Center records of coho salmon and steelhead. ESH = Essential Salmonid Habitat for coho salmon and steelhead.