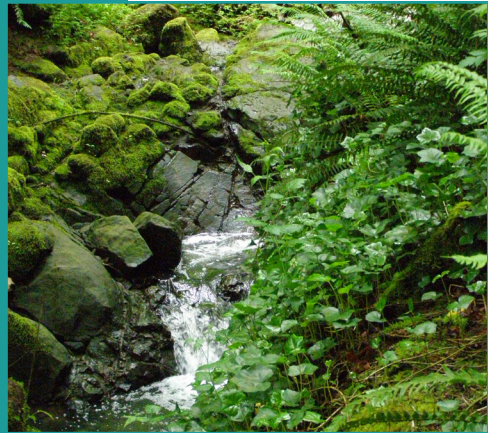


ENVIRONMENTAL OVERLAY ZONE MAP CORRECTION PROJECT

VOLUME 3, PART D: Fannno Creek, Natural Resources Inventory and ESEE Decisions

Discussion Draft
November 2019



How to Comment

You may submit comments to Bureau of Planning and Sustainability staff on the Environmental Overlay Zone Map Correction Discussion Draft by:

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COMMENTS DUE: January 31, 2020

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This plan is the culmination of three years of work across the City of Portland. Many thanks to the thousands of stakeholders, property owners, renters, business owners and interested people who attended dozens of neighborhood and community meetings and invited staff to their homes and businesses to perform site visits.

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Volume 3, Part D, includes the results for resource sites in the Southwest Hills geography (see Map 1). For each resource site the following is presented:

1. Natural resources inventory of riparian corridors and wildlife habitat pursuant to OAR 660-023-0030, 660-023-0090 and 660-023-0110.
2. Economic, Social, Environmental and Energy analysis pursuant to OAR 660-023-0040.
3. Economic, Social, Environmental and Energy decisions pursuant to OAR 660-023-0040.
4. Program implementation recommendations pursuant to OAR 660-023-0050.

[illegible]

Map 1: Tryon Creek and Southwest Hills East Resource Geography

B. How to Use this Document

Below is a description of how to use the information found in this volume during quasi-judicial reviews.

Significant Natural Resource Feature and Functions Descriptions and Maps

Natural resource features include rivers, streams, , wetlands, flood area, vegetation (forest, woodland, shrubland and herbaceous), steep slopes and Special Habitat areas. These features are factual data that are mapped following the in the natural resources inventory. The descriptions are based on supplemental inventories, reports and site visits. Natural resource functions are the riparian corridor and wildlife habitat benefits provided by the features. The methodology uses to map and identify the natural resource features and function is documented in the Natural Resources Inventory (Appendix B) and Wetland Inventory Project (Appendix C) .

The natural resource features maps can be updated at any time based on more current and accurate data, such as a wetland delineation. The environmental overlay zone boundaries may be corrected based on new topographic feature data through 33.885.070, Correction to the Official Zoning Maps, or through 33.430.250.D, Modification of Zone Boundaries.

Economic, Social, Environmental and Energy Analysis

The general ESEE analysis and recommendations are found in Volume 2. For each resource site, the general ESEE analysis and recommendations are affirmed, clarified or modified based on resource site-specific information. An ESEE decisions is made for each resource site. The ESEE decision describes which significant natural resource features and functions should be protected from the impacts of conflicting uses.

Implementation

The results of the inventory and ESEE decision for each resource site are implement by updates to the zoning code and maps found in Volume 1.

C. Natural Resources Definitions

Additional details can be found in Volume 4, Appendix B: Natural Resources Inventory, and Appendix C: Updated Wetland Mapping Protocol.

Waterbodies

Stream: A stream is a channel that has a defined bed and bank and carries water continuously for a week or more during at least the wet season (October through April). Streams may be naturally occurring or may be a relocated, altered or created channel. Streams may contribute water into another waterbody or the water may flow into a pipe or culvert. Streams may flow for some distance underground. Streams are also referred to as *drainageways*, *ditches*, or *drainages* in other City of Portland reports, codes and rules or by other agencies including but not limited to Oregon Department of State Land or US Army Corps of Engineers. Streams include:

- the water itself, including any vegetation, aquatic life or habitat;
- the channel, bed and banks located between the top-of-bank; the channel may contain water, whether or not water is actually present;
- intermittent streams, which flow continuously for weeks or months during the wet season and normally cease flowing for weeks or months during dry season;
- sloughs, which are slow-moving, canal-like channels that are primarily formed by tidal influences, backwater from a larger river system, or groundwater;
- oxbows and side channels connected by surface flow to the stream during a portion of the year; and
- drainage from wetlands, ponds, lakes, seeps or springs, which may or may not form a defined bed and bank.

Drainage: A drainage is an area on the land that conveys flowing water for only hours or days following a rainfall. If a drainage drains water from a wetland, pond, lake, seep, or spring even if it does not have a defined bed and bank, then it is classified as a stream.

Roadside Ditch: A roadside ditch is a constructed channel typically parallel and directly adjacent to a public or private road. A roadside ditch is designed to capture and convey stormwater runoff from the road and is routinely cleaned (i.e., mechanically scoured or scraped of vegetation and debris) to maintain water conveyance capacity. Naturally occurring streams and drainages that have been relocated due to the construction of a road are not considered a *roadside ditch*.

Wetlands: Areas where shallow water is present long enough to create hydric soils and could support hydrophilic vegetation, although due to landscaping, seeding, mowing or grazing hydrophilic vegetation may not be present.

Floodplain: Areas with a 1% or greater chance of flooding in any given year and areas that were inundated with water during the 1996 floods.

Vegetation

Vegetation Patch: An area of contiguous vegetation greater than ½ acre in size containing a distinct pattern, distribution, and composition of vegetation relative to surrounding vegetated and non-vegetated areas.

Forest: Trees with their crowns overlapping, generally forming 60-100% of cover.

Woodland: Open stands of trees with crowns not usually touching, generally forming 25-60% of cover. Tree cover may be less than 25% in cases where it exceeds shrubland and herbaceous vegetation.

Shrubland: Shrubs generally greater than 0.5 m tall with individuals or clumps overlapping to not touching, generally forming more than 25% of cover with trees generally less than 25% of cover. Shrub cover may be less than 25% where it exceeds forest, woodland, and herbaceous vegetation. Vegetation dominated by woody vines (i.e., blackberry) is generally included in this class.

Herbaceous: Herbs (graminoids, forbs, ferns and shrubs less than 0.5m tall) dominant, generally forming at least 25% of cover. Herbaceous cover may be less than 25% where it exceeds forest, woodland and shrubland vegetation. This includes shrubs less than 0.5 m tall.

Steep slopes: Land with a 25% or greater slope.

Riparian Corridors: Rivers, streams, wetlands and floodplains plus the areas bordering the waterbodies; the width of the riparian corridor varies by waterbody as well as the vegetation and slopes surrounding the waterbody.

Wildlife Habitat: Waterbodies, floodplain, land, vegetation and other features that support fish and wildlife during one or more life cycle phase; manmade features may provide wildlife habitat.

Special Habitat Areas: Designated by the City of Portland in accordance with Metro's Urban Growth Management Functional Plan Title 13, Nature in Neighborhoods, areas that contain or support special status species, sensitive/unique plant populations, or other unique natural or manmade habitat features.

D. Resource Site Boundaries

Statewide Land Use Planning Goal 5 requires local jurisdictions to establish resource sites within which the natural resources are inventoried and the ESEE analysis is performed. OAR 660-023-0010 defines resource site, or site, as “a particular area where resources are located. A site may consist of a parcel or lot or portion thereof or may include an area consisting of two or more contiguous lots or parcels.”

Portland established resource sites through the previously adopted conservation and protection plans. This project is remapping resource site boundaries to be more consistent and easier to implement.

The resource sites were remapped in the following way:

1. The previous resource site boundaries were used to the maximum extent practicable. The intent is to maintain consistency between the past plans and this project.
2. Resource site boundaries were expanded to capture contiguous or similar and adjacent natural resource features.
3. Resource site boundaries were expanded to eliminate unnecessary gaps between resource sites.
4. Very small resource sites, with similar natural resource features and functions, were consolidated into one single larger resource site.
5. Resource site boundaries were adjusted to include entire properties within a single resource site. In some cases, adjacent lots under the same ownership may be in different resource sites; however, in these situations the resource site boundary follows lot lines.
6. Centerlines of streets, bridges, railroad tracks or other transportation facilities are often used to delineate resource site boundaries.
7. The City Boundary or Urban Service Boundary is used along the edges of Portland to provide the outer edge of resource sites.

E. Results

The results begin with a description of the Johnson Creek natural resources generally. The general description is applicable to each resource site. Following the general description are results for the resource sites. For each resource site the following information is provided:

1. Inventory of Natural Resources – The quantity and quality of natural resource features, such as streams miles or acres of forest, based on the Natural Resources Inventory methodology (Appendix B), Wetland Inventory Project (Appendix C) and site visits is presented. A description of the natural resources is also provided.
2. Determination of Significance – Statement of which natural resources are significant for purposes of State Land Use Planning Goal 5.
3. Resource Site-Specific ESEE – Additional analysis addressing site-specific conditions resulting in a decision for the resource site. The decision may confirm, clarify or modify the general ESEE recommendation found in Volume 2.
4. Maps
 - A. Zoning – base zones
 - B. Water Features – rivers, streams, wetlands and flood areas
 - C. Land Features – forest, woodland, shrubland and herbaceous vegetation, steep slopes, Special Habitat Areas
 - D. Riparian Corridors – natural resource features providing one or more riparian corridor functions
 - E. Wildlife Habitat – natural resource features providing one or more wildlife habitat functions
 - F. Determination of Significance – Goal 5 significant natural resources
 - G. ESEE Decision – where to strictly limit, limit and allow conflicting uses in areas of significant natural resources

Fanno Creek Natural Resources

Fanno Creek drains the southwest portion of the Tualatin Mountains. The highest part of the Fanno Creek basin is 1,060 feet above sea level at Council Crest. The upper portion of the Watershed contains streams in deep ravines. Some of the upper streams drop more than 400 feet in elevation per mile traveled. Fanno Creek and its tributaries flow west as they leave the Portland City Limits. All creek elevations are less than 300 feet at the city limits.

Geology

The Fanno Creek Watershed is on the southeast slope of the Tualatin Mountains. In Portland these mountains are commonly known as the West Hills. They are composed mostly of Columbia River Basalt. The mountains contain remnant volcanoes, and these are composed of Boring Basalt. Basalt is an igneous rock that begins as lava and fractures as it cools. It usually has a medium gray to almost black color. When it weathers, the surface can turn brown and red. This color is a crust of iron and manganese oxides. The inside of the rock will still be black. In a tropical climate basalt can break down into a red clay called laterite. The spot on the globe where Portland is now was enjoying a tropical-like climate 50,000 years ago. Much Columbia River Basalt was exposed during this time. This explains why patches of brown and red clay are common in the West Hills.

Red, brown, and black basalt flows are exposed in ravines. In other places the basalt is covered by about 25 feet of wind deposited silt. Because basalt fractures when it cools, it stores water in honey-combed shaped spaces between the rock. Underground streams flowing through these cracks are called aquifers. This is why springs are common in areas of exposed basalt. Fractures and faults in the West Hills are also identified as severe earthquake hazards. Soil that is saturated, but not consolidated, amplifies the motion of earth quakes.

Soils

Fanno Creek watershed soils are mostly silts and clays. The United States Soil Conservation Service has identified five soil types (Cascade, Cornelius, Delena, Goble, and Saum) in the watershed. Prior to urban development, almost 95 percent of Portland's portion of the Fanno Creek Watershed was composed of Cascade Silt-loam. This is a wind-deposited soil that erodes easily and does not soak-up storm water very quickly. This top soil is over a harder layer of soil called a "fragipan." Very little water can soak down through this fragipan; plant roots also have a hard time growing through this layer. When it rains, the top two to five feet of soil saturate because water can penetrate no lower. This situation causes aquifers to perch on fragipans during the winter. This is a naturally occurring but dangerous situation. Erosion potential is high; there is a lot of storm water run-off, and land slides result if vegetation is removed from slopes. In the steep headwaters of Fanno Creek, forests hold soil to the sides of the hills. In fully vegetated sites, there is still a high natural rate of soil erosion. This rate is about three tons, per acre, per year.

Since Portland contains almost all the steep headwaters of Fanno Creek, the City is the only place where water runs fast enough to flush eroding soil from gravel stream beds at a rate faster than the natural rate of erosion can silt them up. Most of Fanno Creek has, and has always had, a mud bottom.

Climate

The Fanno Creek Watershed, like the rest of Portland, enjoys mild wet winters and cool dry summers. The climate results from Pacific Maritime air affected alternately by the warming and cooling Japan and the Humbolt Currents. In short, for the latitude, climate is warmer than usual in the winter (average range of 25° to 45° F), and cooler in the summer (average range of 70° to 90° F). Photoperiod (length or darkness at night versus light during the day) is typical of temperate climates with summer daylight much brighter and longer than in the winter. This makes for a March to November growing season.

The Fanno Creek Watershed gets about 50 inches of precipitation (98% rain and 2% snow) per year. A little more than the official measuring station at the Portland Airport that records 45 inches per year. Almost all (88%) this rain falls between October to May, with half the annual total falling in November, December, and January.

Hydrology

Fanno Creek and many of its tributaries originate in southwest Portland. The main-stem begins near Wilson High School and flows along the north side of S.W. Beaverton-Hillsdale Highway. This main-stem is supplemented by several small streams in deep ravines flowing from the north and east. Small creeks flow in underground culverts through fills in S.W. Hewett, Patton, Hamilton, Scholls Ferry, Shattuck, and Dosch Roads. Four other small streams, all east of S.W. Forty-fifth Avenue and north of S.W. Multnomah Boulevard, flow to the north, disappear in culverts under Beaverton Hillsdale Highway; they then reappear, and join the main-stem slightly north of the highway. The supplemented main-stem of Fanno Creek drains 1,920 acres within Portland's City Limits.

Another set of Fanno Creek tributaries, all south of S.W. Beaverton-Hillsdale Highway, flow to the west where they join the main-stem of Fanno Creek beyond the Portland City Limits. Some of these tributaries flow parallel to S.W. Pendelton, Vermont, and Canby Streets. These tributaries are in culverts crossing under Taylor's Ferry Road, Multnomah Boulevard, and Forty-fifth Avenue. The Woods Creek and South Fork Ash Creek watersheds include some land south and east of Interstate 5. Another small watershed is east of Interstate 5 and west of the Portland Community College's Sylvania Campus. The 515-acre area between the Community College and the Interstate-5 Freeway appears to be the only part of the Fanno Creek Watershed that does not have a creek that flows all year.

These southern tributaries drain the following areas within Portland's City Limits: Pendelton Tributary, 246 acres; Vermont Tributary, 641 acres; Multnomah Tributary (called Woods Creek in its upper reaches), 596 acres; North Fork of Ash Creek, 341 acres; and South Fork of Ash Creek, 397 acres. Fanno Creek does not flow directly to the Willamette River. It flows west and south through Tigard before joining the Tualatin River near the Unified Sewage Agency's treatment plant outfall at Durham.

There has not been a 100-year flood since the Fanno Creek watershed has become urban. Significant flooding did occur in December of 1977, putting portions of S.W. Fifty-sixth, Sixtieth, Olsen Road, and Beaverton-Hillsdale Highway under water. Urbanization has made severe flooding more likely. Some stream segments flow to culverts and pipes that are too small to pass a large flood. There are more than the 100-year flood plain, and property could be submerged during a large flood. There are than 50 acres of the Fanno Creek Watershed in the 100-year flood plain, and property could be submerged during a

large flood. A benefit of urbanization is those small tributaries of Fanno Creek, which would usually dry up in the summer, are now perennial. Summer flows are the result of municipal water service. This service has the effect of importing Bull Run water to Fanno Creek through drain fields and lawn sprinklers. The added water is good for fish and wildlife.

Vegetation

The Fanno creek watershed is in a transition area between the *Tsuga heterophylla* (Western Hemlock) and Willamette Valley vegetation zones. Although western hemlock is the theoretical dominant species in the first zone, Douglas fir, western red cedar, or grand fir are just as likely to dominate mature stands. Immature stands have a great deal of red alder and big-leaf maple. The characteristic understory plant is the sword fern. This zone contains the headwaters of Fanno Creek.

The Willamette Valley zone begins where Fanno Creek flattens out into a more slowly moving stream. This zone includes Oregon white oak, mixed conifers, black cottonwood, willows, alder, and grasslands. Native Americans preferred grassland environments to forest, and would set fire to forests to reestablish grasslands. Early settlers continued the practice. A few thousand years of prehistoric management makes it difficult to say what a "natural" flat-land Fanno Creek environment would be. Logging, pasturing, and urbanization are more recent disturbances to the environment.

Many hillsides within the Fanno Creek Watershed are clothed by coniferous forest of the *Tsuga heterophylla* (western hemlock) vegetation zone. This zone extends throughout the wet, mild, maritime climate of the western portions British Columbia, Washington, and Oregon. A vegetation zone, as defined by Franklin and Dymess (1973), delineates a region of "essentially uniform macroclimatic conditions with similar moisture and temperature gradients where one plant association predominates." The lowlands next to the forest are part of the more prairie-like Willamette Valley Zone. Emergent, scrub-shrub and forested wetland plants grow along some of the creeks and in the palustrine wetlands that occur within the study area.

Western hemlock and western red cedar (*Thuja plicata*) are considered climax species within the Western Hemlock Zone because of their potential to dominate mature stands. The subclimax Douglas fir (*Pseudotsuga menziesii*), however, tends to dominate large areas within this region. Historically, Douglas fir has dominated forest regeneration over much of the zone in the last 150 years (Munger 1930, 1940).

The expected plant species of a Western hemlock forest do cover many hillsides within the Fanno Creek Watershed, but two hardwood trees, bigleaf maple and red alder, are more widely established than typical. The overabundance of these hardwoods is result of repeated disturbances caused by logging, brush fires, and urbanization. Over time, these events have depleted soil nutrients. The depletion of nutrients, coupled with the depletion of mycorrhizal fungi, which help to process nutrients for plant uptake and are particularly important to conifers, has given the hardwoods an edge over the firs, cedars, and hemlocks. Pioneer species such as red alder, commonly found only in riparian areas, quickly colonize these disturbed areas and are now widely established on the upland slopes. Thus, past disturbances have strongly influenced the composition of the plant communities in the Fanno Creek Watershed.

The *Tsuga heterophylla* with *Polystichum munitum* (Western hemlock with sword fern) association generally characterizes the herb-rich community found in the Fanno Creek Watershed forests. Overstory species of this association typically include Douglas fir, western red cedar, grand fir, and western hemlock. The understory is dominated by a lush growth of herb species including sword fern, wild ginger, inside-out flower, Oregon oxalis, trillium, and Smith's fairybells. Understory shrubs include the following: red huckleberry, Oregon grape, vine maple, red elderberry, wood rose, and salmonberry.

Early observations of Portland's forests point to the dynamic pattern of successional stages active within the forest community over the past two centuries. The predominantly old growth coniferous forest that William Clark, of Lewis and Clark, recorded in 1806 has been transformed through logging and fire into a younger, mixed hardwood and coniferous forest (Munger 1960). Despite these disturbances, signs of a returning Western hemlock climax forest are widely apparent. The forest types occurring in the Fanno Creek Watershed may be viewed as a sequence of successional stages of forest regeneration following logging and fire. These stages closely follow those of the Western Hemlock Zone as described by Franklin and Dymess (1973) and Hall (1980). Six distinct successional stages are evident on forested slopes; their patchwork distribution reflects the location, degree and chronology of past disturbances.

Houle (1982) describes the following stages for West Hills forest succession: Grass-forb, Shrub, Hardwood with young conifer, Hardwood topped by conifer, Mid-aged conifer, and Old growth vegetation types.

The grass-forb stage contains low, herbaceous plants such as fireweed, bracken fern, and Canadian thistle. These plants are the first colonizers of an area after removal of vegetation. This stage lasts approximately two to five years and occurs along roads, power-line right-of-ways, and in open fields throughout the Fanno Creek Watershed.

The shrub stage often develops as a thicket of such species as thimbleberry, salmonberry, blackberry, red huckleberry, salal and Indian plum. This stage typically lasts between three and ten years, but will persist as long as 30 years if conifer regeneration is delayed.

The hardwood with young conifer stage is a young, vigorous broadleaf forest predominantly made up of red alder and big-leaf maple, though it often includes bitter cherry, black cottonwood and juvenile Douglas fir. Understory species include sword fern, Oregon grape, and red elderberry. This young, second growth forest usually occurs ten to 35 years following a disturbance.

The fourth stage of succession, conifer topping hardwood, is still a vigorous, though now mixed, hardwood and conifer forest. While the alders and maples approach 100 feet in height during this stage, conifers, primarily Douglas fir, break through the hardwood canopy and grow to heights of 180 feet or more. Characteristic conifer species also include young western red cedar, grand fir, and western hemlock. This mixed stage of second growth forest follows 30 to 80 years after disturbance, and is the most widely distributed vegetation type on forested slopes within the Fanno Creek Watershed.

The next successional stage, mid-aged conifer, is dominated by Douglas fir. Young, shade-tolerant western hemlock, western red cedar, grand fir, and pacific yew are gradually making their way up

through the understory, while some of the older hardwoods such as alder and cherry, are beginning to fall to the forest floor. Sword fern, salal, Oregon grape, red huckleberry, and vine maple thrive as the older trees begin to fall. This stage develops between 80 to 250 years after the last major disturbance. Several areas within the Fanno Creek Watershed display these characteristics.

If the forest is left undisturbed following the mid-aged conifer stage, it progresses into an old growth forest community. The old growth stage is self-perpetuating and will continue indefinitely unless fire, logging or other disturbances set back the forest to an earlier stage of succession. Though Western hemlock and Western red cedar are climax species, long-lived serial species can remain a component of the community for several hundred years. Several areas within the deep ravines of the Fanno Creek Watershed are beginning to develop old growth characteristics. These characteristics include the presence of large snags and downed logs in various stages of decay.

Native forests represent a unique urban amenity. Forested hillsides in the Fanno Creek Watershed provide fine examples of the Pacific Northwest's Western hemlock forest community, which is unique among all temperate forests in the world (Waring and Franklin 1979). Forested hillsides also help to define Portland as a place, and contribute to the identity of the region.

Forests within the Fanno Creek Watershed are home to several plant species with newly discovered uses. The Pacific yew (*Taxus brevifolia*), for example, is an exceptionally slow growing tree species that is abundant only in climax forests of the Pacific Northwest. In recent years, a cancer-fighting substance known as "taxol" was discovered in the bark of the yew. Taxol has proven effective in fighting ovarian cancer²⁰ and early results indicate that the substance may also prove effective for treating leukemia and colon, lung, mammary, prostate, and pancreatic cancers (Wood 1990, Norse 1990).

Fish and Wildlife

The Fanno Creek Watershed is used by about a hundred bird species, several small and medium sized mammals, and a few fish species. Commonly seen mammals include beaver, raccoon, opossum, spotted skunk, Douglas Squirrel, and Townsend's Chipmunk. Occasional visitors include black-tail deer and coyote. There was one coyote sighting in 1993. The last elk sighting was in 1992, the last black bear sighting was about ten years ago, and the last cougar sighting was about 30 years ago.

Fanno Creek contains Cutthroat trout (*Oncorhynchus clarki*). There are different types of these trout, and each type has a distinct life cycle. Some live in the ocean and spawn in streams; others live in lakes and spawn in streams; a third kind lives in large streams and spawns in small streams, and the last kind spends its entire life in small streams. This last kind doesn't grow very large (about seven inches). These small fish are full year residents of Fanno Creek and may only migrate a few hundred yards in an entire life time.

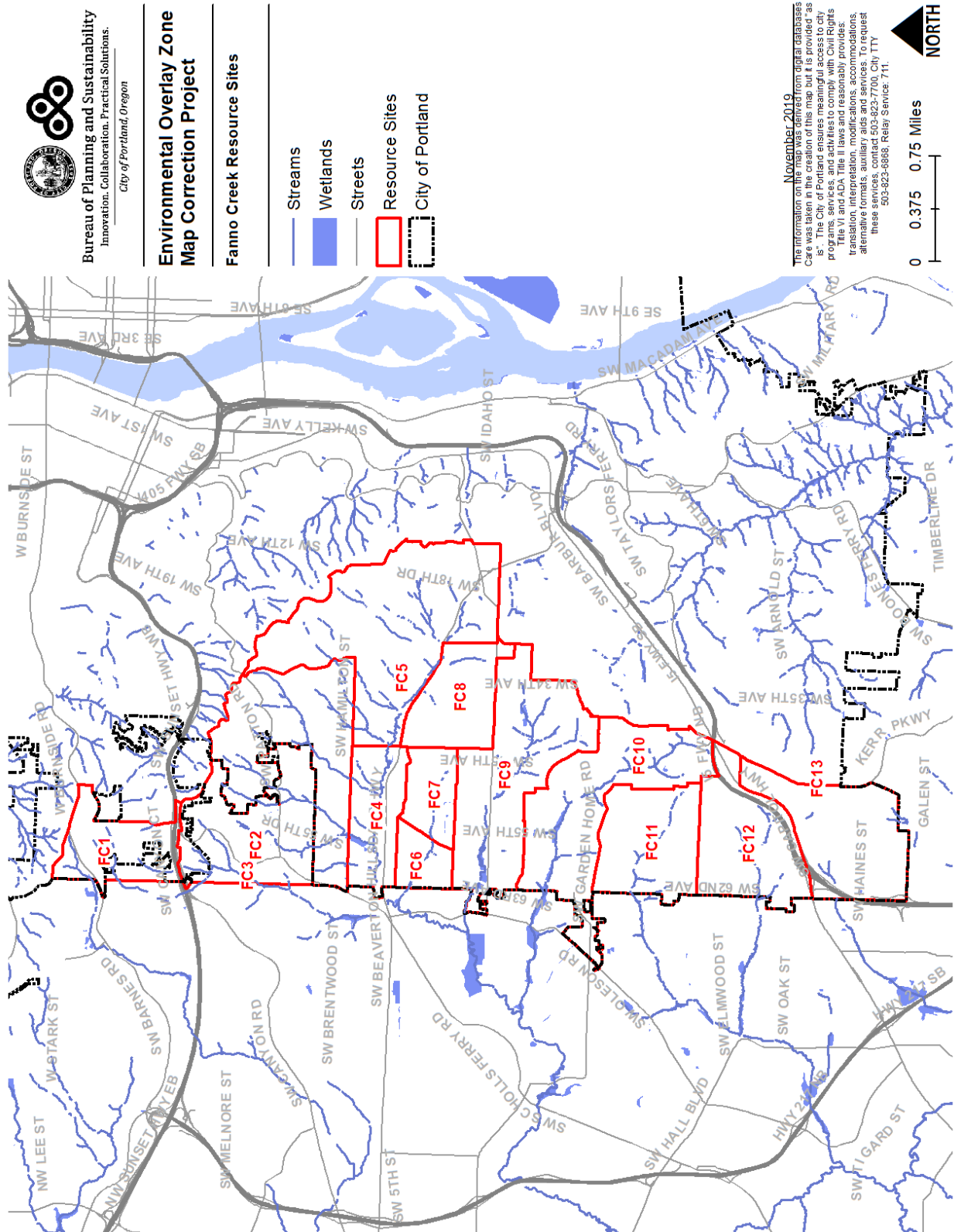
Ocean and lake dwelling cutthroat do not visit Fanno Creek, but an occasional large trout will swim up the Willamette and Tualatin Rivers to spawn in Fanno Creek. The spawning beds for both these cutthroat types are in the faster, gravel-bottomed headwaters. The portion of the watershed within Portland contains almost all known spawning areas. This is because the small hillside tributaries north of Beaverton-Hillsdale Highway, and the Woods Creek tributary south of Beaverton-Hillsdale Highway,

have gravel bottoms. Topography flattens out as the creeks near the Washington County line. These flat-land creeks have mud bottoms that are not suitable for spawning, but they are very important for rearing and feeding, especially during seasonal low water and droughts. Other fish species observed include sculpins, dace, and mosquito fish.

The Piliated woodpecker (*Dryocopus pileatus*) is a species dependent on standing dead and dying trees in older forests. The bird is a cavity nester, and is disappearing from rural areas because of timber harvest and the use of agricultural chemicals. The woodpecker is doing surprisingly well in some urban areas, and can be observed in the Fanno Creek Watershed. Protection of older forests in urban areas is an important conservation strategy for the survival of this species.

Different species use different habitat during different stages of their life cycle. These stages include mating, feeding, and the rearing of young. The vegetative structure of the habitat (downed logs, standing snags, and live herbs, shrubs, and trees) is a key factor in determining the distribution and abundance of wildlife (Thomas 1979). Each stage of forest succession in the Fanno Creek Watershed has its own specific structure. Most species have known preferences for structural components found in distinct successional stages and use these vegetative types to meet all or part of their life cycle requirements (Maser and Thomas 1978; Harris 1984).

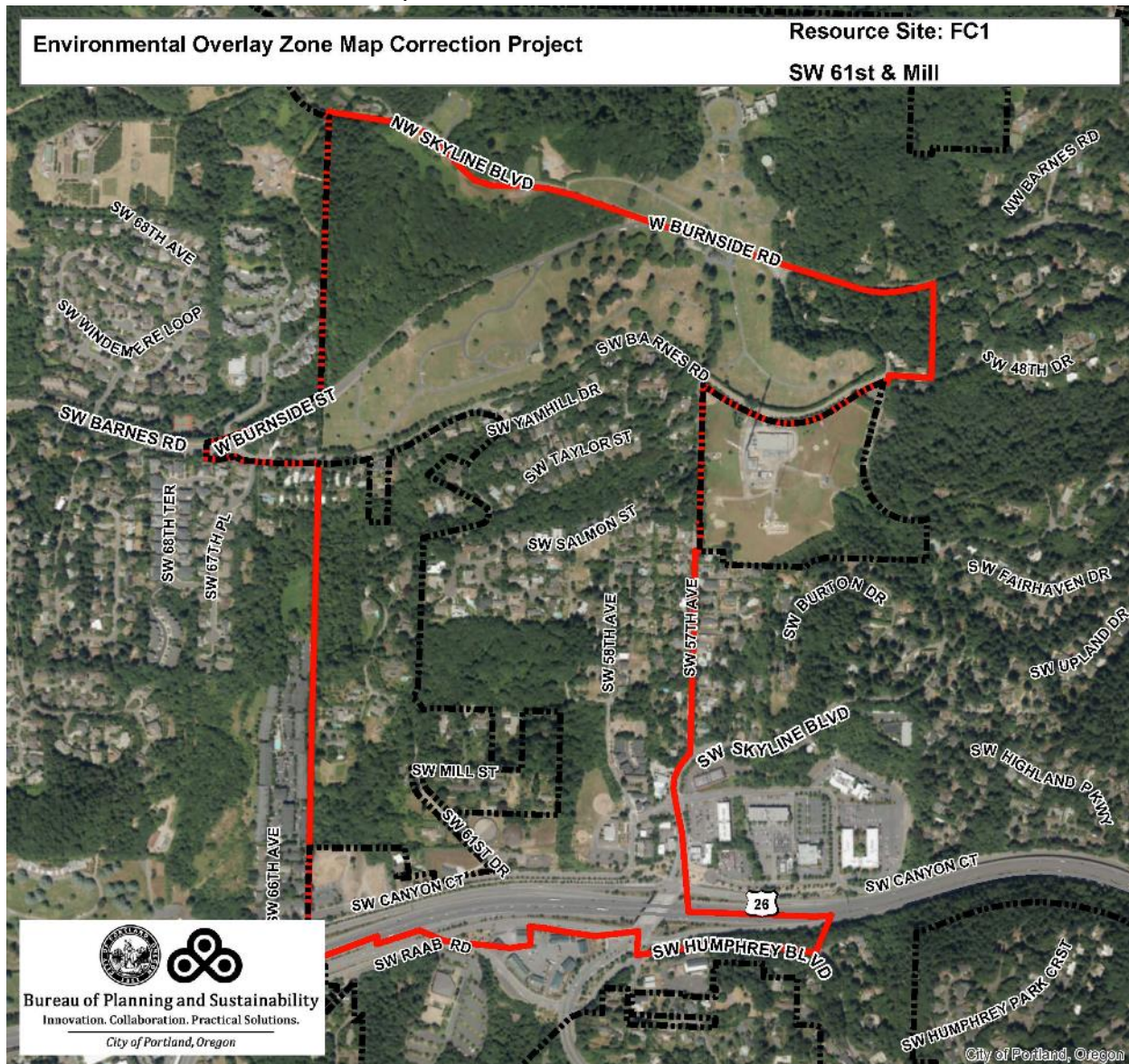
The balanced relationship between the Fanno Creek Watershed's geologic formations, soils, groundwater, and surface water is perpetuated by the extensive canopy cover and root system of the forest which shelters and stabilizes the hillside slopes. Activities that disturb this fragile relationship can substantially degrade resource values by causing landslides, flooding, erosion, and sedimentation. Groundwater and precipitation feed the many creeks within the Fanno Creek Watershed. These creeks provide habitat for fish, amphibians, and other aquatic organisms and, which in turn, provide a source of food for terrestrial wildlife. These creeks are also the most important source of water for terrestrial wildlife. The mosaic of Fanno Creek Watershed forest types provides a range of habitat for a diverse population of indigenous wildlife. These interacting and interdependent elements play vital roles in protecting the balance, health, and vitality of the Fanno Creek Watershed forest and of watershed ecology as a whole.



Map 2: Fanno Creek Resource Sites

Resource Site No.: FC1 Resource Site Name: Sylvan G

Previous Plan: Multnomah County Urban Lands **Previous Resource Site No.:** 111



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC1
		Study Area
Stream (Miles)		0.3
Wetlands (acres)		0.9
Vegetated Areas >= 1/2 acre (acres)		159.1
Forest (acres)		90.2
Woodland (acres)		23.0
Shrubland (acres)		1.6
Herbaceous (acres)		44.3
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		142.5
Impervious Surface (acres)		67.7
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

The majority of the site is in forest cover. The predominant trees are Douglas fir and bigleaf maple. The forest is 75 to 85 years old as indicated by tree sizes and the predominant forest composition of conifer topping hardwood. The representative forest composition is 60 percent deciduous and 40 percent coniferous. One 20-acre area is 90 percent deciduous with some bigleaf maple with up to 40-inch dbh. There is another 20-acre parcel that has primarily conifer cover with dbh sizes ranging from eight to 40 inches. There are springs and eleven or so intermittent creeks located along the canyon walls throughout the site. At least a half-dozen of the uncommon but native pacific dogwoods are located within the canyon.

On the southeast corner of the site is an established neighborhood. The deeply cut V-shaped ravines and curving streets divide the neighborhood into small neighborhood units containing five to seven homes. The steepness of the ravines limits pedestrian access and allow the natural areas to remain largely undisturbed. The physical conditions of the area contribute to the neighborhood character, provide water resources, storm drainage, and provide visual and physical buffers from noise generated by traffic on Highway 26.

Highway 26 bisects the site and creates a barrier for terrestrial wildlife. The north side of the site connects to the habitat areas of Hoyt Arboretum, Pittock Mansion Acres and northern points of Washington Park. Farther north these habitats connect to the Balch Creek Watershed and Forest Park. There are about 220 acres of contiguous forest covering the south wall of Canyon Road.

Table B: Quality of Natural Resource Functions in Resource Site FC1				
Resource Site (acres) = 253.459681				
	High	Medium	Low	Total
Riparian Corridors*				
acres	32.2	23.0	57.9	113.1
percent total inventory site area	12.7%	9.1%	22.8%	44.6%
Wildlife Habitat*				
acres	4.4	80.7	0.0	85.1
percent total inventory site area	1.7%	31.8%	0.0%	33.6%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	36.6	58.5	20.1	115.2
percent total inventory site area	14.4%	23.1%	7.9%	45.4%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC1 the following significant features and functions are present:

Significant Natural Resource Features: open stream, forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; woodland, shrubland and herbaceous vegetation within 300 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the RF, R20, R10, R5, R2 and R1 base zones. Commercial uses are allowed in the CE and CM1 base zones. Open space uses are allowed in OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC1, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk

species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

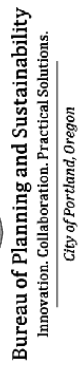
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

ESEE Decisions

Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC1 are:

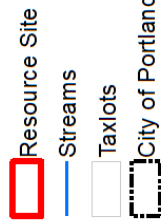
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank and land within 50 feet of stream top-of-bank.
2. *Strictly limit* conflicting uses within areas of forest vegetation contiguous that are to but more than 50 feet from stream top-of-bank extending to 100 feet from top-of-bank or wetlands.
3. *Limit* conflicting uses within areas of forest vegetation that are contiguous to but more than 100 feet from stream top-of-bank.
4. *Limit* conflicting uses within areas of forest on steep slopes that are contiguous to but more than 100 feet from stream top-of-bank.
5. *Allow* conflicting uses within all other areas containing significant natural resources.

Table C: ESEE Decision for Resource Site FC1	
ESEE Decision	Acres
Strictly Limit	32.5
Limit	36.3
Allow	184.7



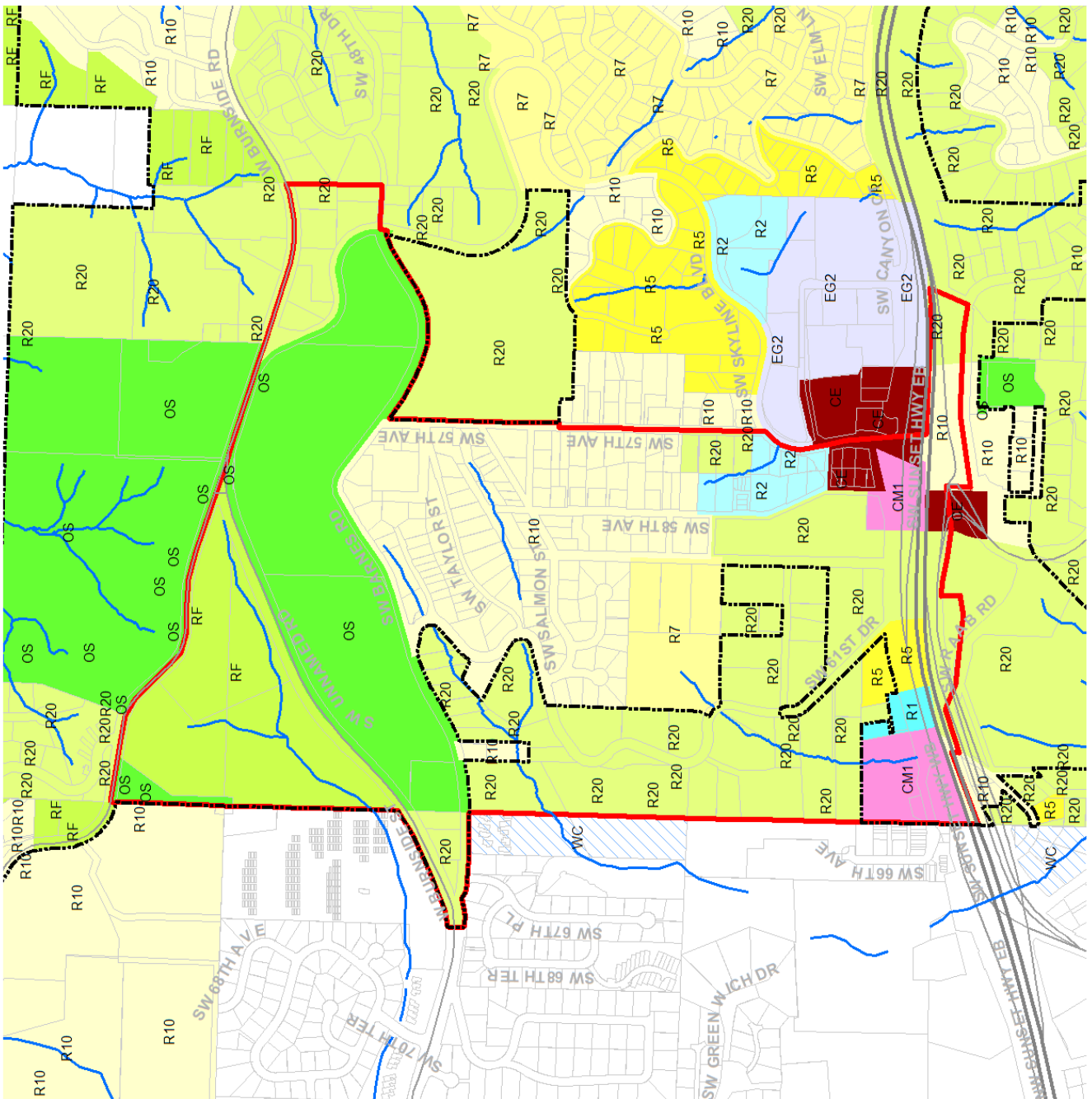
**Resource Site: FC1
SW 61st & Mill**

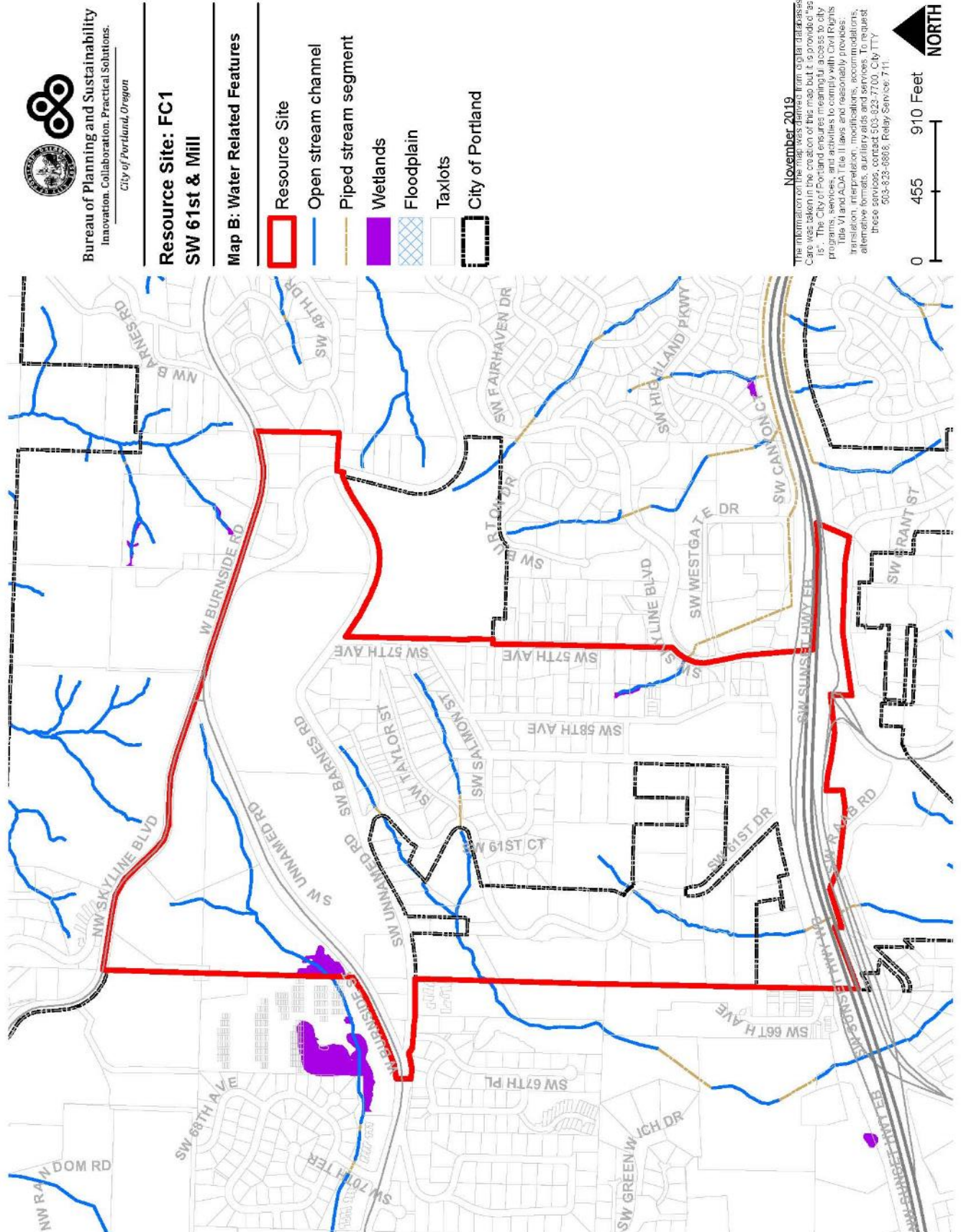
Map A: Base Zones

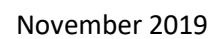


November 2019

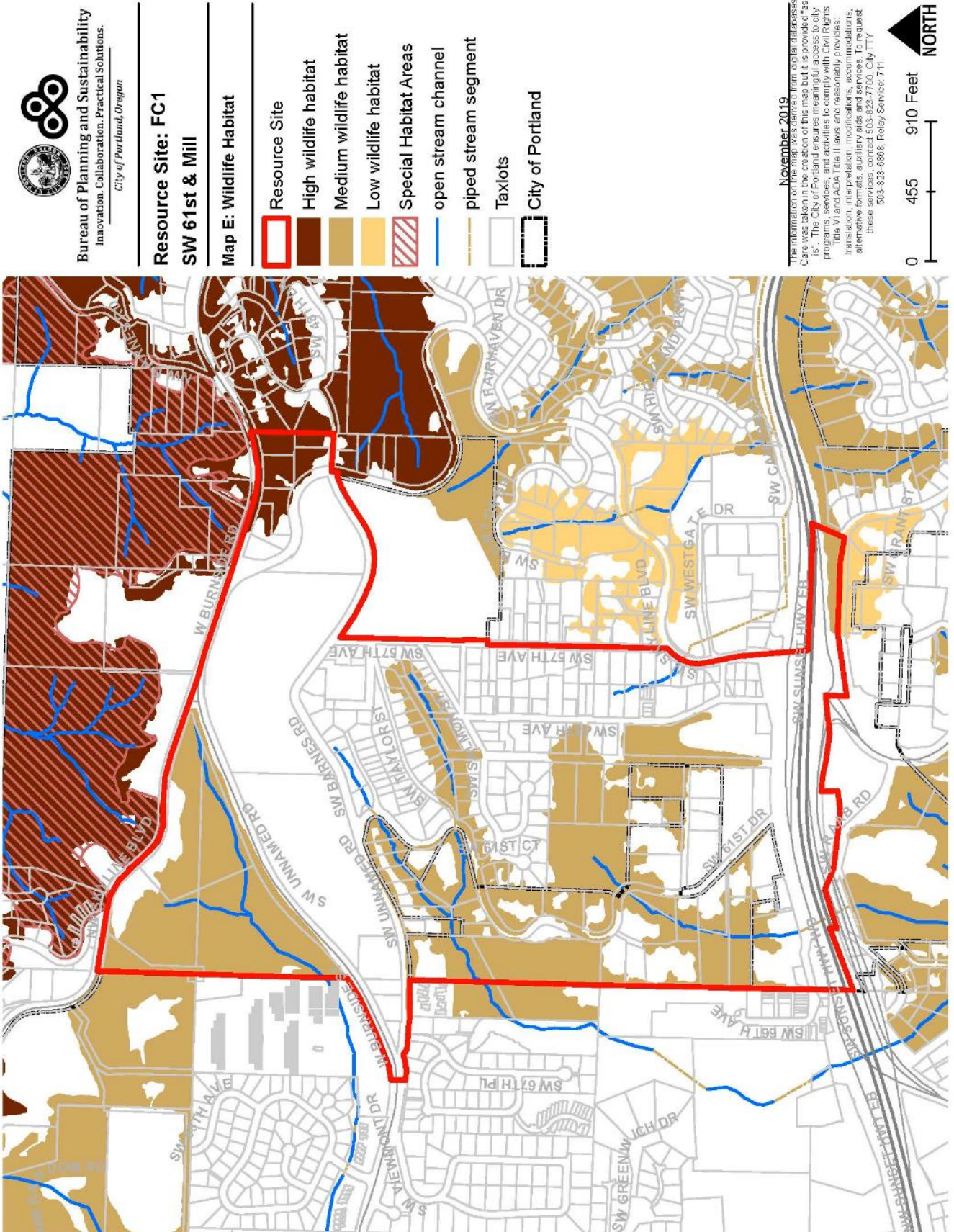
The information on the map was derived from digital databases. Care was taken in the creation of this map but it is provided "as is". The City of Portland ensures meaningful access to city programs, services, and activities to comply with Civil Rights Title VI and ADA Title II laws and reasonably provides: translation, interpretation, modifications, accommodations, alternative formats, auxiliary aids and services. To request these services, auxiliary aids 503-823-7700, City TTY 503-823-8868, Relay Service: 711.

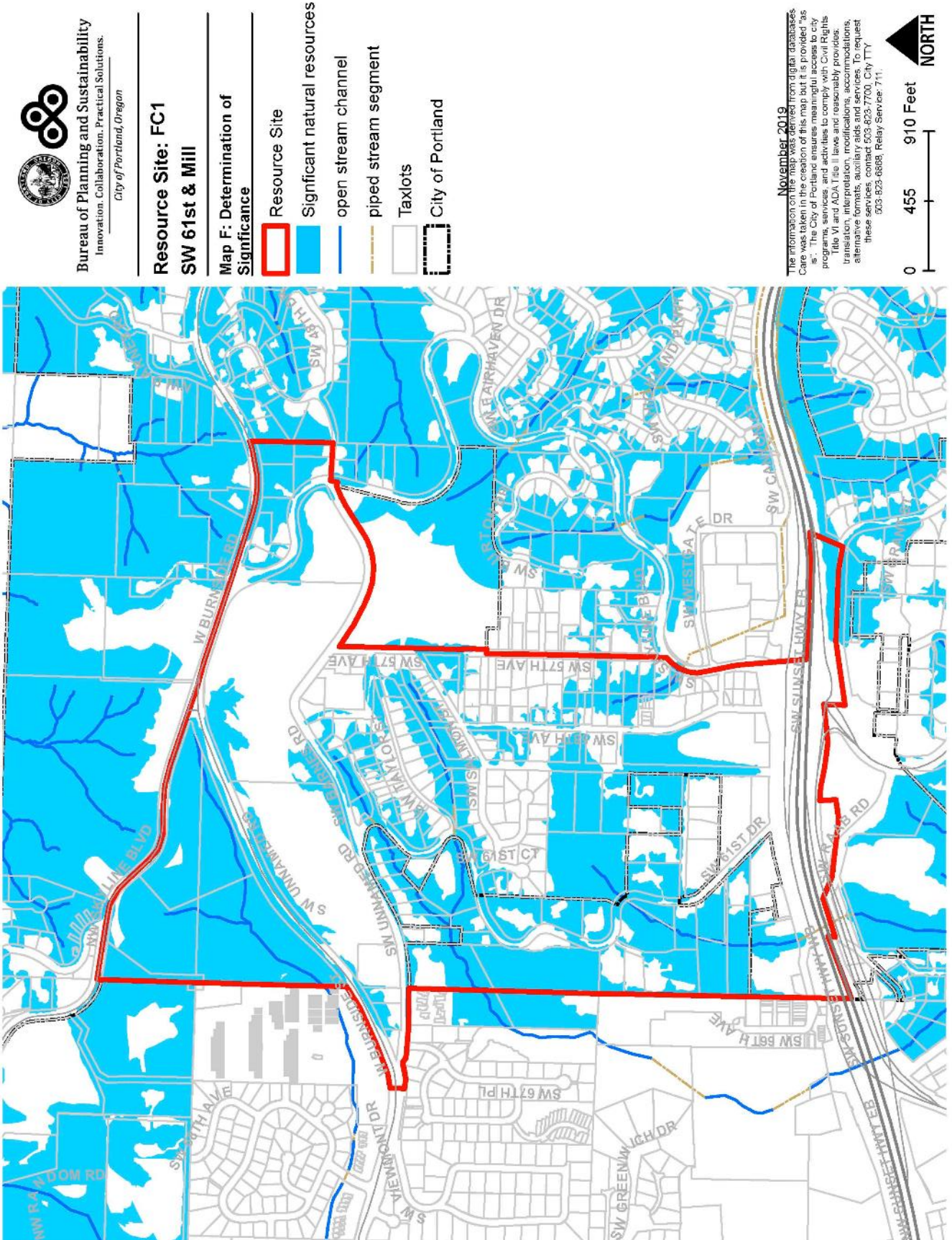


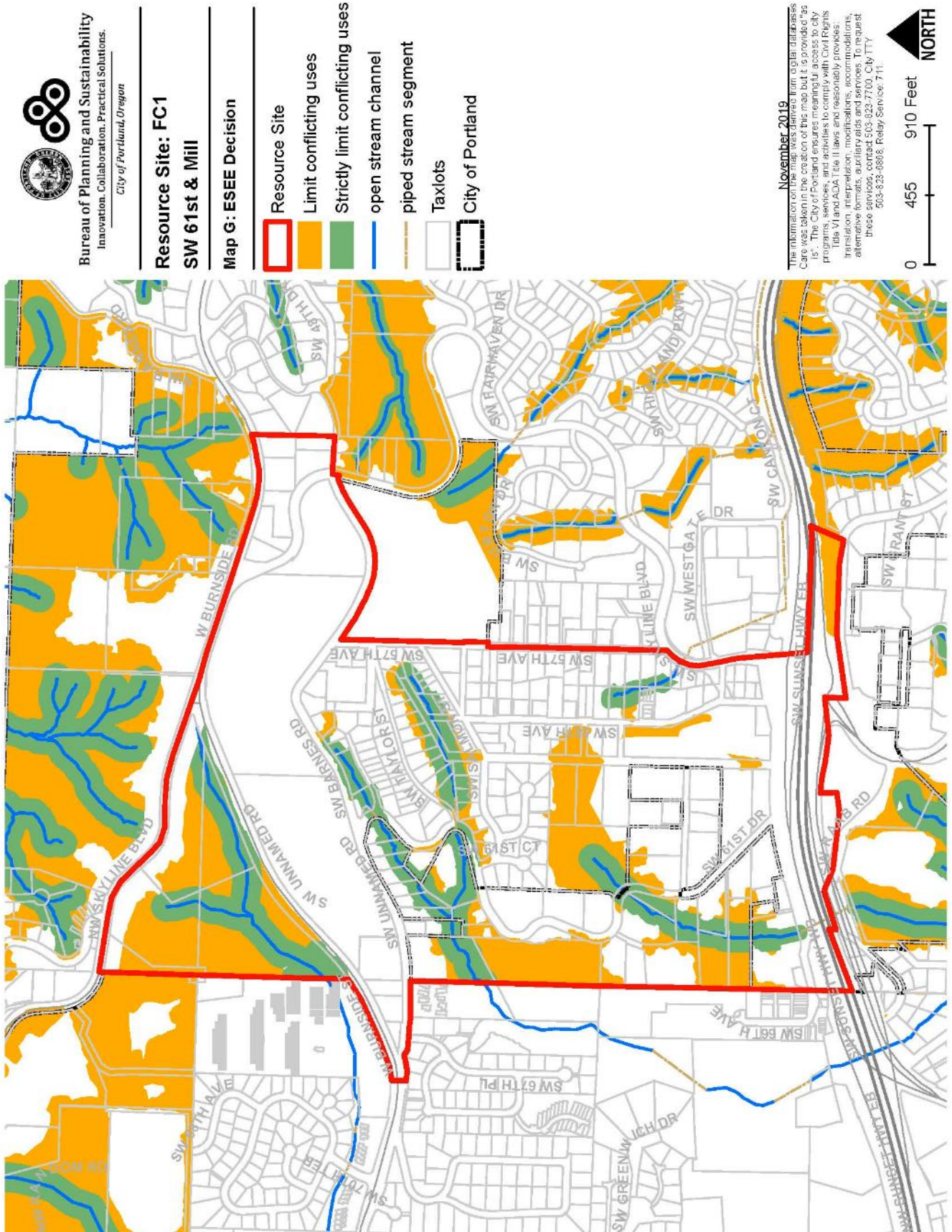




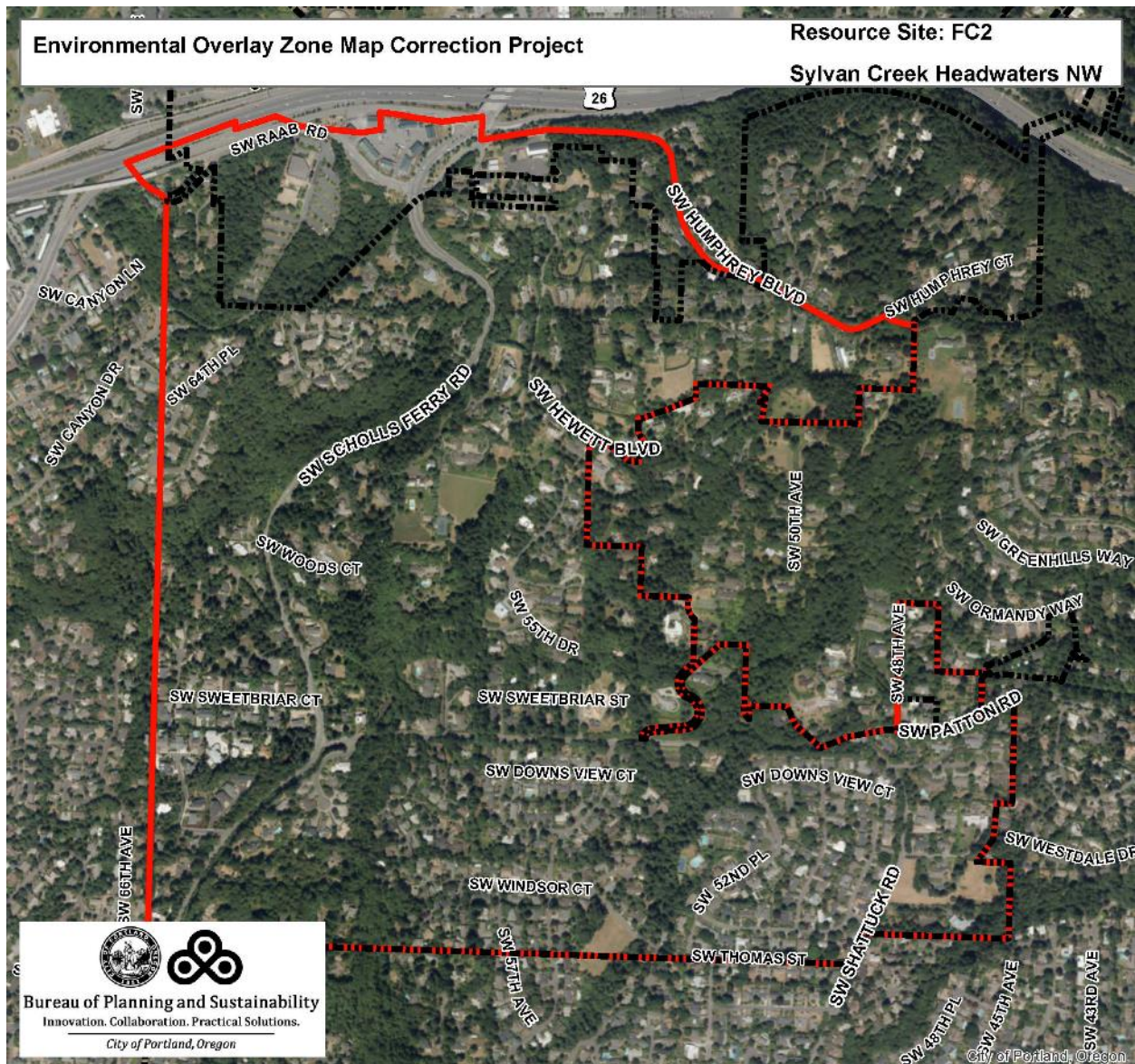








Resource Site No.: FC2 **Resource Site Name:** Sylvan Creek Headwaters NW
Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 124



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC2
		Study Area
Stream (Miles)		5.5
Wetlands (acres)		0.3
Vegetated Areas >= 1/2 acre (acres)		229.5
Forest (acres)		151.3
Woodland (acres)		50.0
Shrubland (acres)		0.7
Herbaceous (acres)		27.5
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		261.1
Impervious Surface (acres)		100.1
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC2				
Resource Site (acres) = 455.327942				
	High	Medium	Low	Total
Riparian Corridors*				
acres	64.6	35.9	88.7	189.1
percent total inventory site area	14.2%	7.9%	19.5%	41.5%
Wildlife Habitat*				
acres	0.0	151.7	23.7	175.4
percent total inventory site area	0.0%	33.3%	5.2%	38.5%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	64.6	95.4	40.7	200.7
percent total inventory site area	14.2%	21.0%	8.9%	44.1%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC2 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R20 and R10 base zones. Commercial uses are allowed in the CE base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filling, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC2, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and

air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

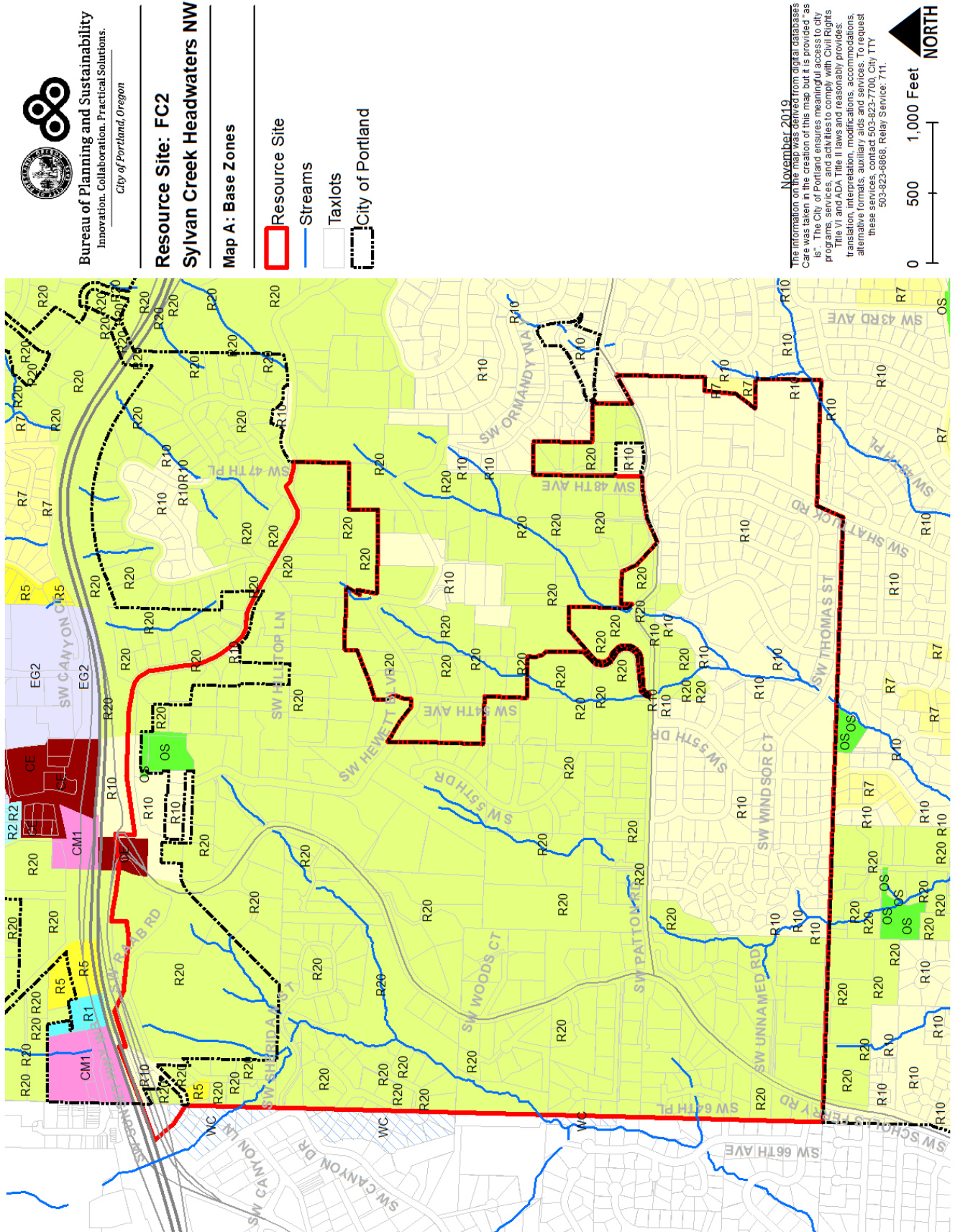
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

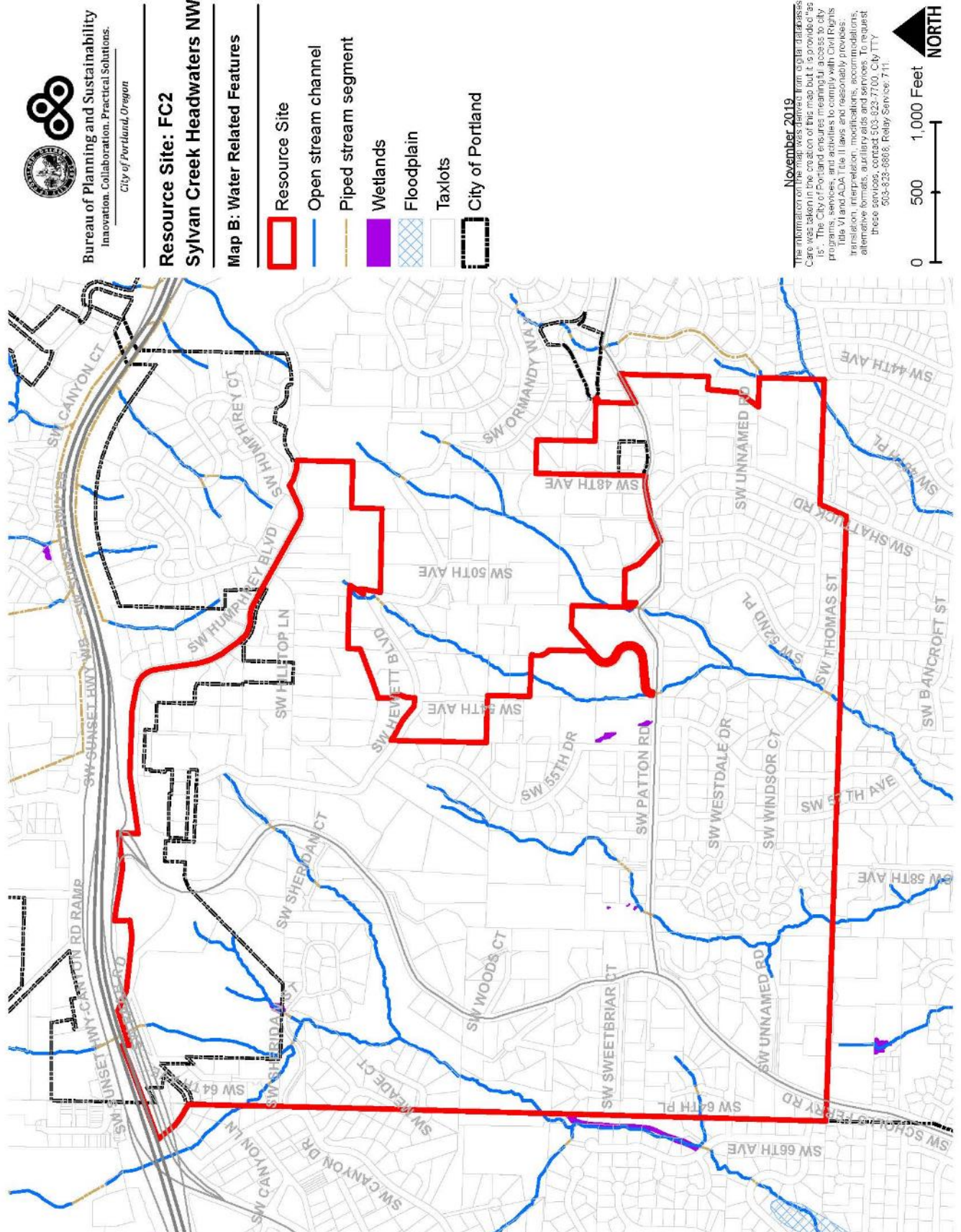
ESEE Decisions

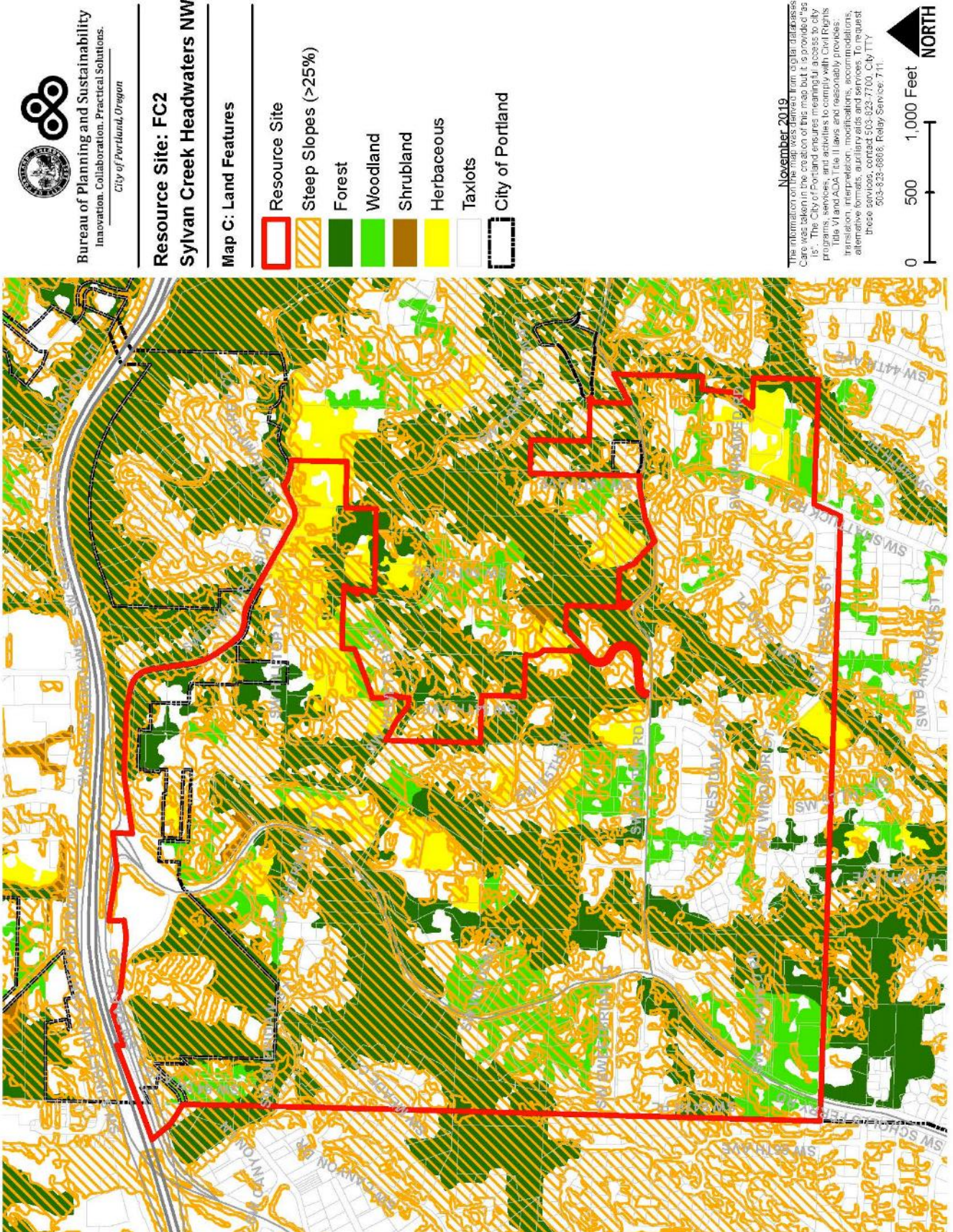
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resources Site FC2 are:

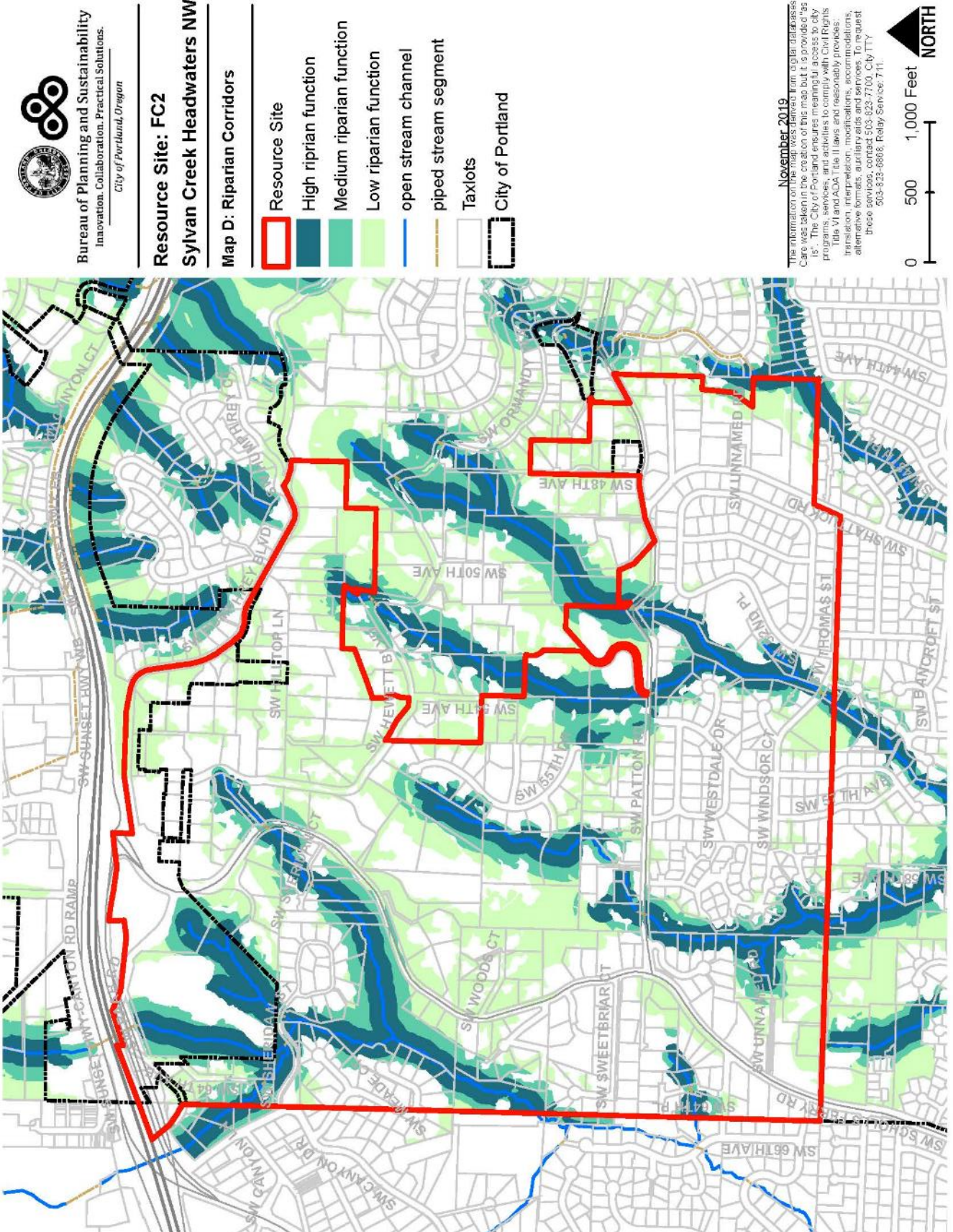
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank, and land within 50 feet of wetlands.
2. *Strictly limit* conflicting uses within areas of forest vegetation contiguous to and between 50 and 100 feet of stream top-of-bank.
3. *Limit* conflicting uses within areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank.
4. *Limit* conflicting uses within areas of forest on steep slopes contiguous to but more than 50 feet from top-of-bank streams.
5. *Allow* conflicting uses within all other areas containing significant natural resources.

Table C: ESEE Decision for Resource Site FC2	
ESEE Decision	Acres
Strictly Limit	66.7
Limit	53.1
Allow	335.6

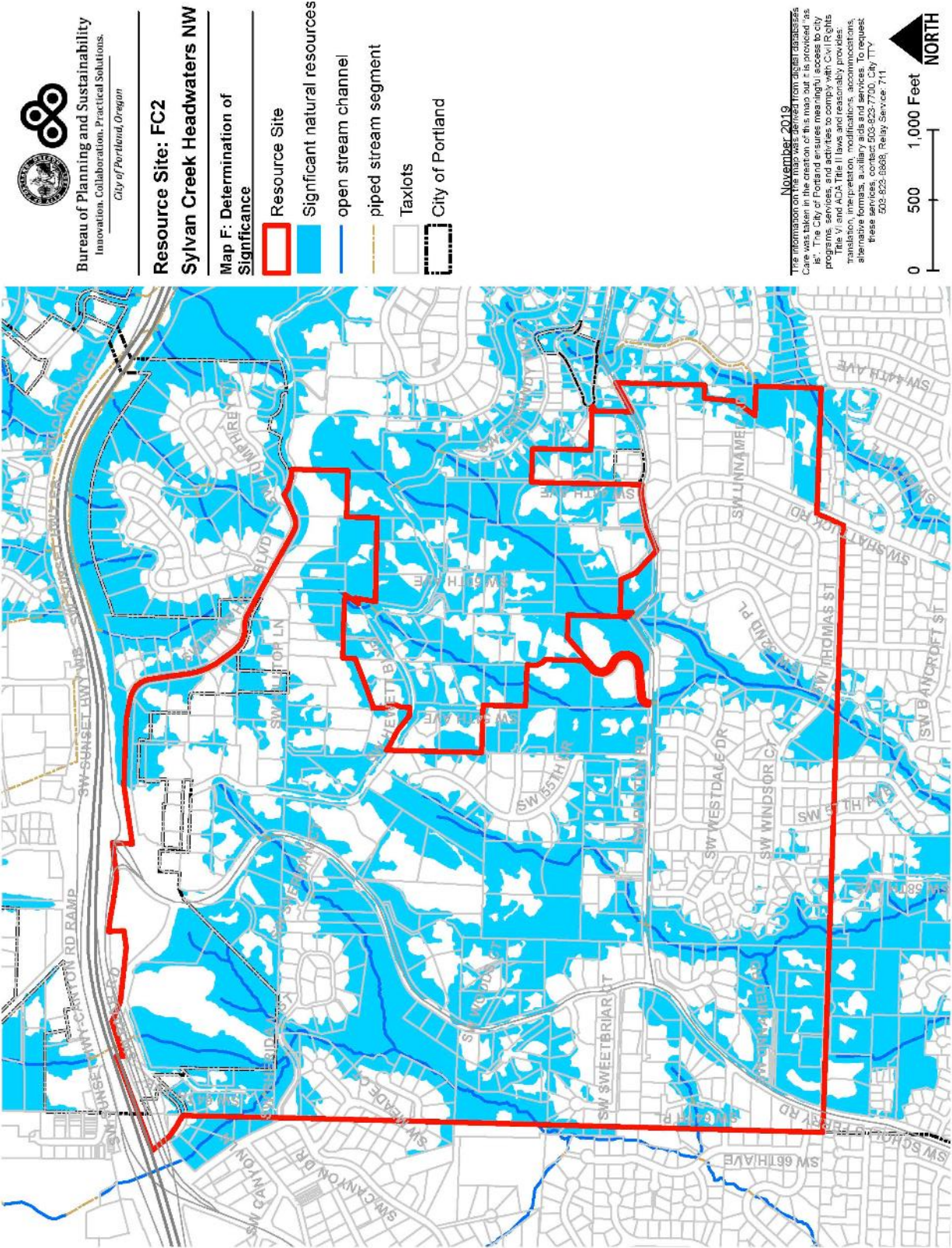


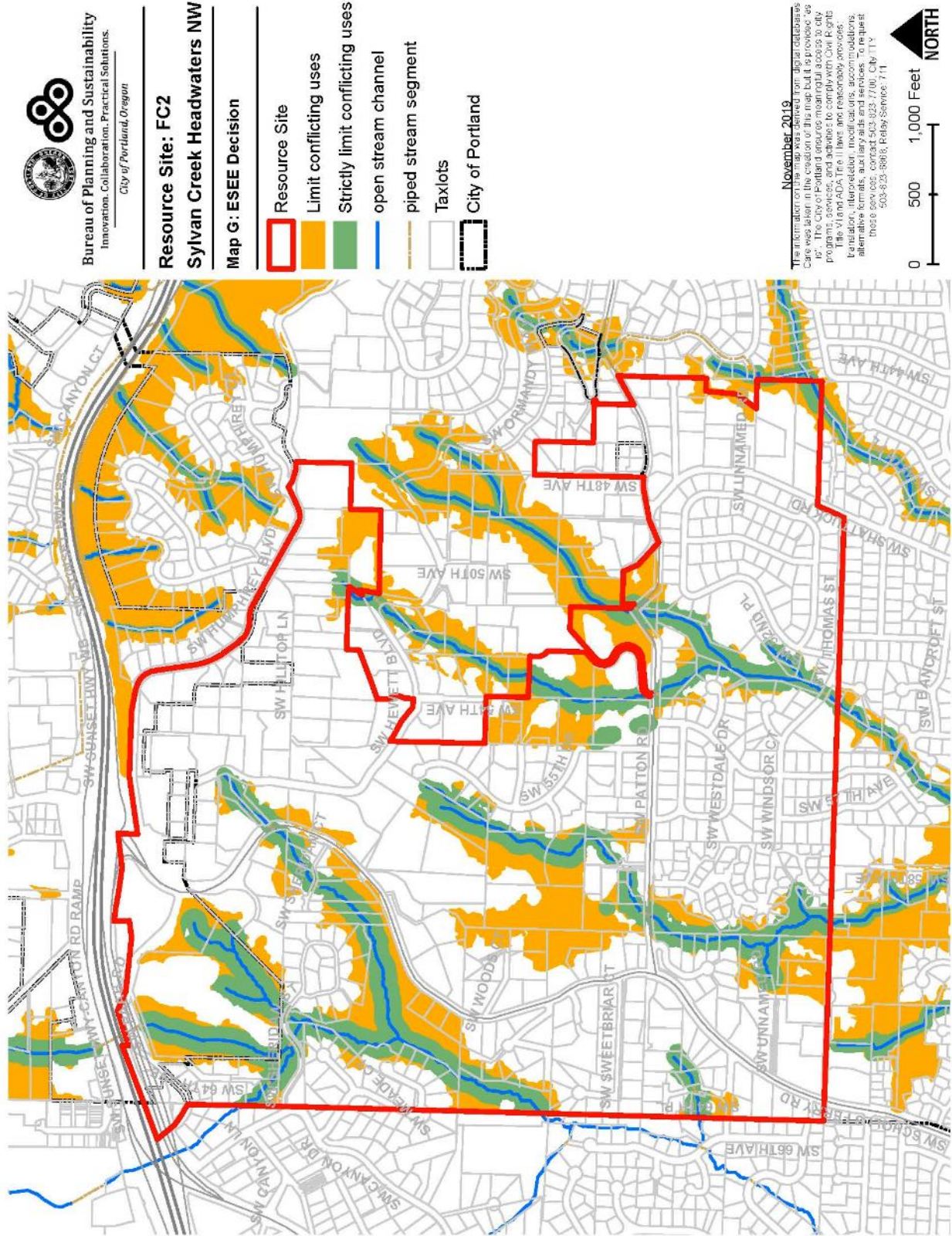




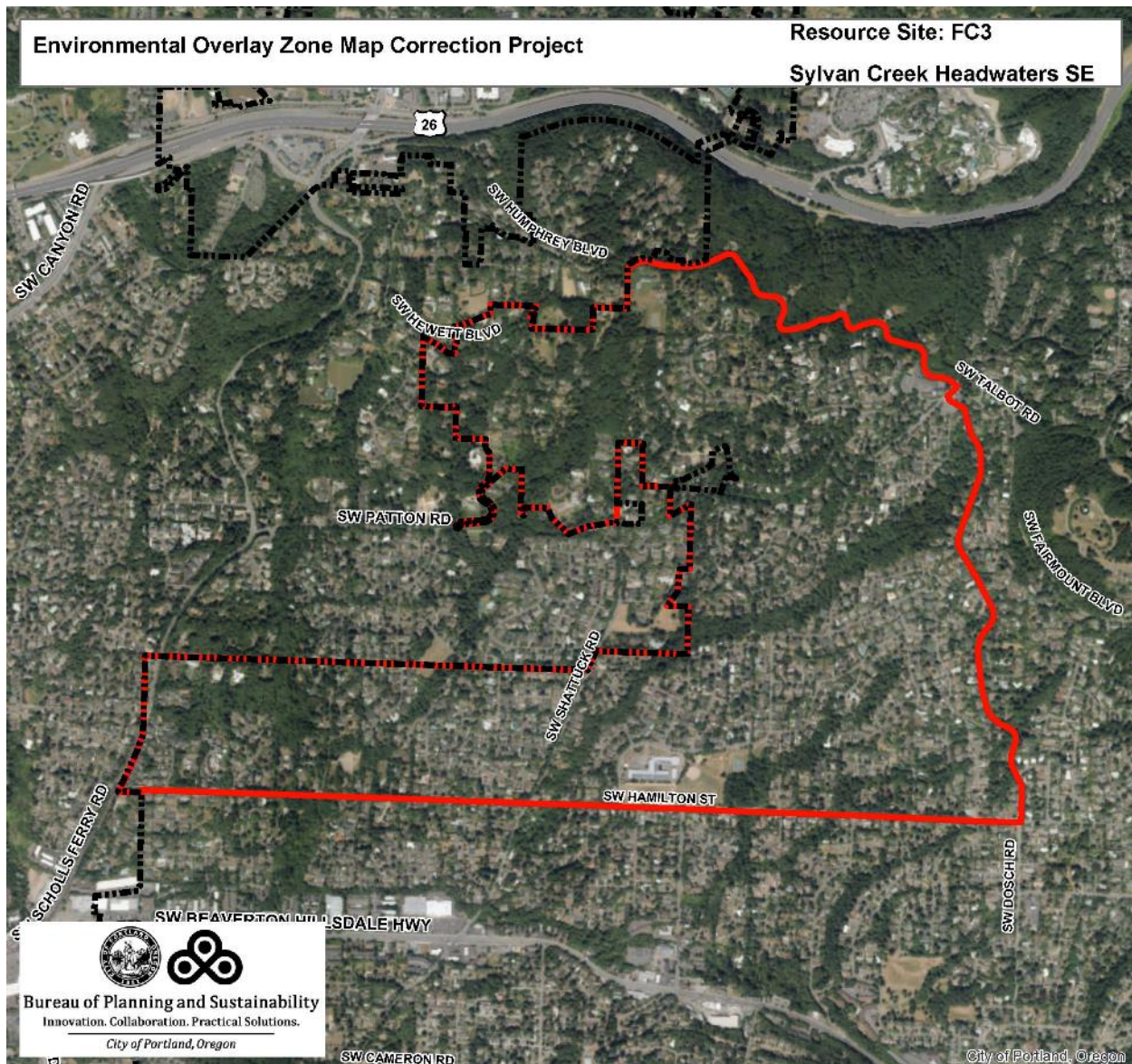








Resource Site No.: FC3 **Resource Site Name:** Sylvan Creek Headwaters SE
Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 124



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC3
		Study Area
Stream (Miles)		1.7
Wetlands (acres)		1.1
Vegetated Areas >= 1/2 acre (acres)		253.6
Forest (acres)		186.7
Woodland (acres)		44.1
Shrubland (acres)		0.4
Herbaceous (acres)		22.3
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		320.8
Impervious Surface (acres)		166.4
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC3				
Resource Site (acres) = 583.456802				
	High	Medium	Low	Total
Riparian Corridors*				
acres	86.7	50.6	88.5	225.8
percent total inventory site area	14.9%	8.7%	15.2%	38.7%
Wildlife Habitat*				
acres	0.0	187.7	2.7	190.4
percent total inventory site area	0.0%	32.2%	0.5%	32.6%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	86.7	114.2	28.3	229.3
percent total inventory site area	14.9%	19.6%	4.9%	39.3%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC3 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R20, R10, R7 and R5 base zones. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filling, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC3, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and

air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

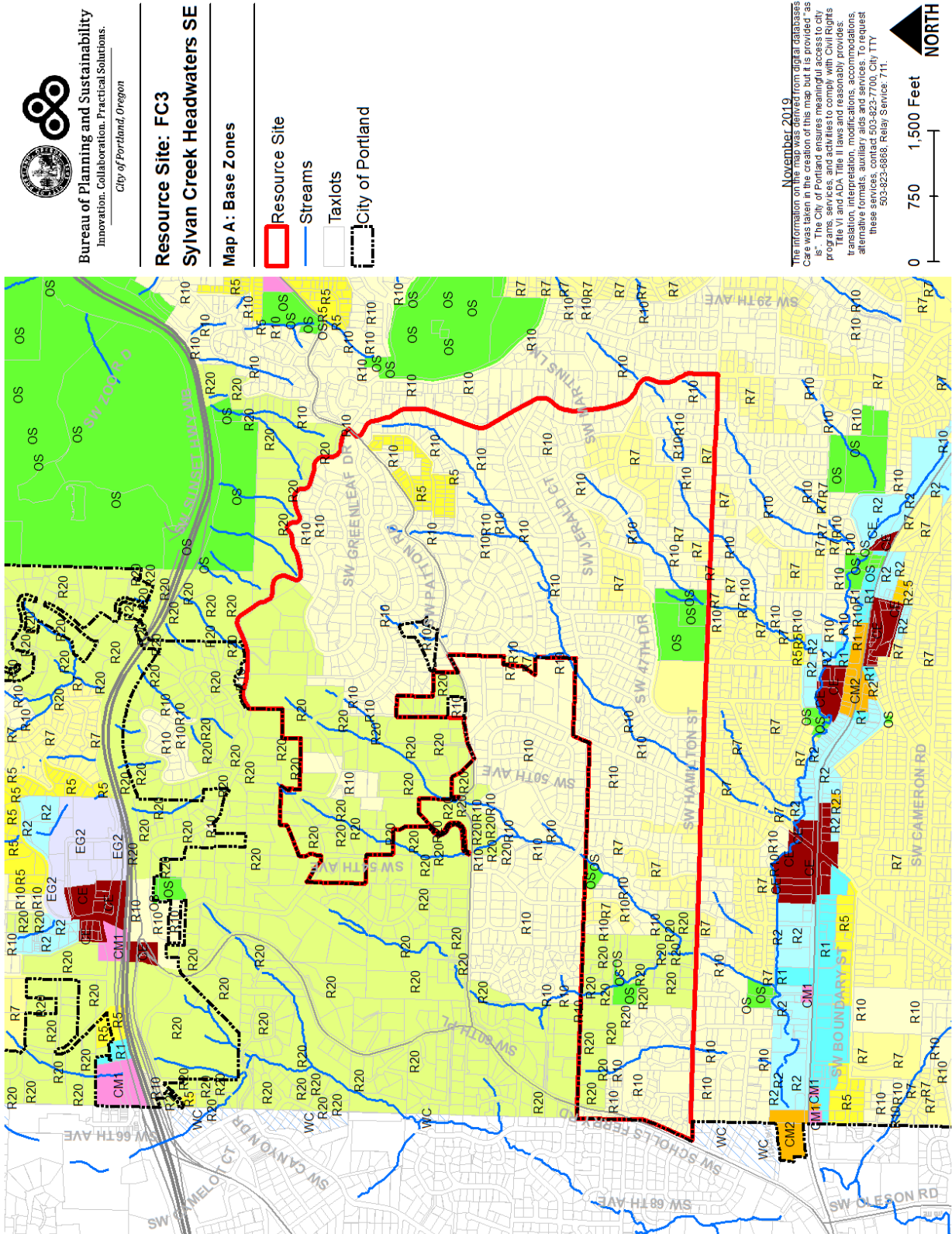
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

ESEE Decisions

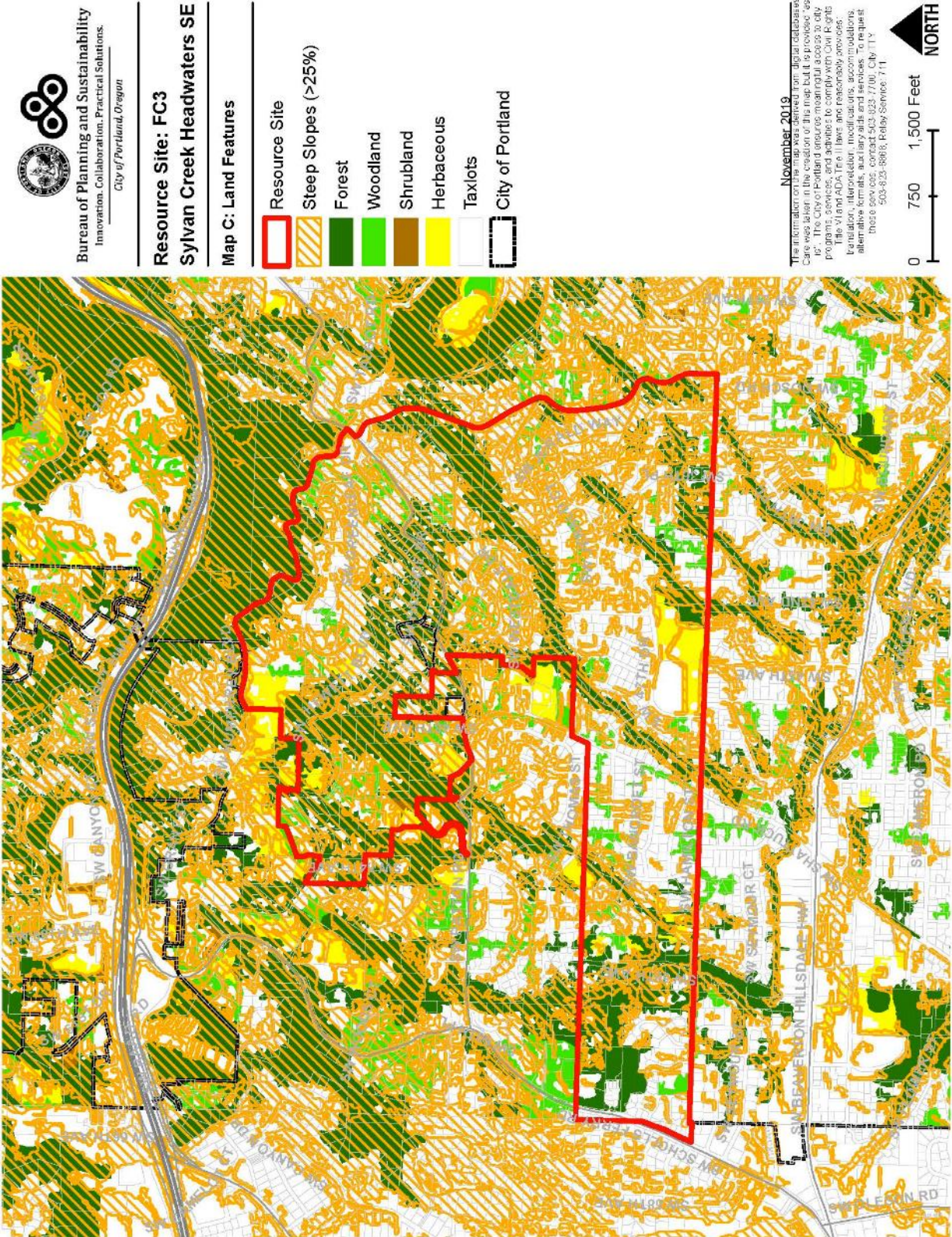
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resources Site FC3 are:

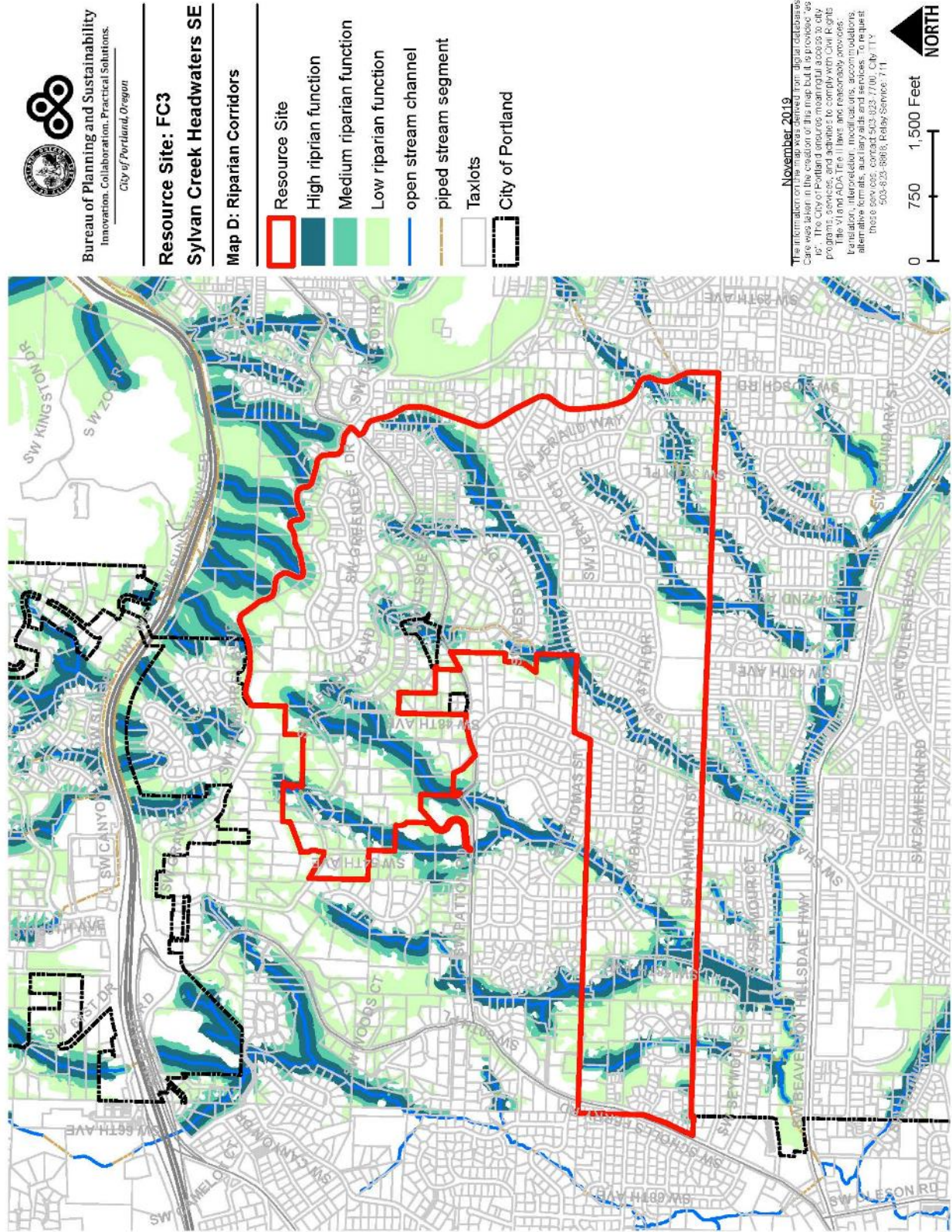
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Limit* conflicting uses within areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank extending to 200 feet from streams.
3. *Limit* conflicting uses within areas of forest on steep slopes between 50 and 200 feet from streams.
4. *Allow* conflicting uses within all other areas containing significant natural resources.

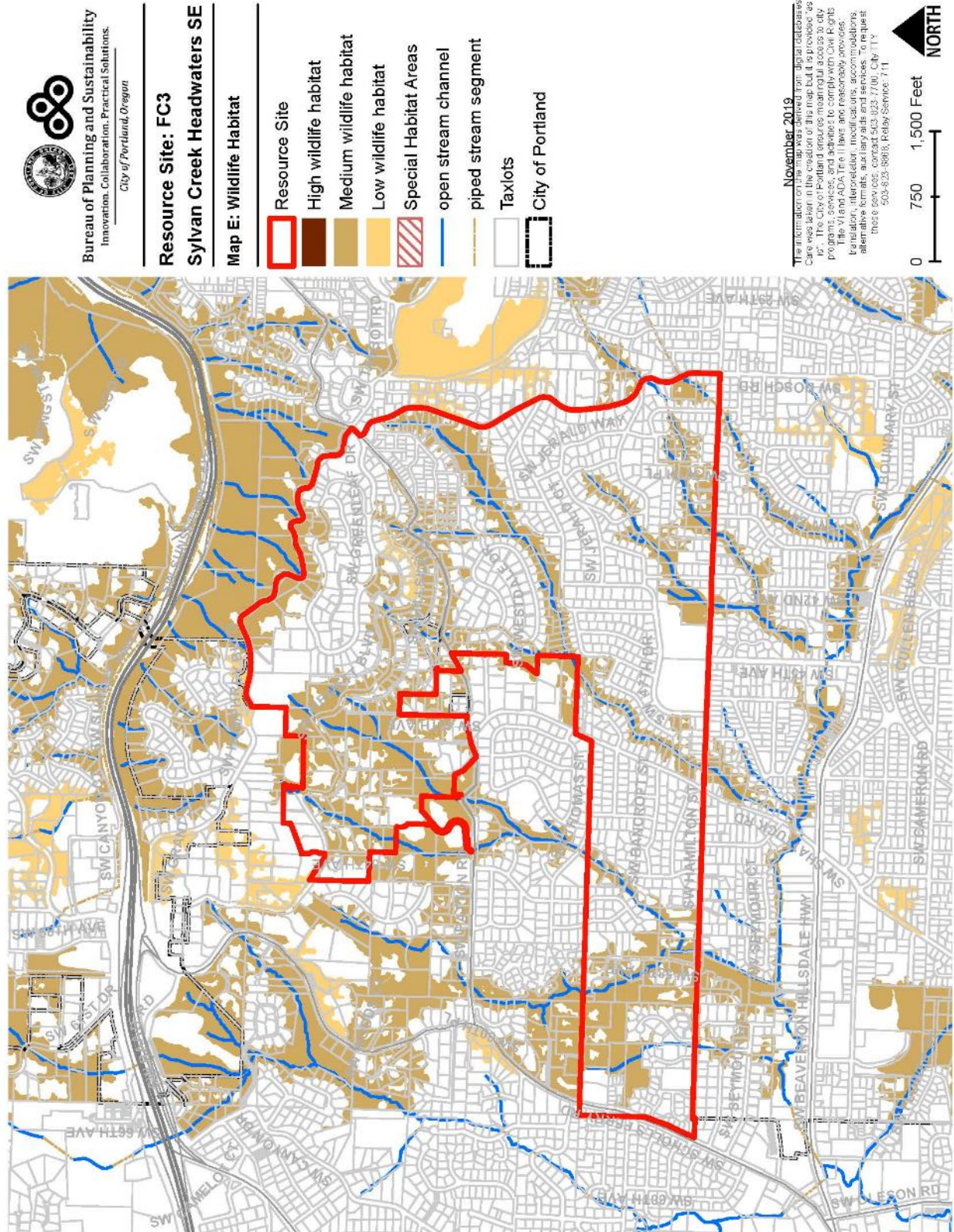
Table C: ESEE Decision for Resource Site FC3	
ESEE Decision	Acres
Strictly Limit	59.0
Limit	78.7
Allow	445.7

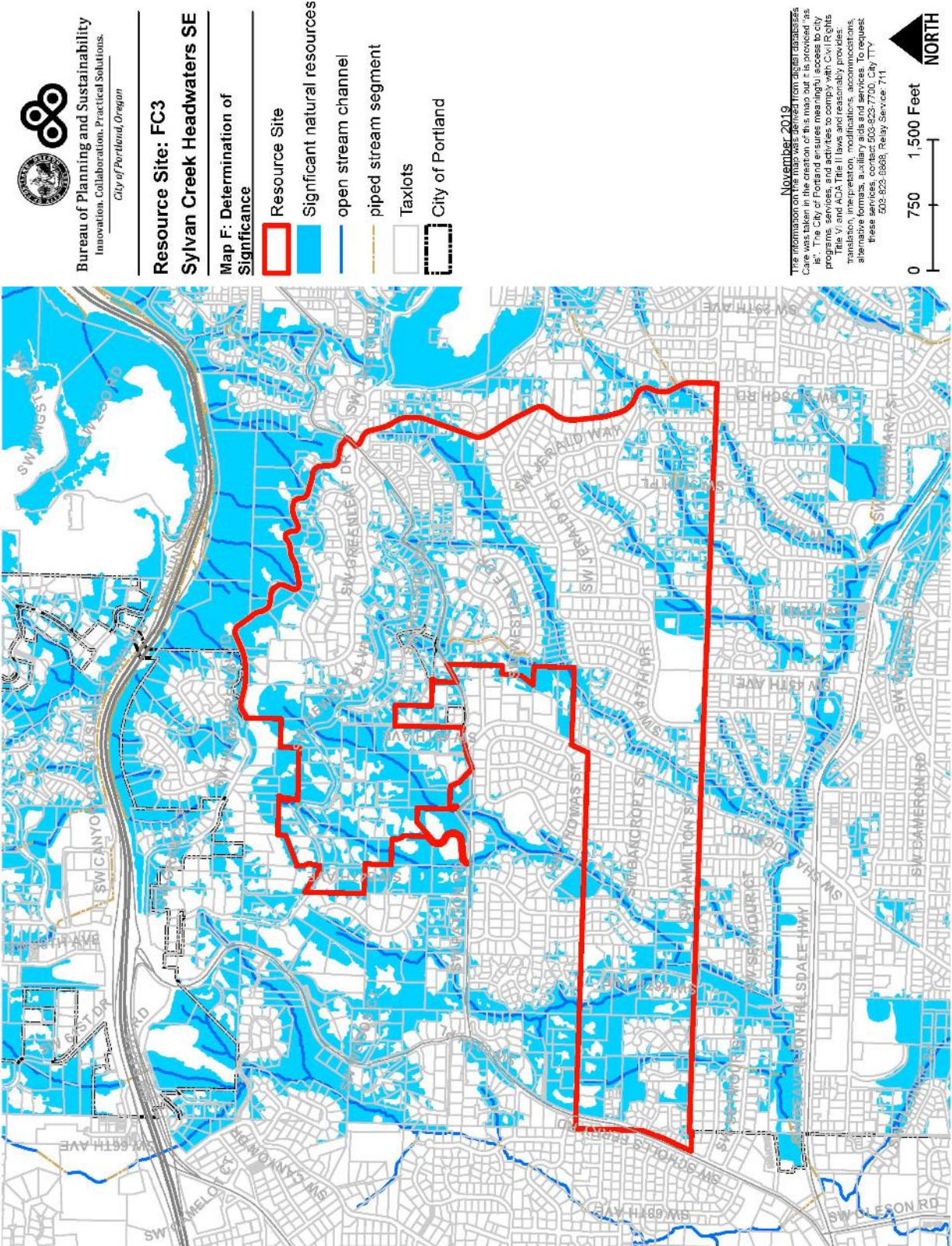


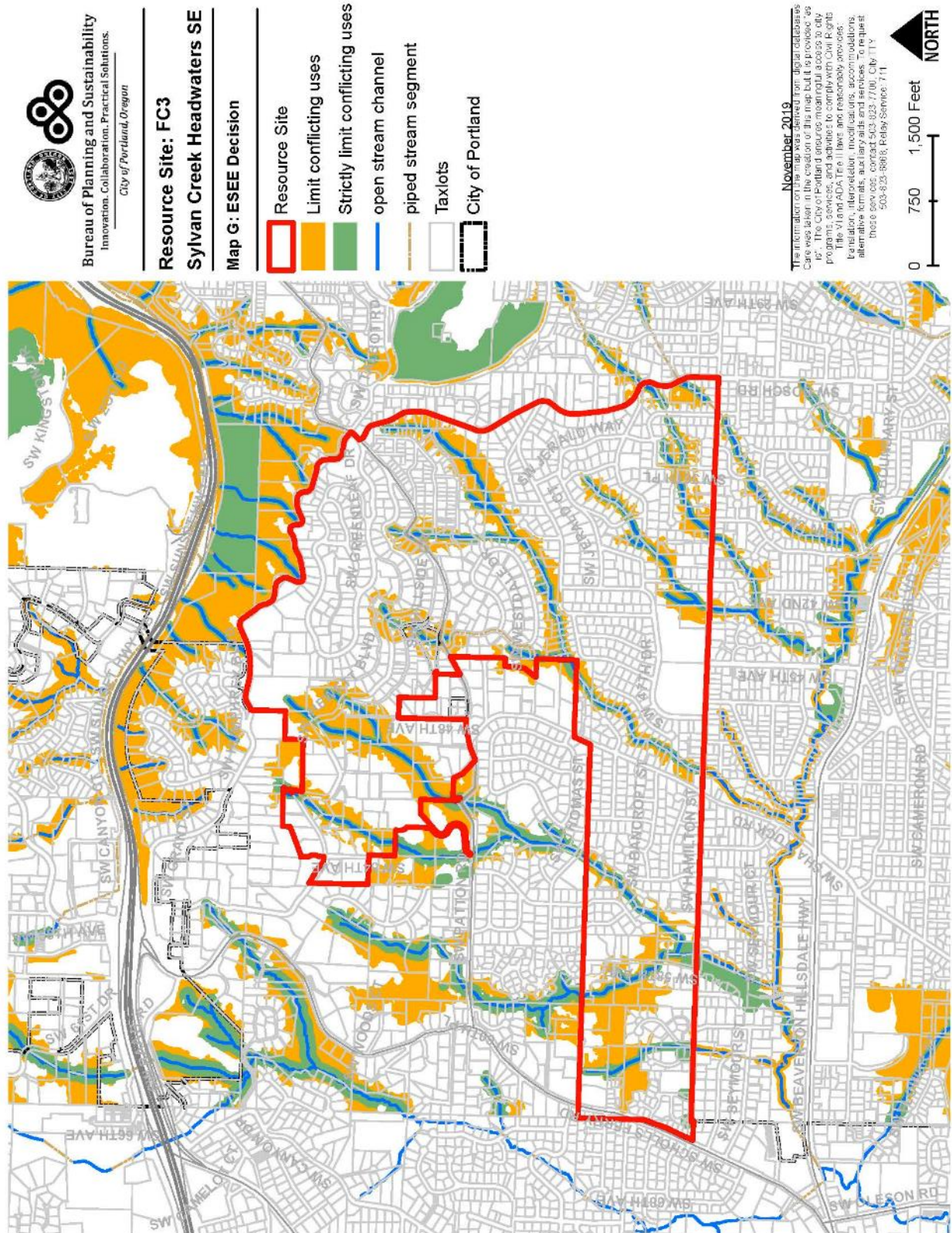






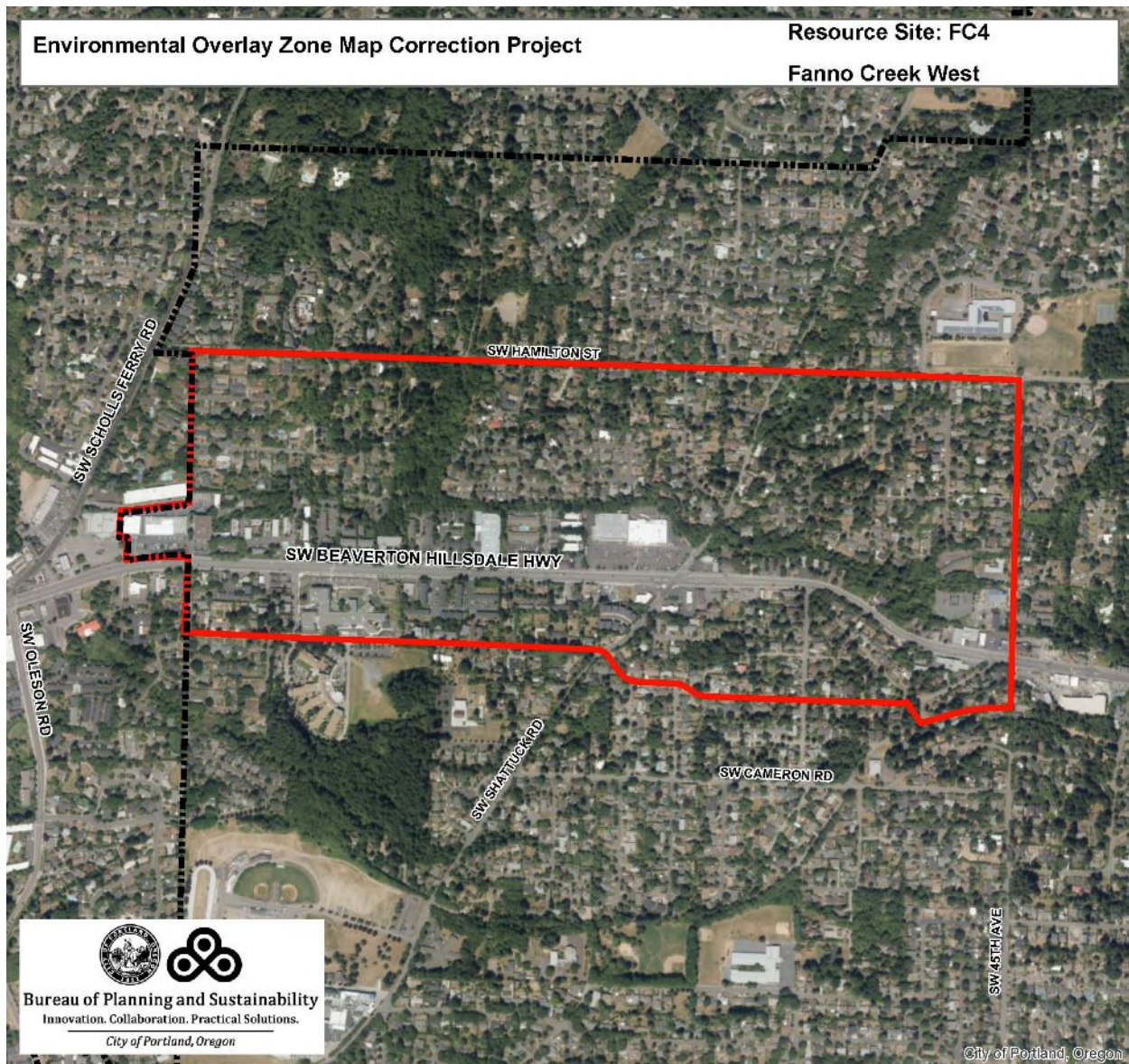






Resource Site No.: FC4 Resource Site Name: Fanno Creek West

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 125



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC4
		Study Area
Stream (Miles)		6.5
Wetlands (acres)		3.8
Vegetated Areas >= 1/2 acre (acres)		56.0
Forest (acres)		40.5
Woodland (acres)		13.0
Shrubland (acres)		0.0
Herbaceous (acres)		2.6
Flood Area*		20.4
Vegetated (acres)		9.2
Non-vegetated (acres)		11.2
Steep Slopes (acres)**		59.0
Impervious Surface (acres)		83.5
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC4				
Resource Site (acres) = 237.651309				
	High	Medium	Low	Total
Riparian Corridors*				
acres	28.5	17.8	19.9	66.2
percent total inventory site area	12.0%	7.5%	8.4%	27.9%
Wildlife Habitat*				
acres	0.0	36.1	2.7	38.8
percent total inventory site area	0.0%	15.2%	1.1%	16.3%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	28.5	22.0	18.6	69.1
percent total inventory site area	12.0%	9.2%	7.8%	29.1%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC4 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; flood area; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10, R7, R5, R2.5, R2 and R1 base zones. Commercial uses are allowed in the CE, CM2 and CM1 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC4, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

There is residential and commercial development located in the floodplain. The structures and impervious surface limit the flood capacity and infiltration functions of the land and increase the flood risk to the property as well as properties up and down stream. New or expanded development in the flood area should be *limited*.

ESEE Decisions

Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC4 are:

1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 25 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Strictly limit* conflicting uses within flood area, vegetated or developed, located between stream ordinary high water mark and 170 feet measured horizontally from the ordinary high water mark.
3. *Limit* conflicting uses within land within 25 and 50 feet of stream top-of-bank that is not within the flood area.
4. *Limit* conflicting uses within flood area, vegetated or developed, located more than 170 feet measured horizontally from the ordinary high water mark.
5. *Allow* conflicting uses within all other areas containing significant natural resources.

Table C: ESEE Decision for Resource Site FC4	
ESEE Decision	Acres
Strictly Limit	21.5
Limit	11.6
Allow	204.5

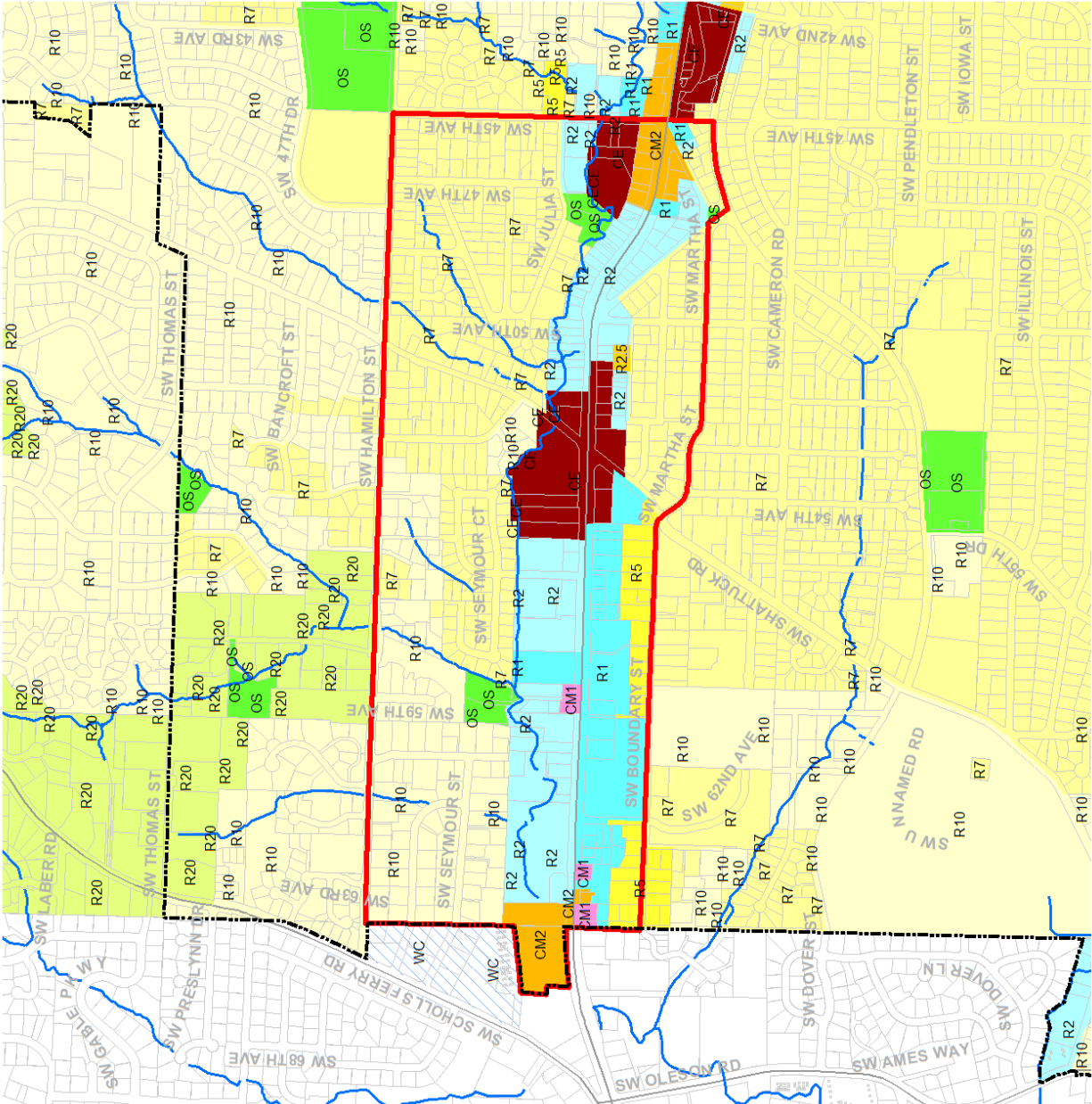


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**Resource Site: FC4
Fanno Creek West**

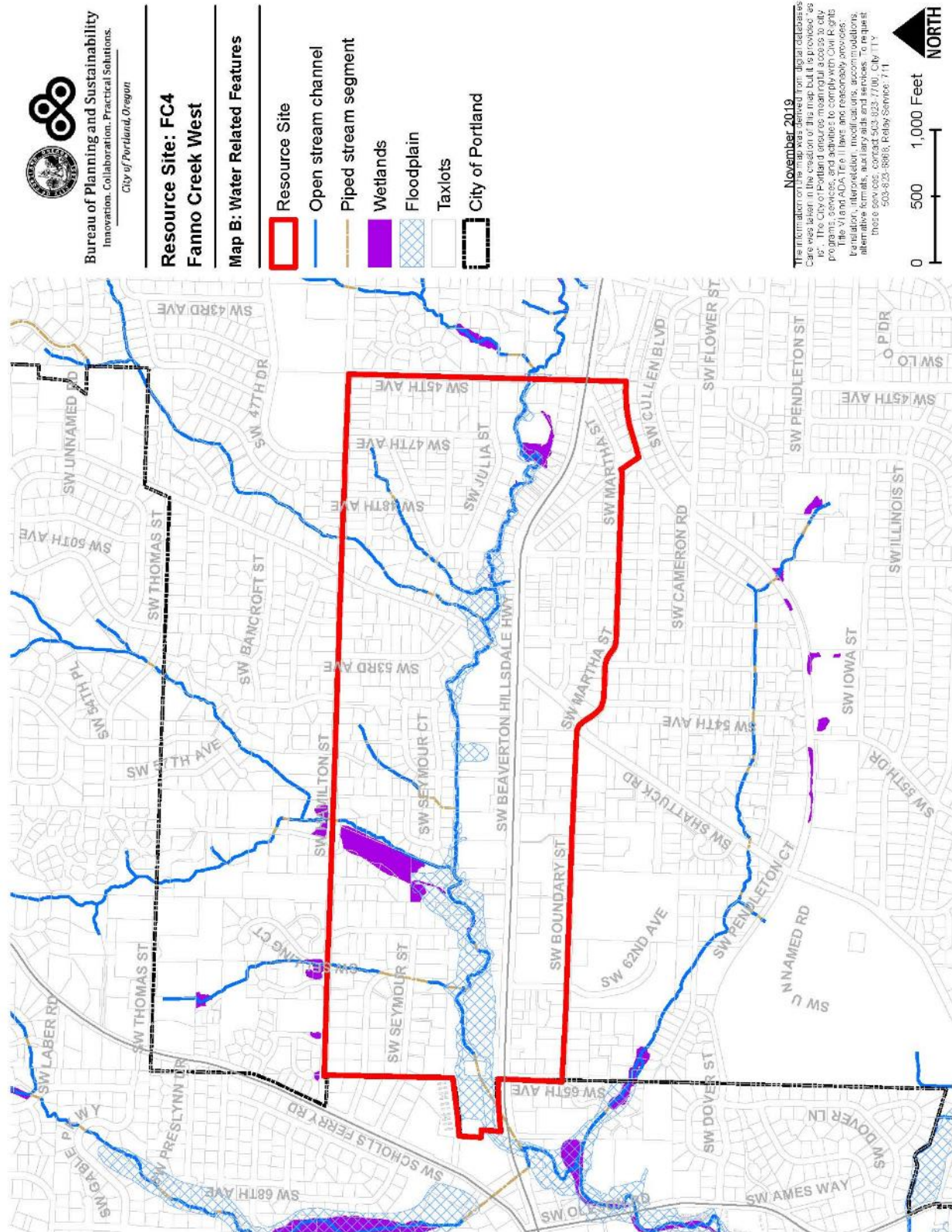
Map A: Base Zones

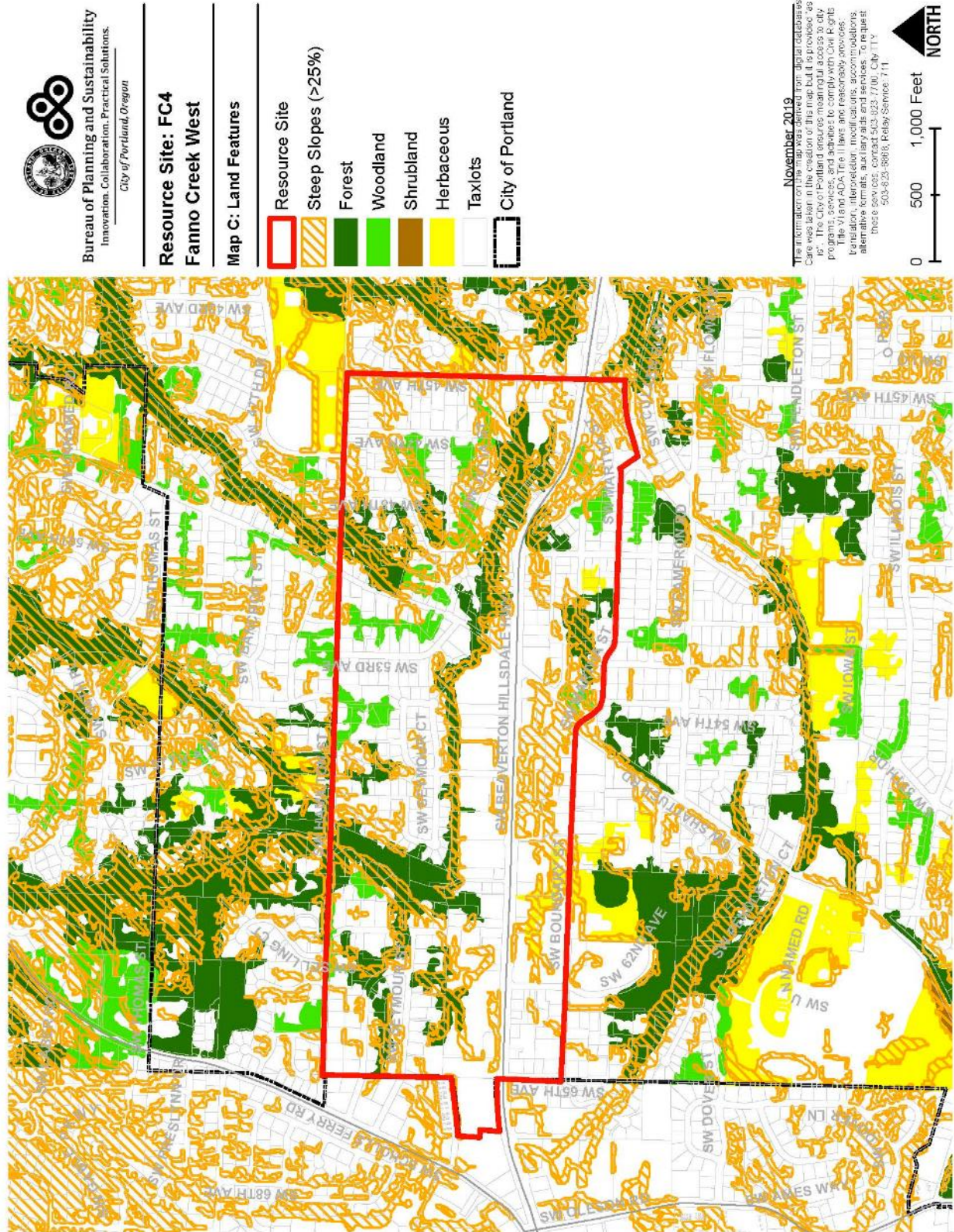
- Resource Site
- Streams
- Taxlots
- City of Portland

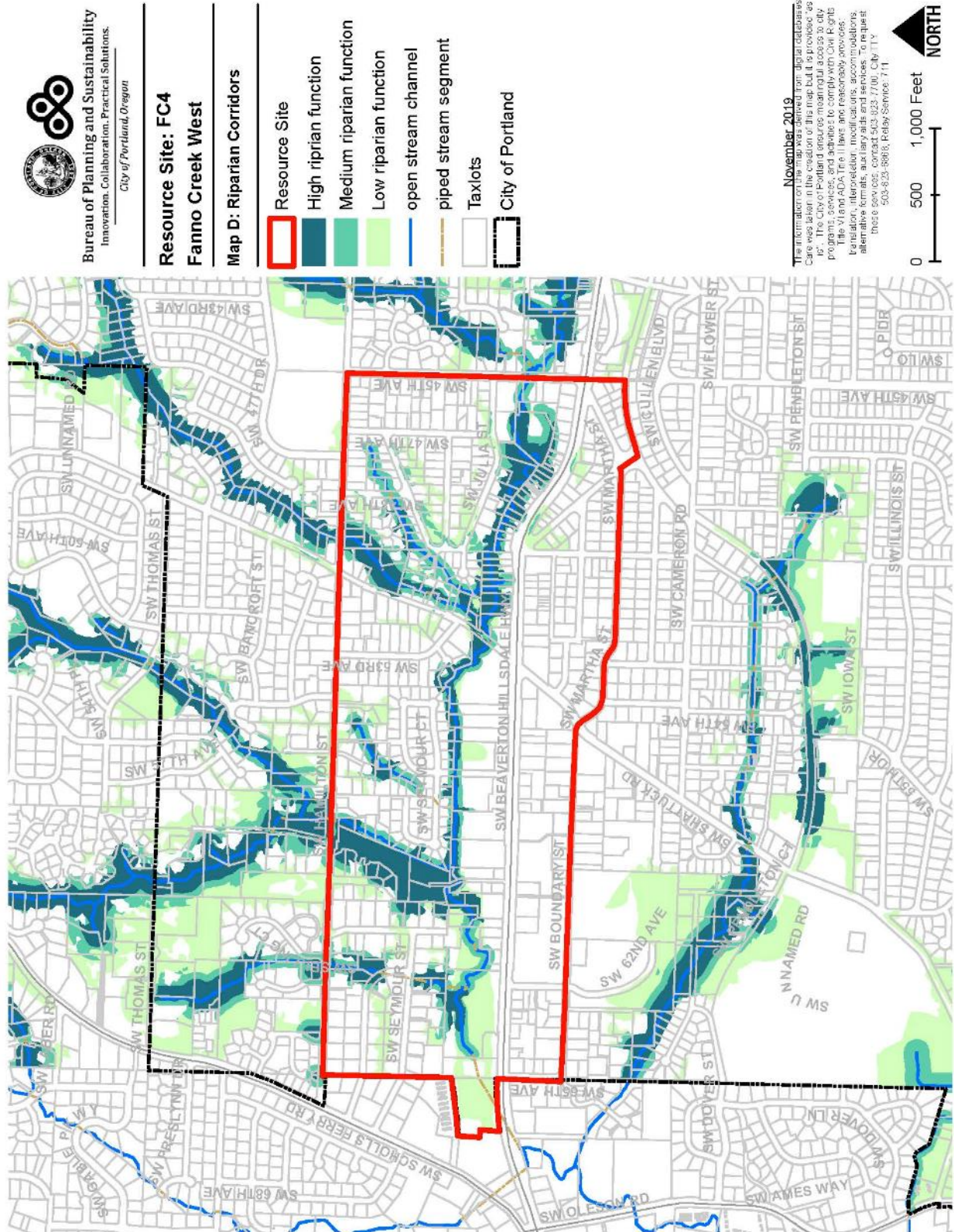


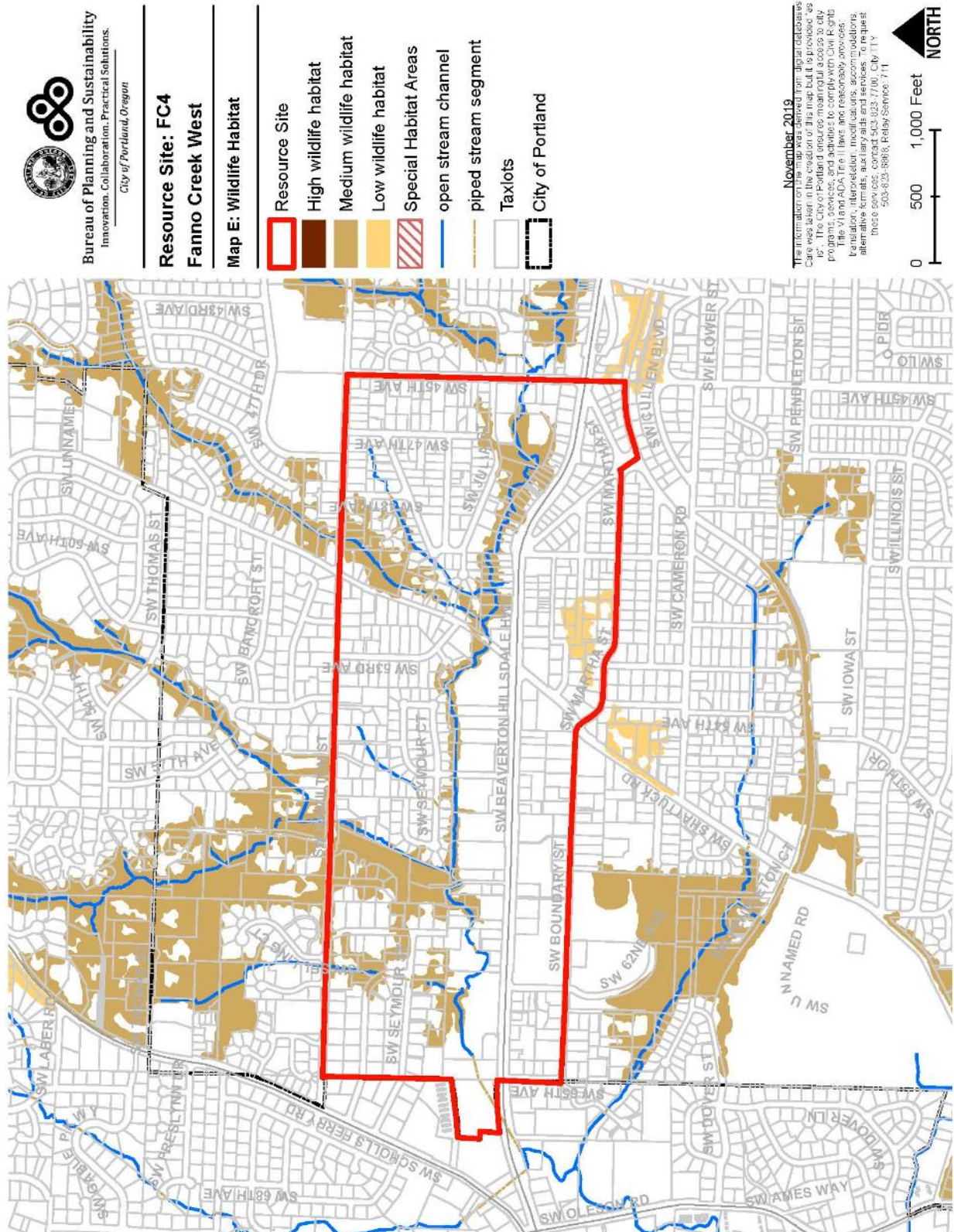
November 2019
The information on this map was derived from digital databases. Care was taken in the creation of this map but it is provided "as is". The City of Portland ensures meaningful access to city programs, services, and activities to comply with Civil Rights Title VI and ADA Title II laws and reasonably provides: translation, interpretation, modifications, accommodations, alternative formats, auxiliary aids and services. To request these services, call 503-823-7700, TDD 503-823-8888, Relay Service: 711.

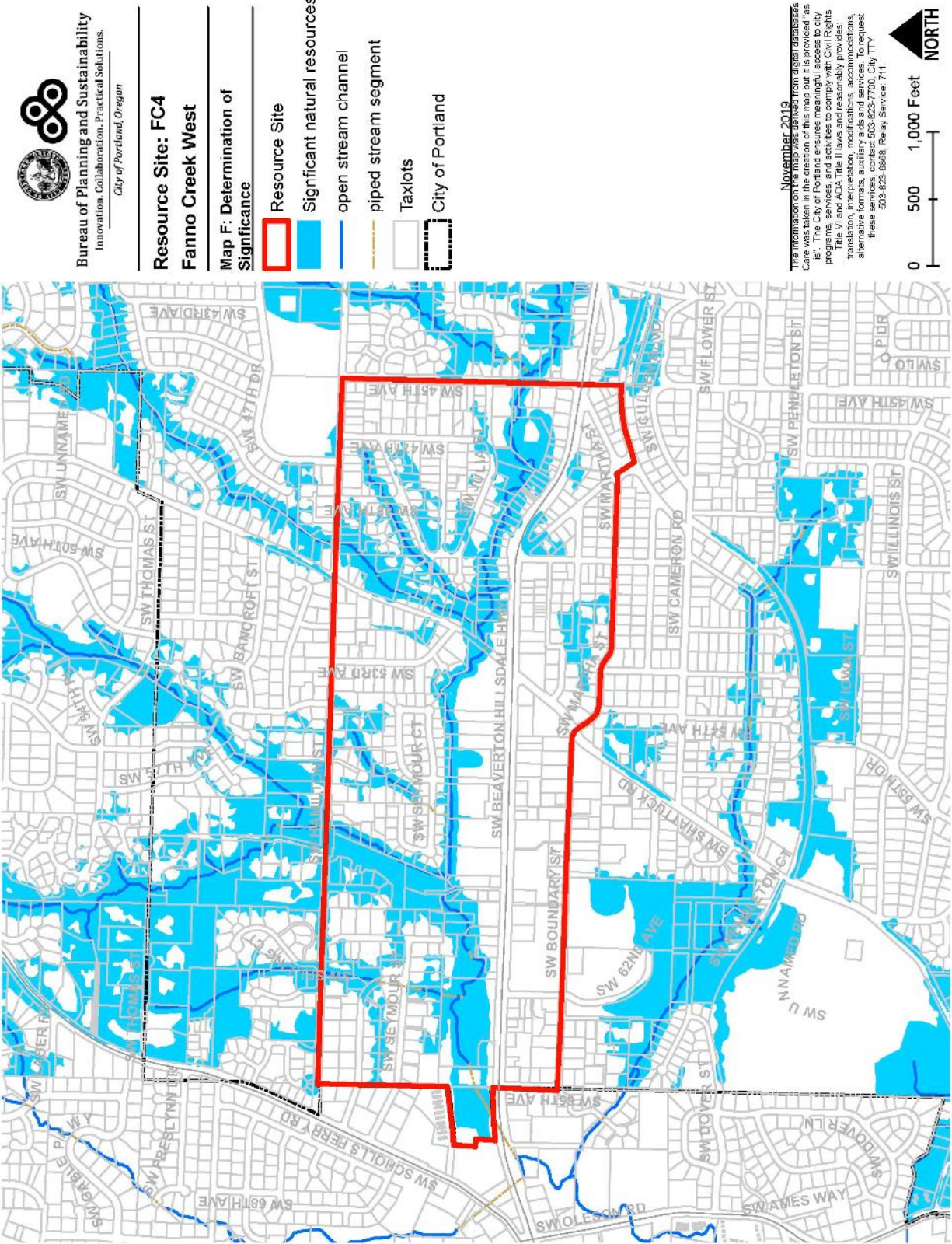


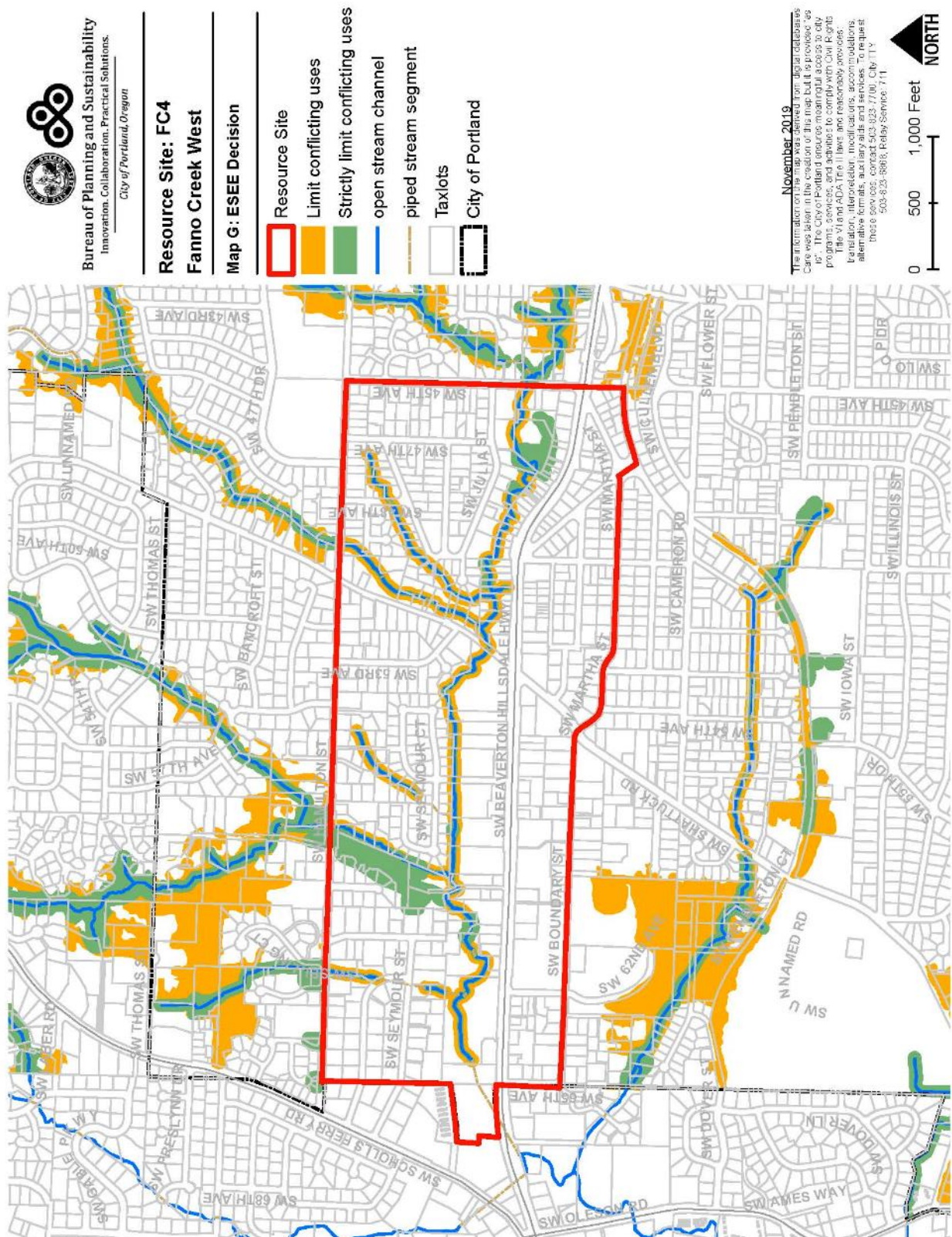






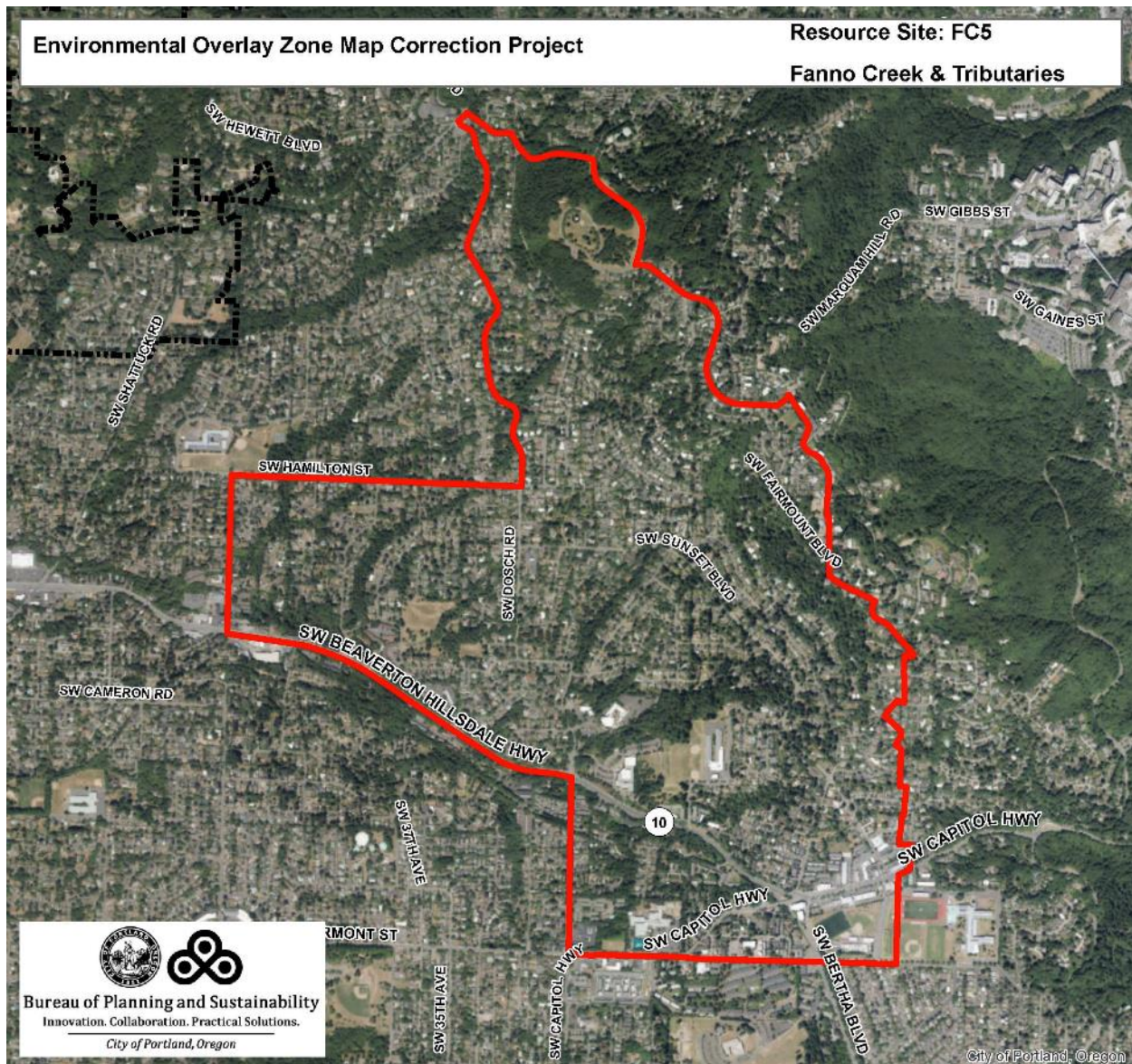






Resource Site No.: FC5 Resource Site Name: Fanno Creek & Tributaries

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 125



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC5
		Study Area
Stream (Miles)		5.0
Wetlands (acres)		1.5
Vegetated Areas >= 1/2 acre (acres)		324.0
Forest (acres)		212.7
Woodland (acres)		65.8
Shrubland (acres)		1.2
Herbaceous (acres)		44.3
Flood Area*		0.1
Vegetated (acres)		0.0
Non-vegetated (acres)		0.1
Steep Slopes (acres)**		449.3
Impervious Surface (acres)		297.2
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC5				
Resource Site (acres) = 869.86474				
	High	Medium	Low	Total
Riparian Corridors*				
acres	93.7	39.7	117.4	250.8
percent total inventory site area	10.8%	4.6%	13.5%	28.8%
Wildlife Habitat*				
acres	0.0	127.0	73.8	200.8
percent total inventory site area	0.0%	14.6%	8.5%	23.1%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	93.7	76.0	92.0	261.7
percent total inventory site area	10.8%	8.7%	10.6%	30.1%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC5 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; flood area; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R20, R10, R7, R5, R2.5, R2 and R1 base zones. Commercial uses are allowed in the CE and CM2 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC5, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

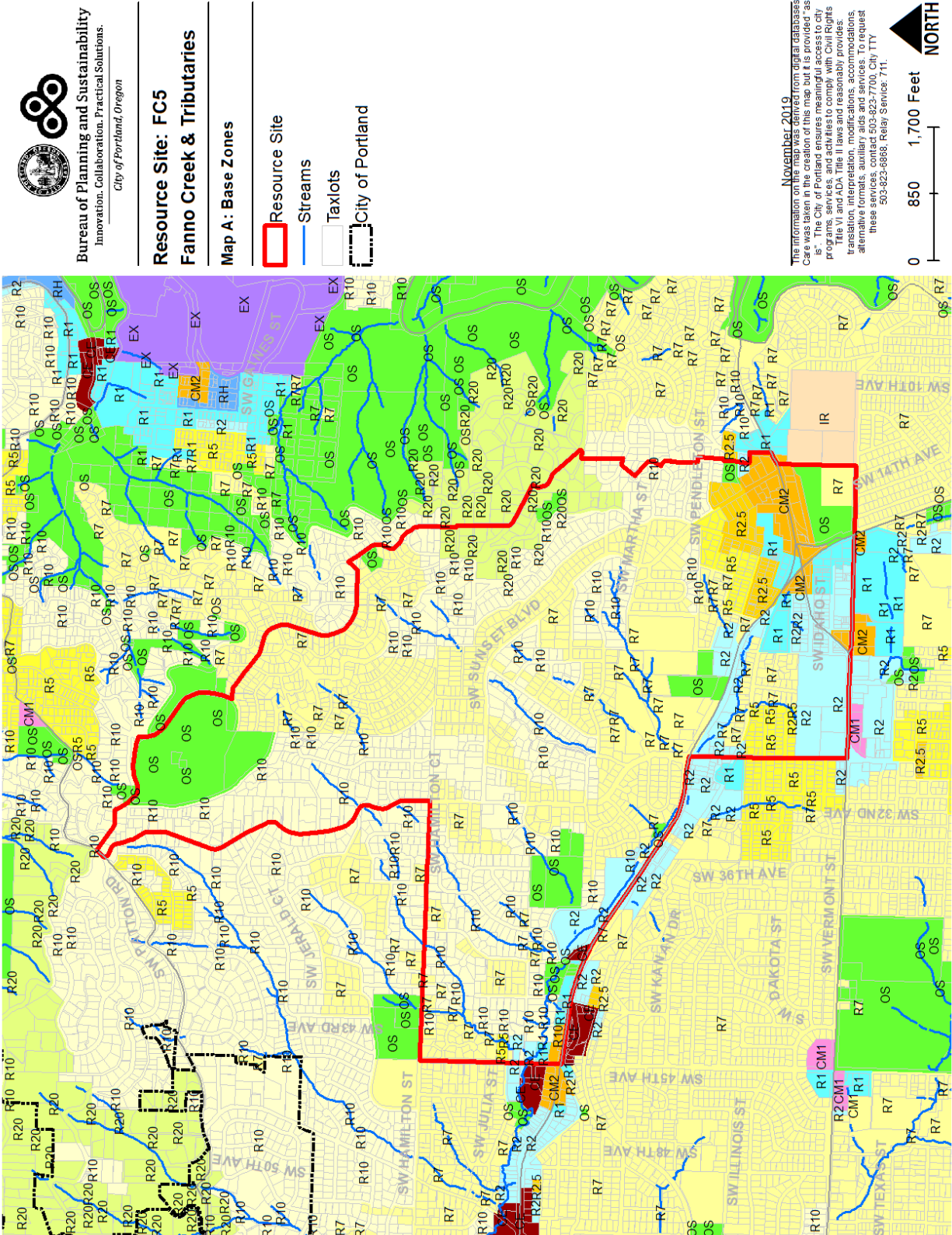
There is residential and/or commercial development located in the floodplain. The structures and impervious surface limit the flood capacity and infiltration functions of the land and increase the flood risk to the property as well as properties up and down stream. New or expanded development in the flood area should be *limited*.

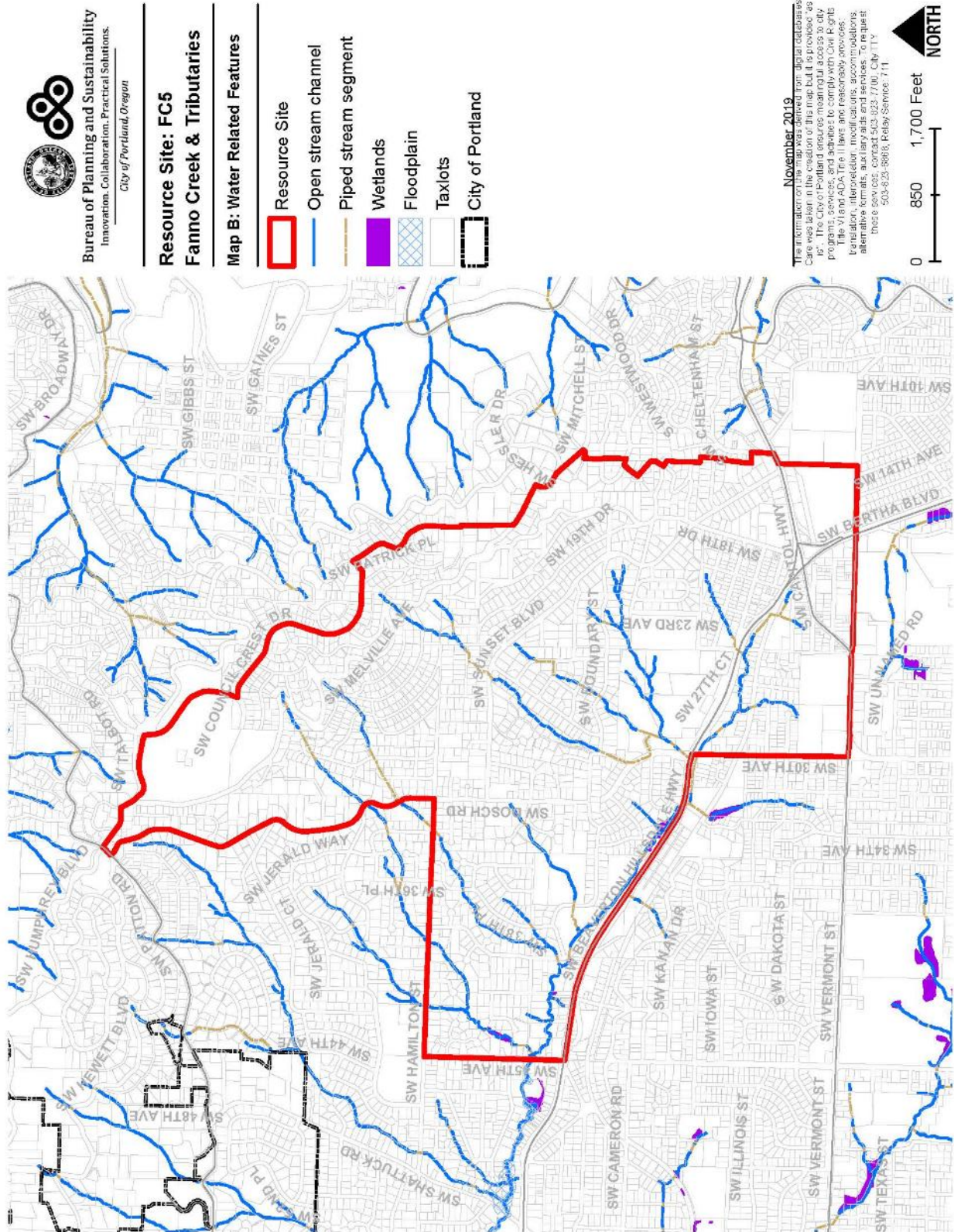
ESEE Decisions

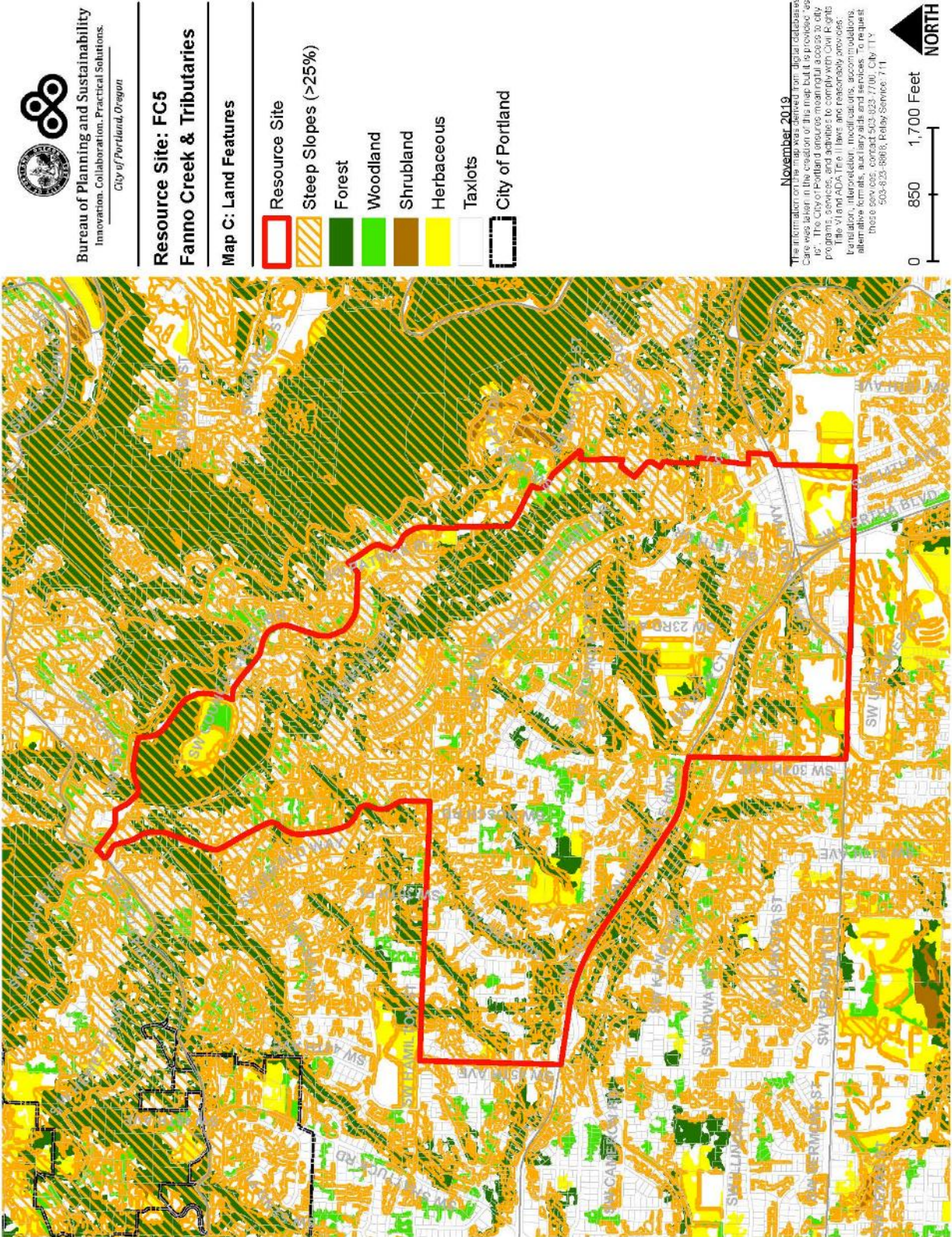
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC5 are:

1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Strictly limit* conflicting uses within flood area, vegetated or developed, located between stream ordinary high water mark and 170 feet measured horizontally from the ordinary high water mark.
3. Inside Council Crest Park, *Strictly limit* conflicting uses within areas of forest vegetation on steep and non-steep slopes.
4. Outside Council Crest Park, *limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank, within areas of forest on steep slopes contiguous to but more than 50 feet from stream top-of-bank and areas of forest vegetation on steep slopes between SW Fairmount Blvd and SW 18th Pl.
5. *Limit* conflicting uses within areas of forest or woodland vegetation located on steep slopes and contiguous to but more than 50 feet from stream top-of-bank or wetlands.
6. *Allow* conflicting uses within all other areas containing significant natural resources.

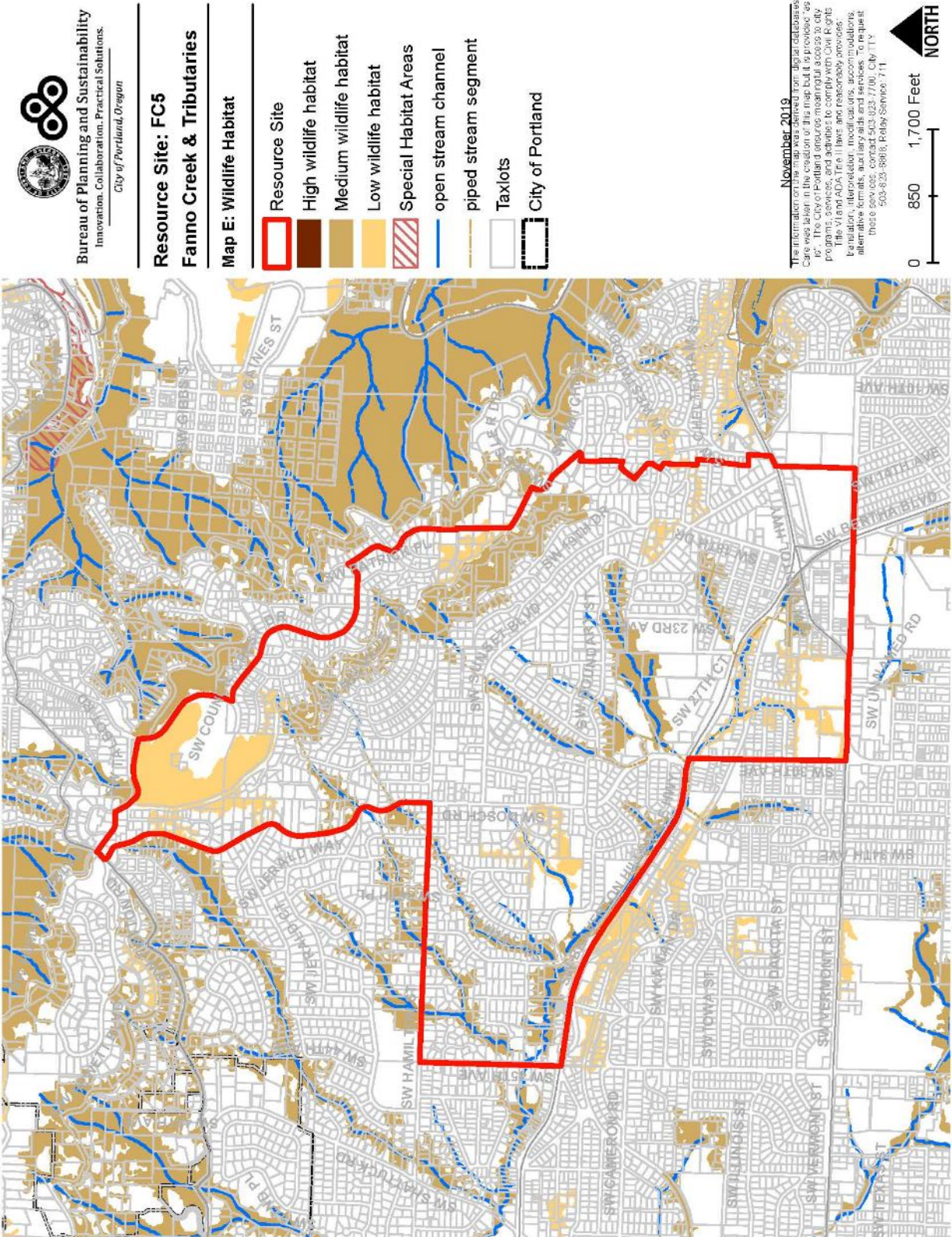
Table C: ESEE Decision for Resource Site FC5	
ESEE Decision	Acres
Strictly Limit	95.3
Limit	77.3
Allow	697.2

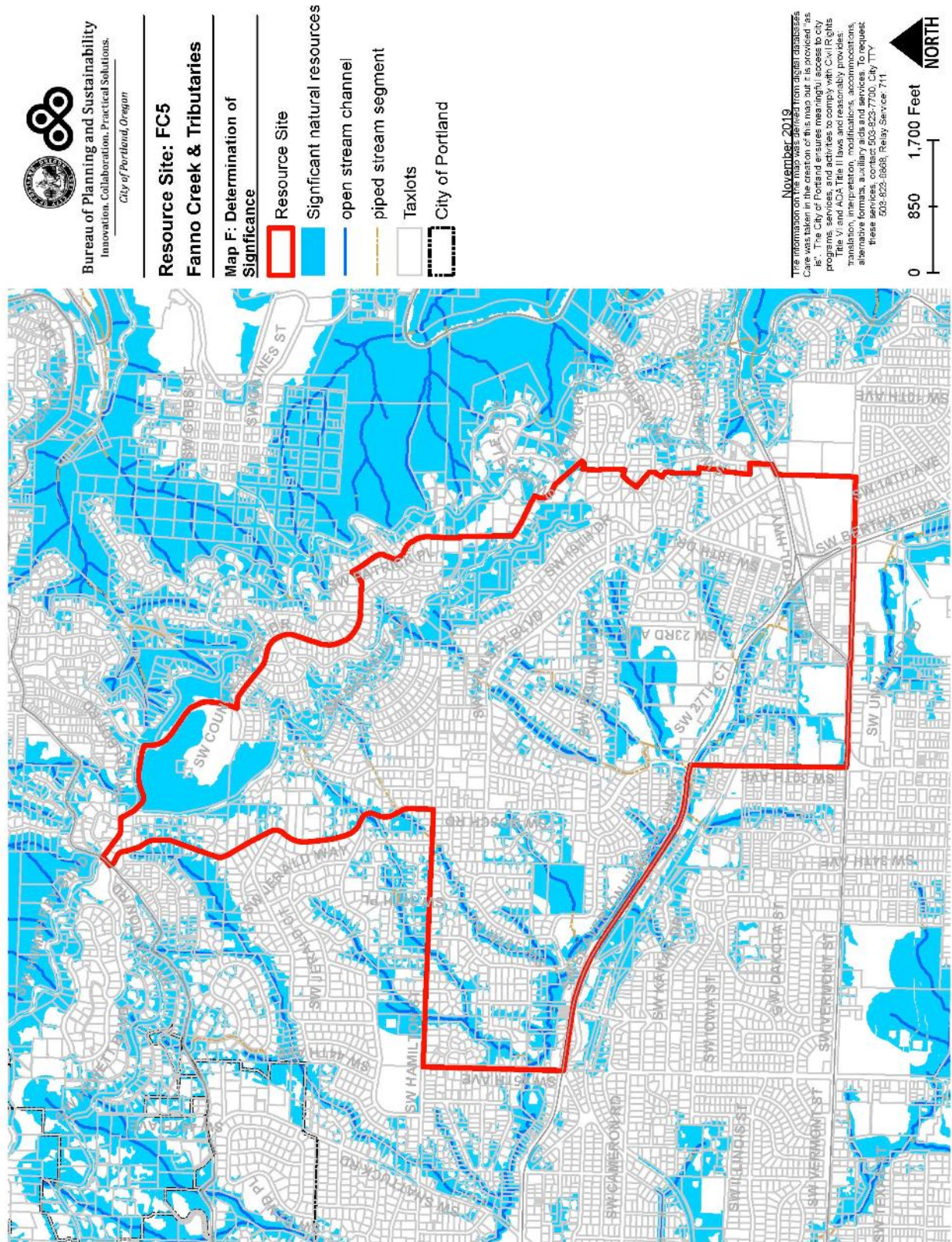


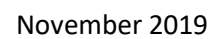




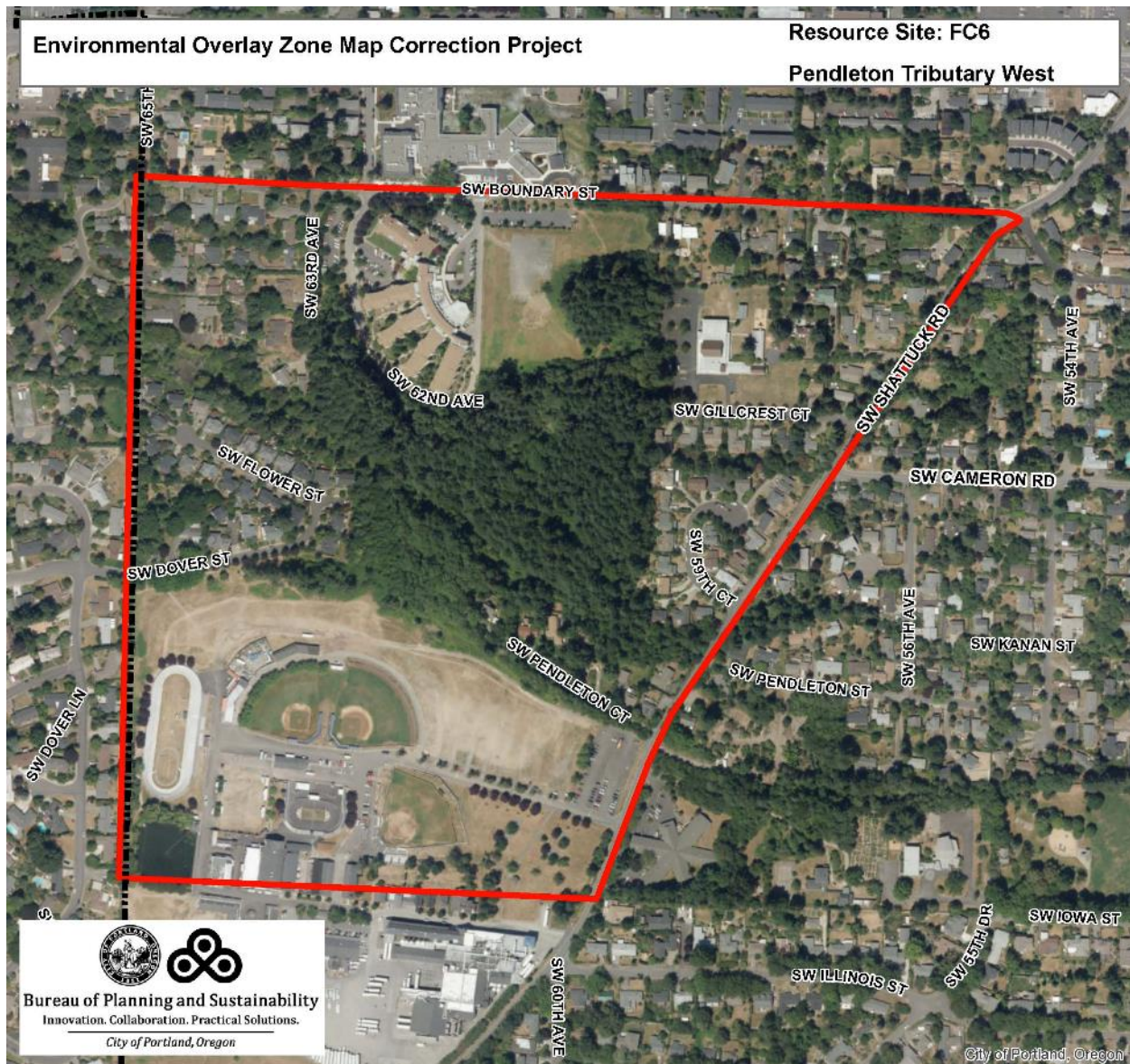








Resource Site No.: FC6 **Resource Site Name:** Pendleton Tributary West
Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 126



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC6
		Study Area
Stream (Miles)		7.2
Wetlands (acres)		0.5
Vegetated Areas >= 1/2 acre (acres)		45.4
Forest (acres)		24.6
Woodland (acres)		2.1
Shrubland (acres)		0.0
Herbaceous (acres)		18.7
Flood Area*		0.1
Vegetated (acres)		0.1
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		18.6
Impervious Surface (acres)		18.8
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC6				
Resource Site (acres) = 97.690284				
	High	Medium	Low	Total
Riparian Corridors*				
acres	8.8	3.6	14.4	26.8
percent total inventory site area	9.0%	3.7%	14.8%	27.5%
Wildlife Habitat*				
acres	0.0	25.4	0.1	25.5
percent total inventory site area	0.0%	26.0%	0.1%	26.1%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	8.8	17.4	3.0	29.2
percent total inventory site area	9.0%	17.8%	3.1%	29.9%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC6 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; flood area; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R7, R10 and R5 base zones. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC6, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional

development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

There is flood area within the resource site. The structures and impervious surface limit the flood capacity and infiltration functions of the land and increase the flood risk to the property as well as properties up and down stream. New or expanded development in the flood area should be *limited*.

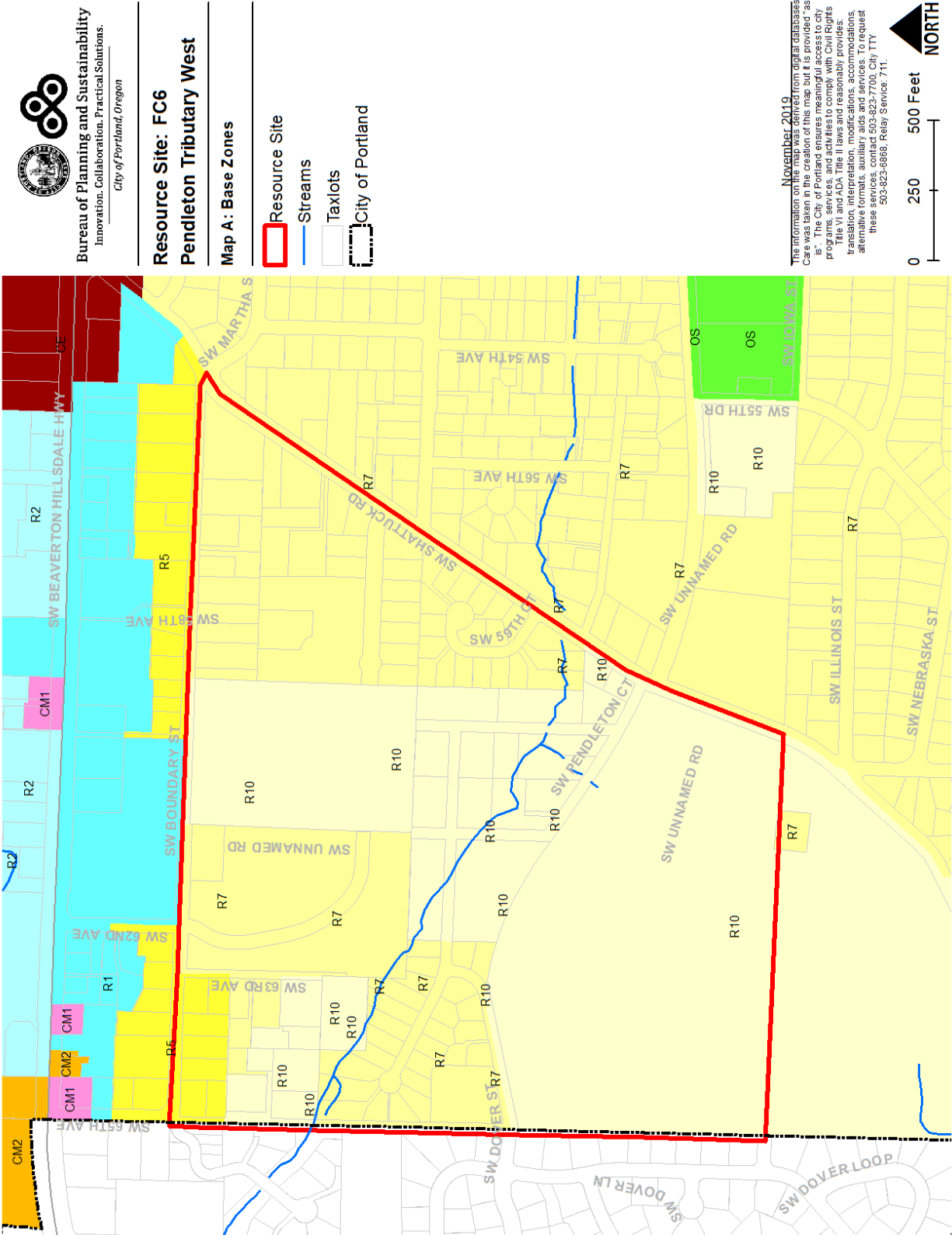
The abandoned rail corridor provides a wildlife movement corridor, particularly where there is tree canopy and understory that provides habitat for a range of wildlife. Additional structures that impede or degrade wildlife habitat and removal of trees and native vegetation should be limited.

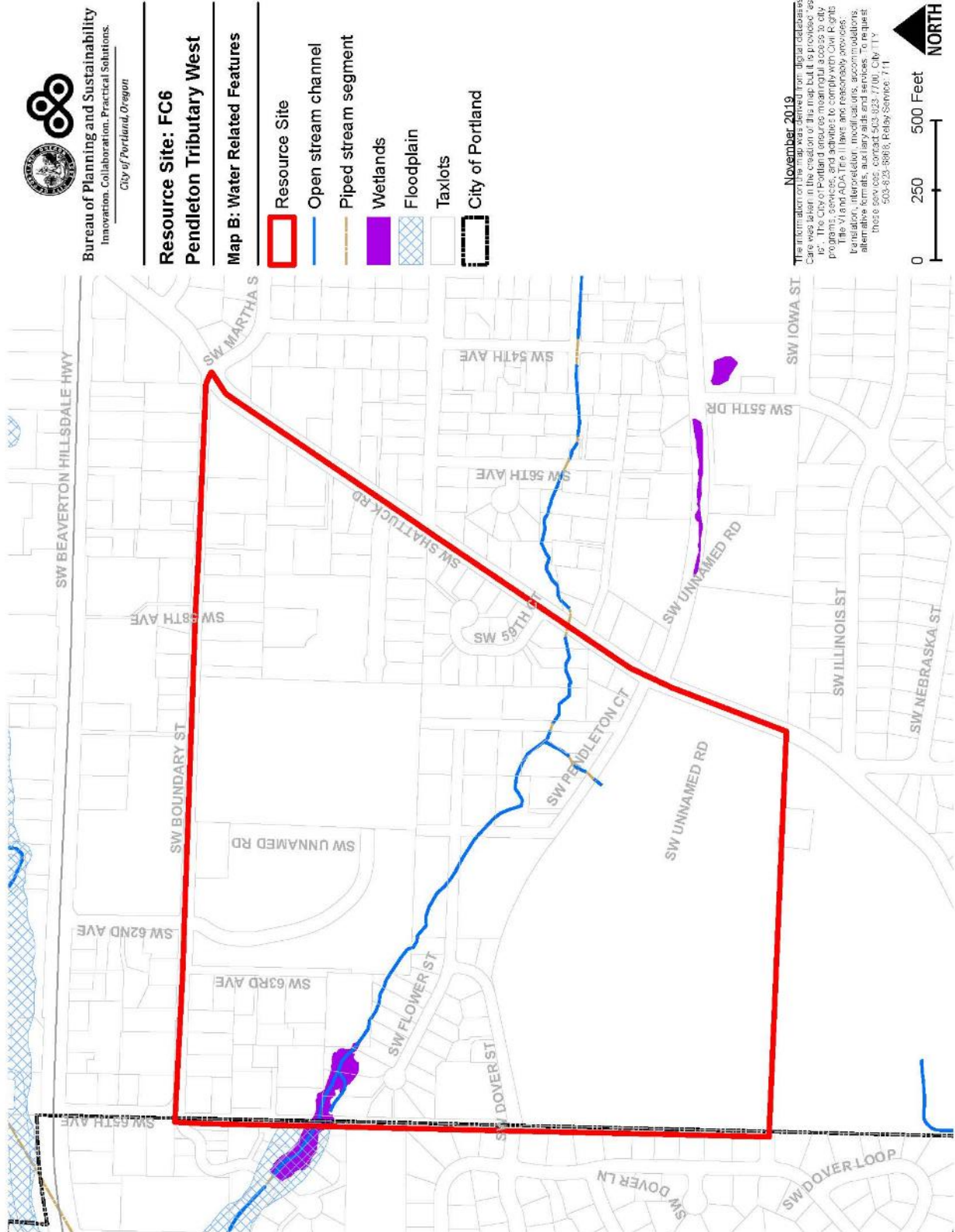
ESEE Decisions

Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC6 are:

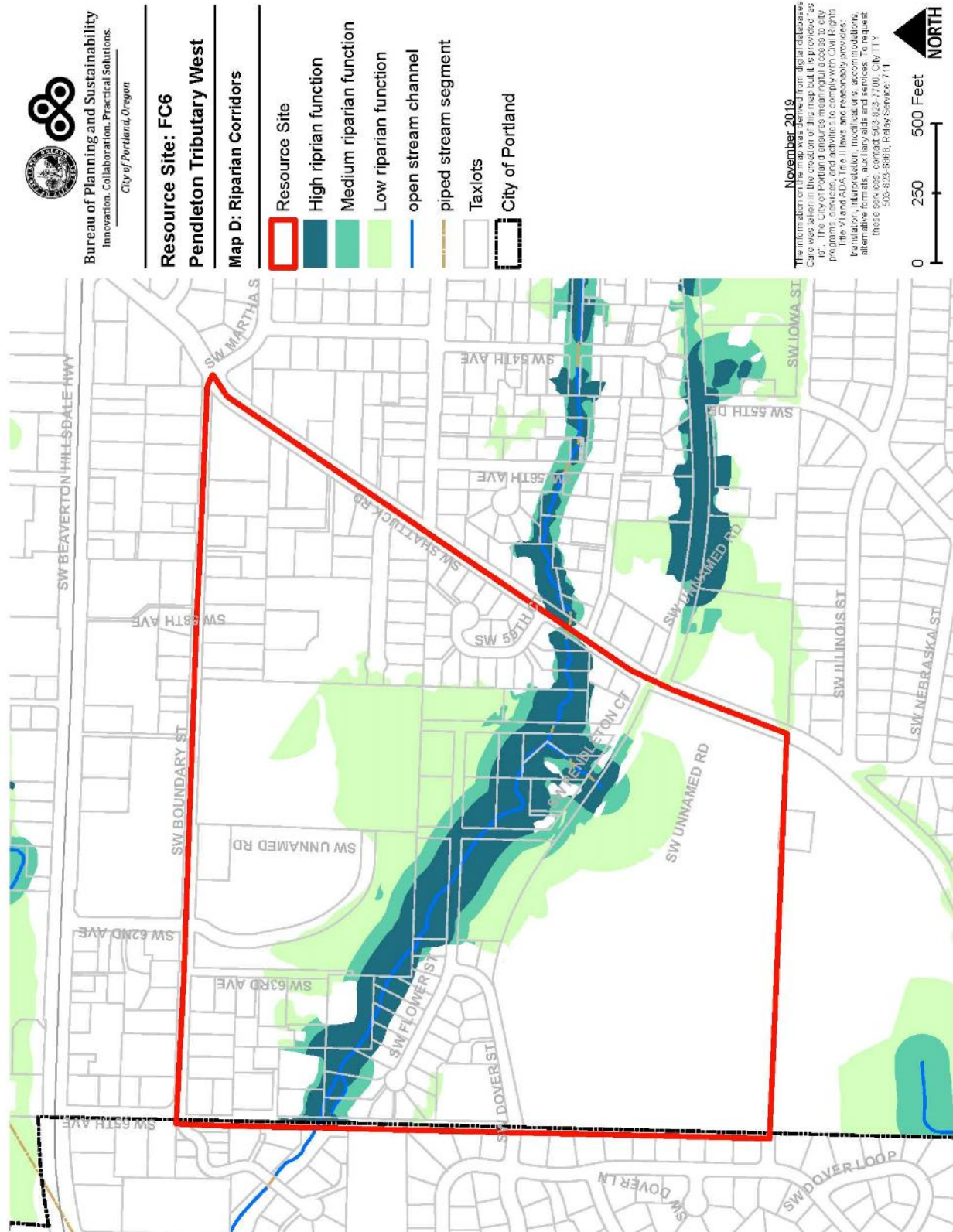
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Strictly limit* conflicting uses within flood area, vegetated or developed, located between stream ordinary high water mark and 170 feet measured horizontally from the ordinary high water mark.
3. *Limit* conflicting uses within areas of forest or woodland vegetation located on steep slopes and contiguous to but more than 50 feet from stream top-of-bank or wetlands.
4. *Limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank, within areas of forest on steep slopes that are contiguous to but more than 50 feet from stream top-of-bank and forest or woodland vegetation located along the abandoned rail corridor.
5. *Allow* conflicting uses within all other areas containing significant natural resources.

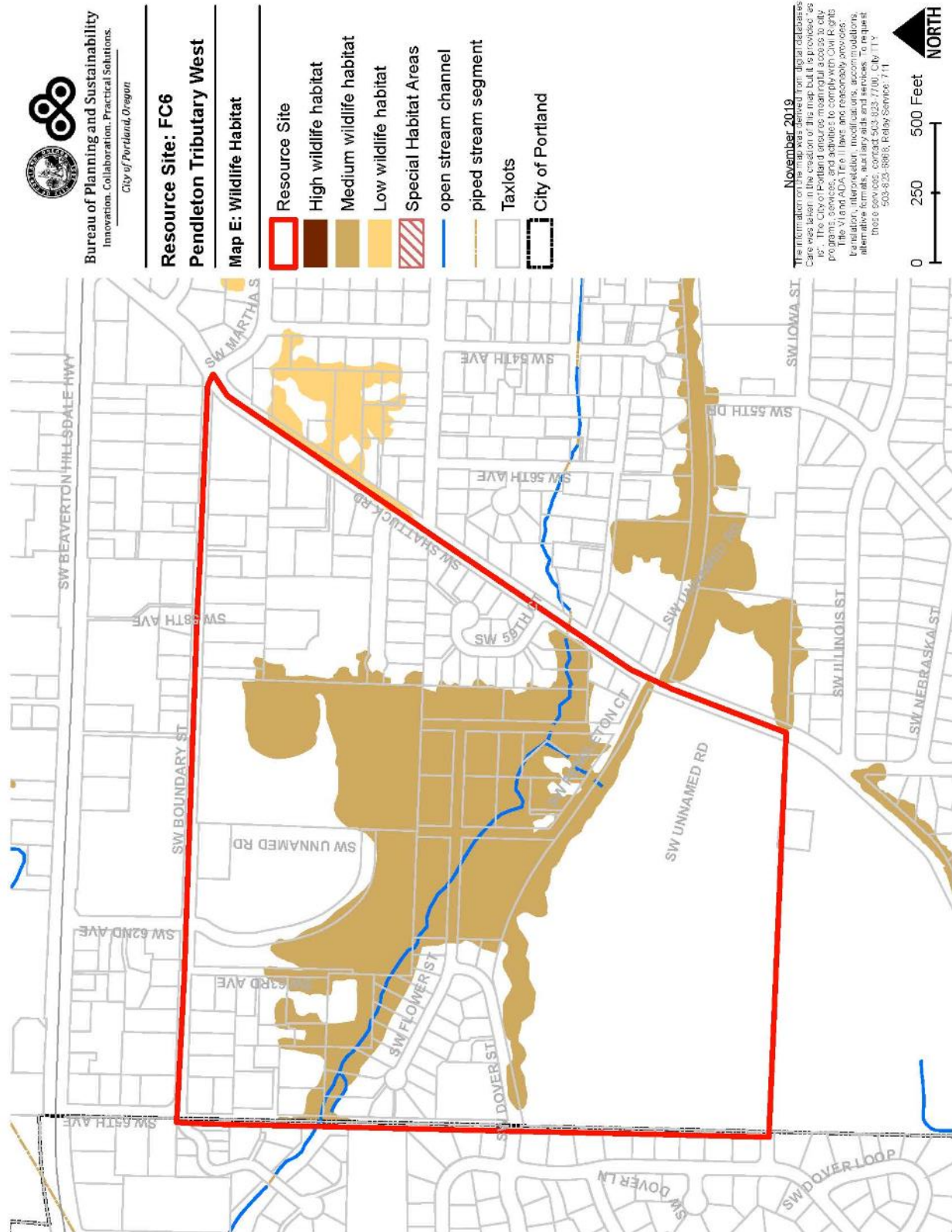
Table C: ESEE Decision for Resource Site FC6	
ESEE Decision	Acres
Strictly Limit	6.0
Limit	20.5
Allow	71.1



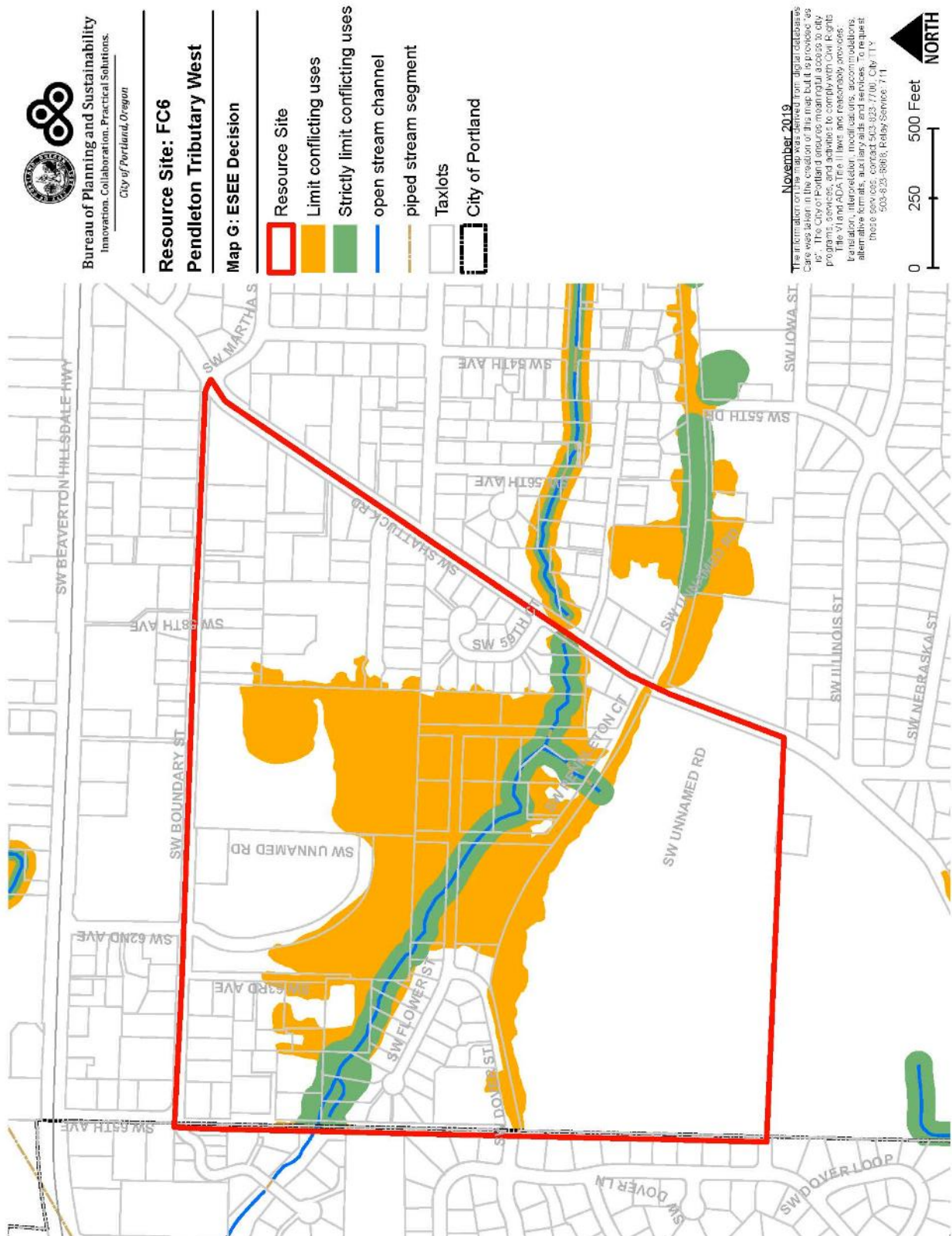












Resource Site No.: FC7 Resource Site Name: Pendleton Tributary

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 126



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC7
		Study Area
Stream (Miles)		4.6
Wetlands (acres)		0.9
Vegetated Areas >= 1/2 acre (acres)		42.0
Forest (acres)		23.1
Woodland (acres)		9.8
Shrubland (acres)		0.0
Herbaceous (acres)		9.1
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		19.9
Impervious Surface (acres)		49.2
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC7				
Resource Site (acres) = 145.859949				
	High	Medium	Low	Total
Riparian Corridors*				
acres	9.4	8.7	15.5	33.6
percent total inventory site area	6.5%	5.9%	10.6%	23.1%
Wildlife Habitat*				
acres	0.0	15.9	3.1	19.0
percent total inventory site area	0.0%	10.9%	2.1%	13.0%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	9.4	16.1	11.2	36.7
percent total inventory site area	6.5%	11.1%	7.7%	25.2%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC7 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10 and R7 base zones. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filling, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC7, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and

air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

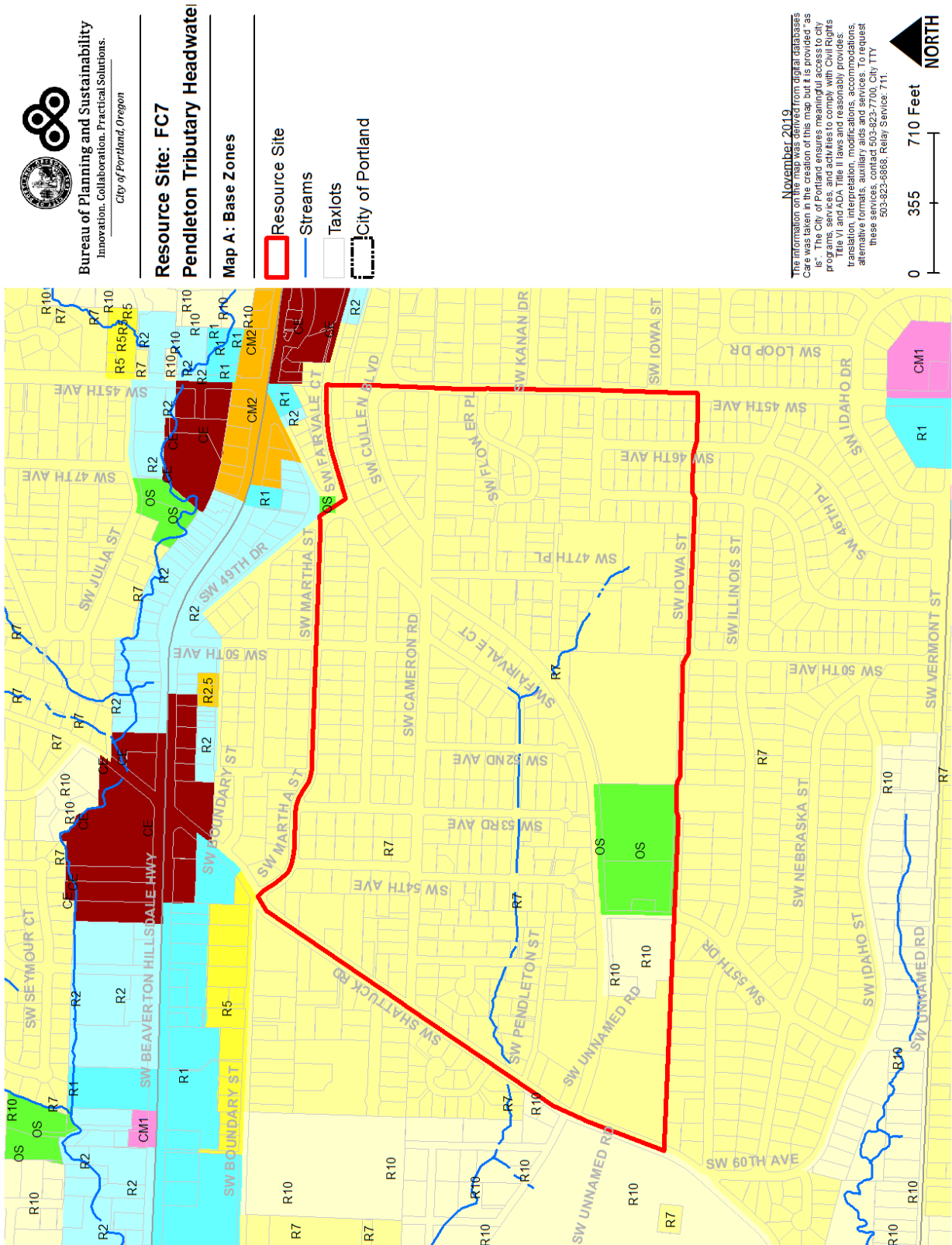
The abandoned rail corridor provides a wildlife movement corridor, particularly where there is tree canopy and understory that provides habitat for a range of wildlife. Additional structures that impede or degrade wildlife habitat and removal of trees and native vegetation should be limited.

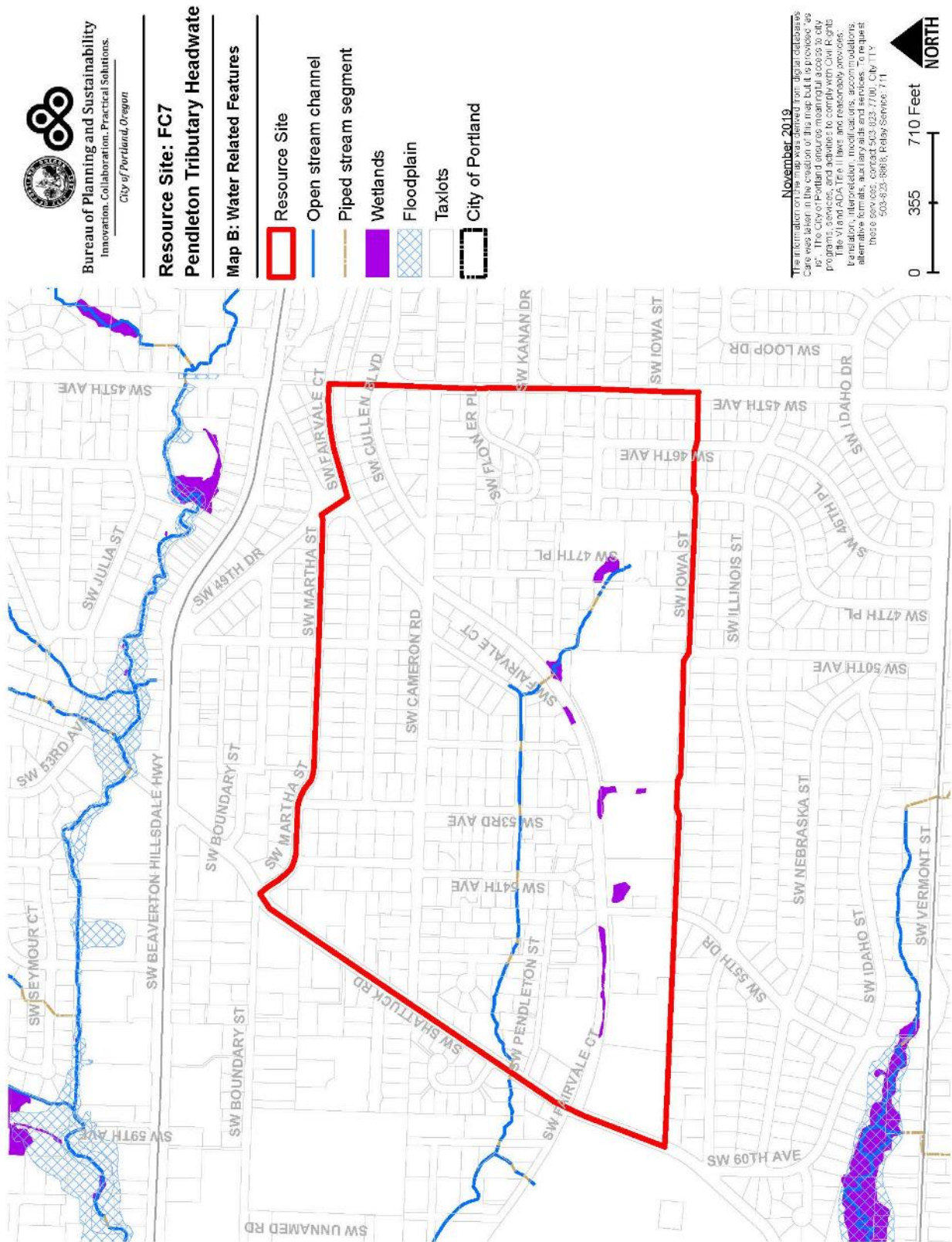
ESEE Decisions

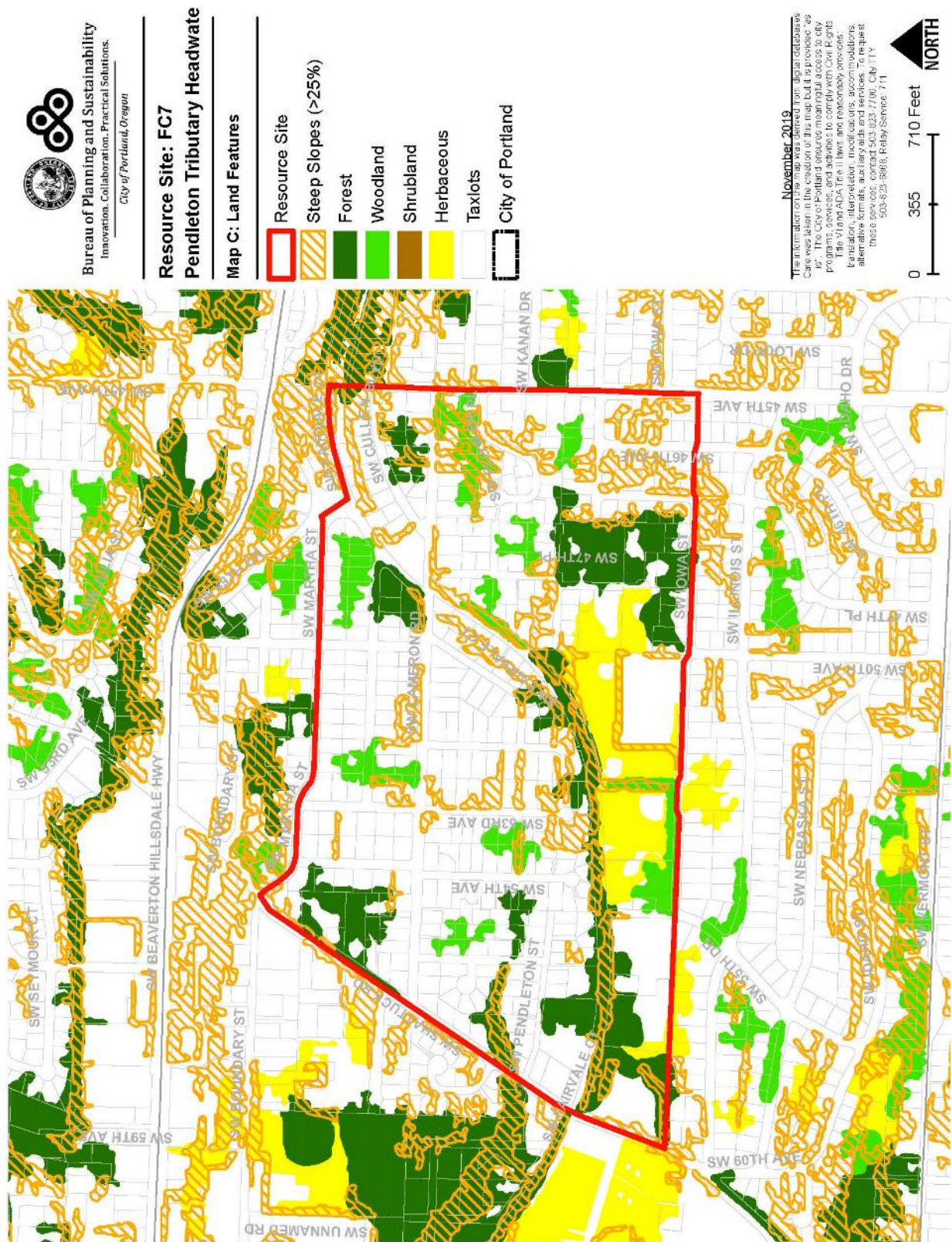
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC7 are:

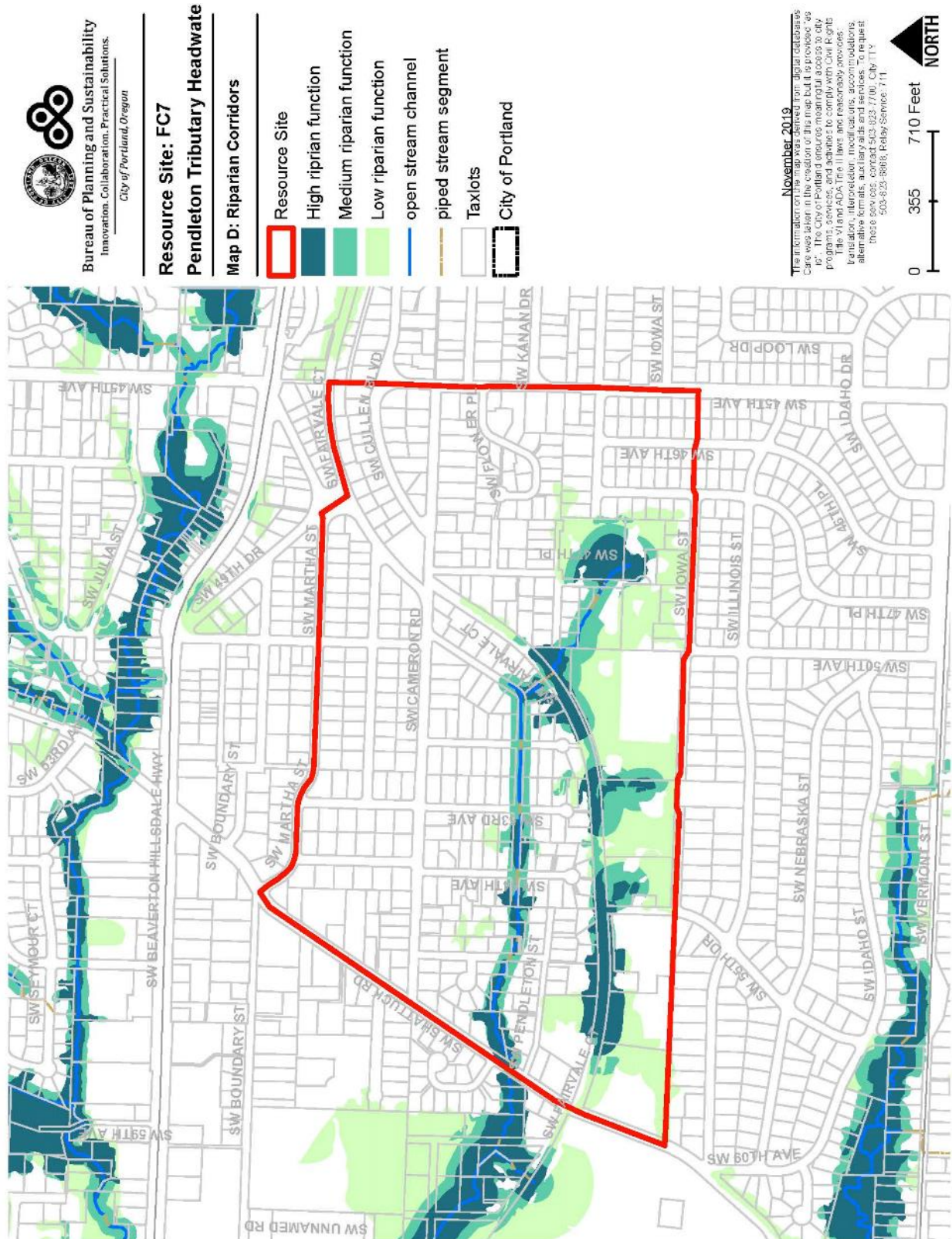
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 25 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Limit* conflicting uses within land between 25 and 50 feet of stream top-of-bank and forest or woodland vegetation located along the abandoned rail corridor on steep and non-steep slopes.
3. *Allow* conflicting uses within all other areas containing significant natural resources.

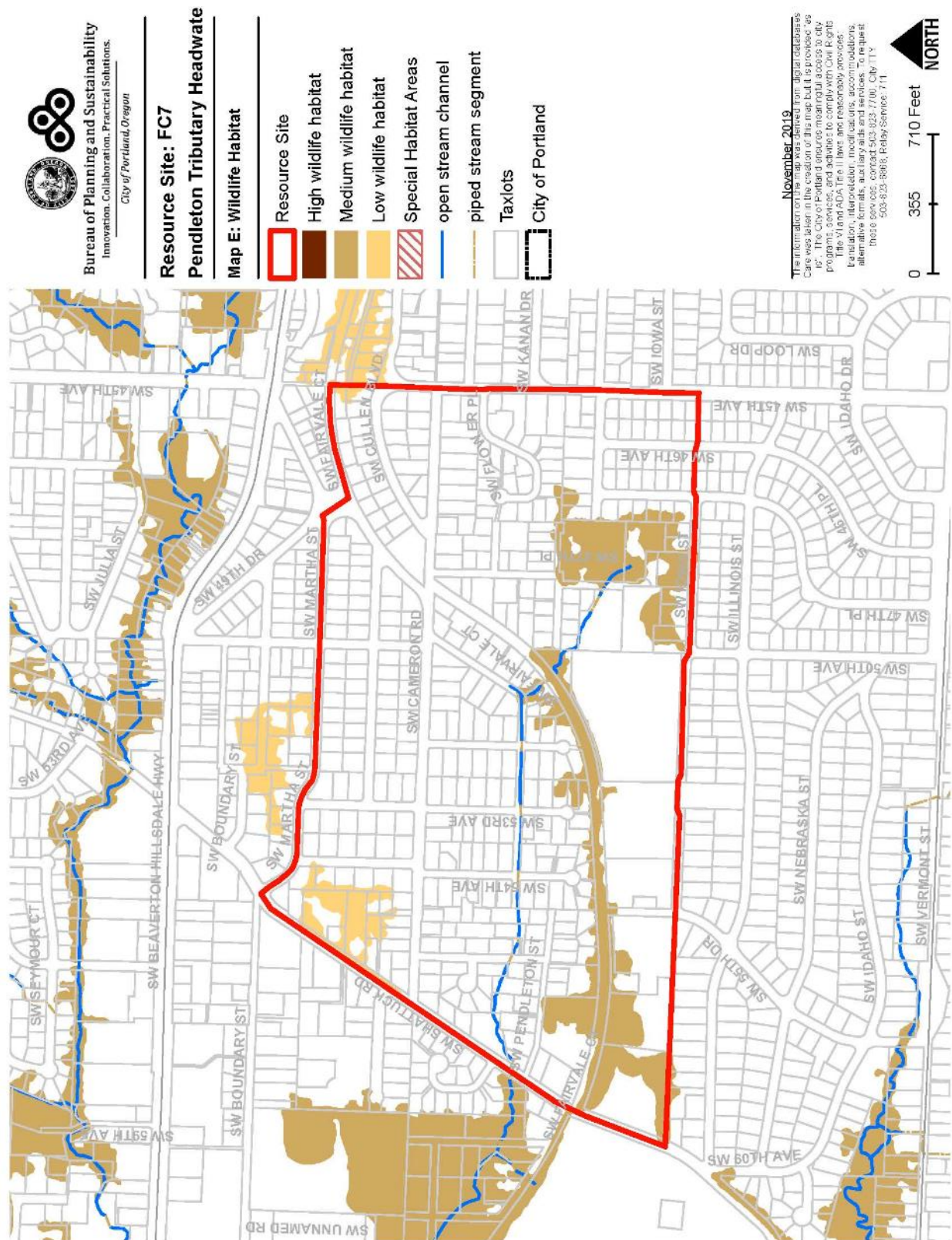
Table C: ESEE Decision for Resource Site FC7	
ESEE Decision	Acres
Strictly Limit	8.7
Limit	8.4
Allow	128.8

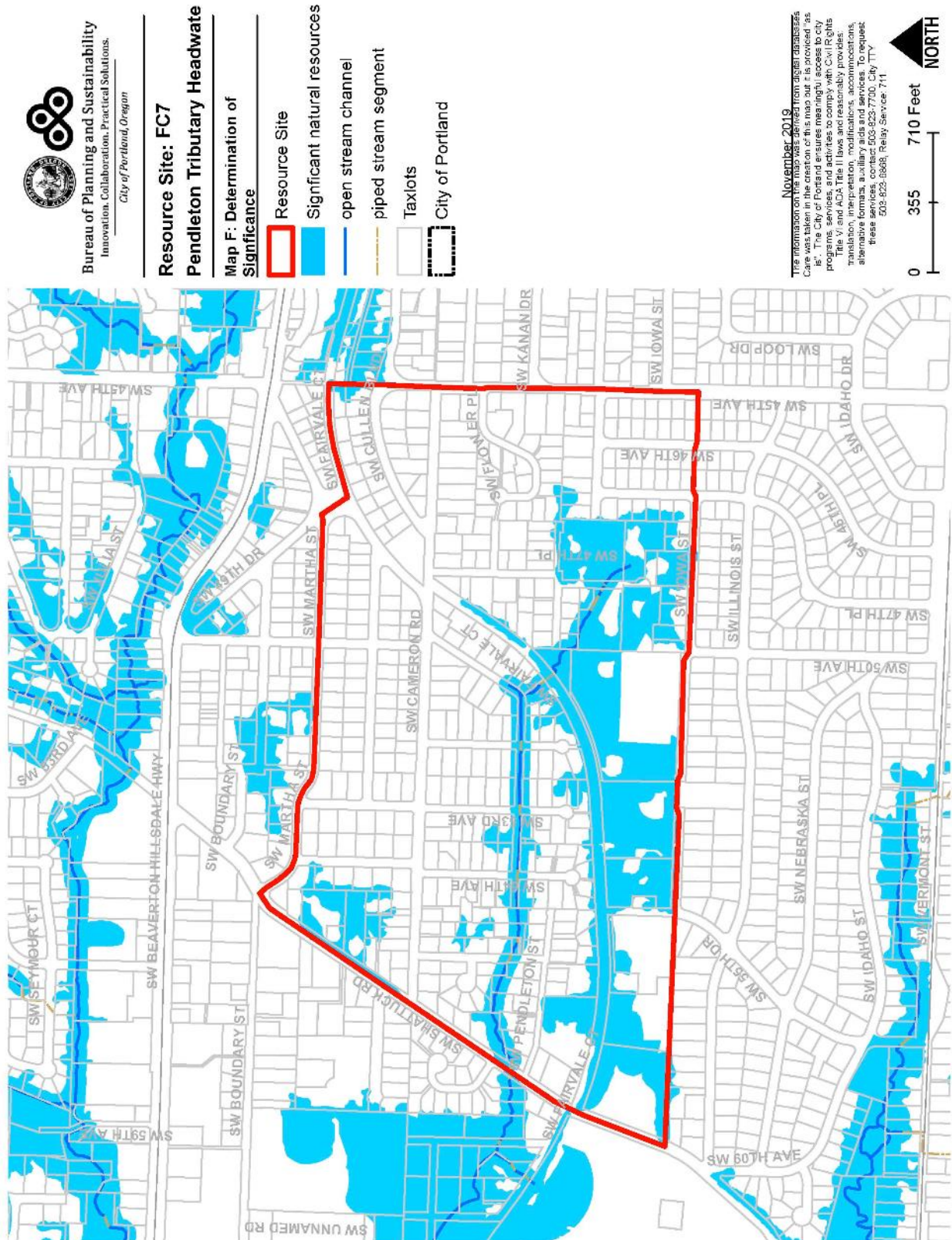


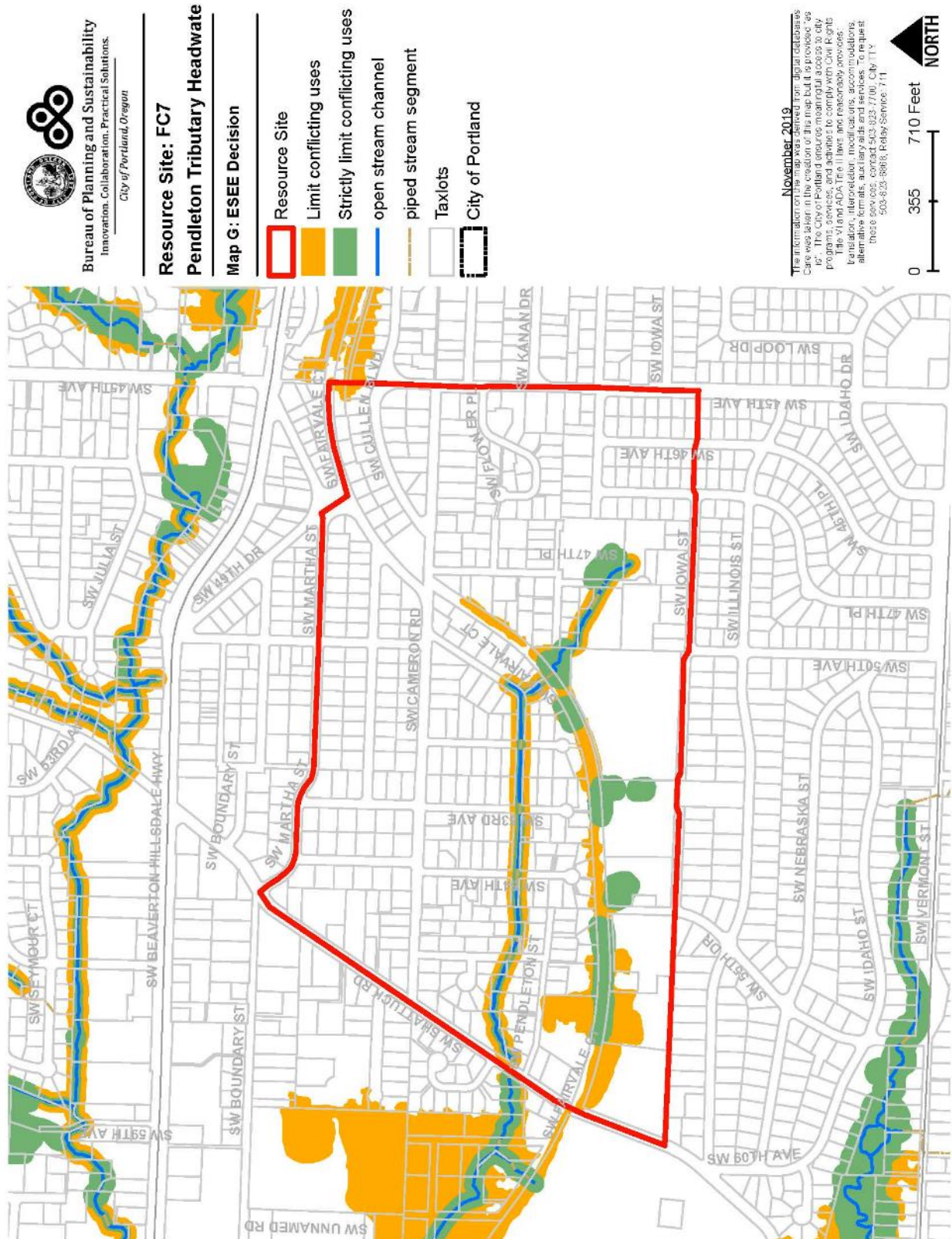




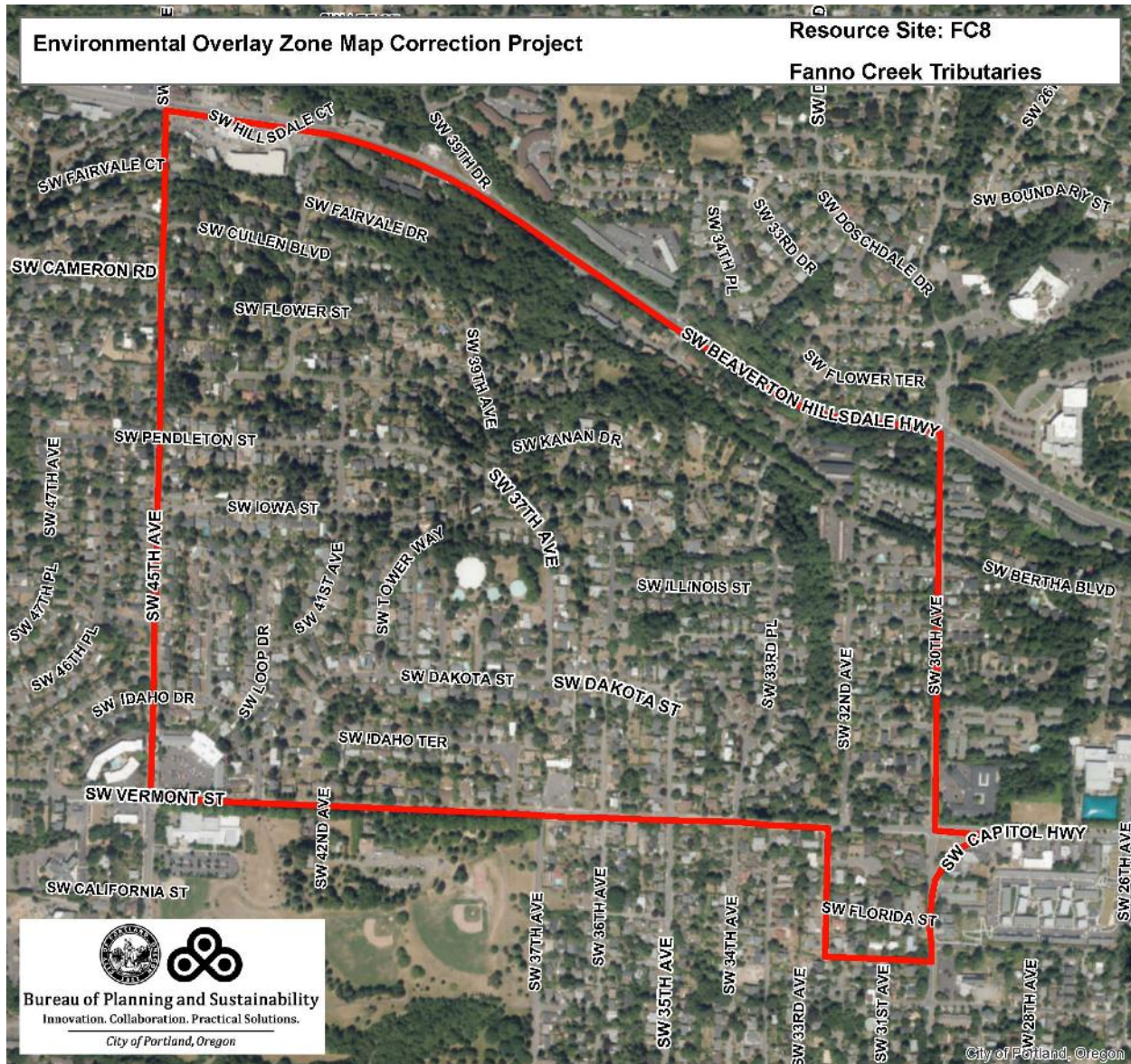








Resource Site No.: FC8 Resource Site Name: Fanno Creek Tributaries
Previous Plan: Fanno Creek and Tributaries Conservation Plan Previous Resource Site No.:125



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC8
		Study Area
Stream (Miles)		0.8
Wetlands (acres)		0.9
Vegetated Areas >= 1/2 acre (acres)		59.1
Forest (acres)		39.3
Woodland (acres)		15.7
Shrubland (acres)		0.0
Herbaceous (acres)		4.1
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		116.9
Impervious Surface (acres)		104.6
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC8				
Resource Site (acres) = 262.952648				
	High	Medium	Low	Total
Riparian Corridors*				
acres	7.6	6.6	22.1	36.4
percent total inventory site area	2.9%	2.5%	8.4%	13.8%
Wildlife Habitat*				
acres	0.0	5.0	26.6	31.6
percent total inventory site area	0.0%	1.9%	10.1%	12.0%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	7.6	6.7	26.3	40.6
percent total inventory site area	2.9%	2.6%	10.0%	15.5%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC8 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R7, R5, R2.5, R2 and R1 base zones. Commercial uses are allowed in the CE and CM1 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC8, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

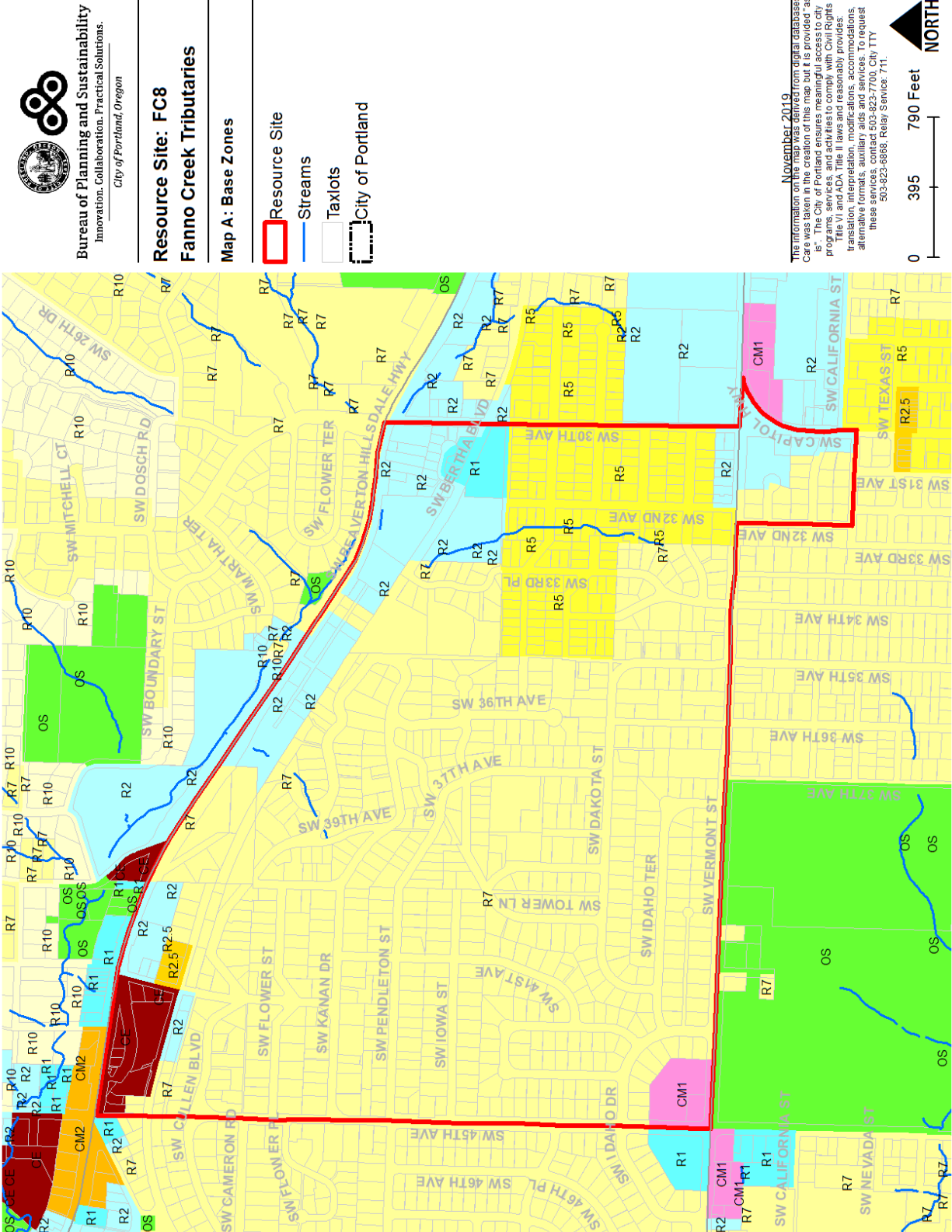
Steep slopes are susceptible to erosion and landslides. There are particularly steep slopes with forest vegetation located along Fairvale Drive. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

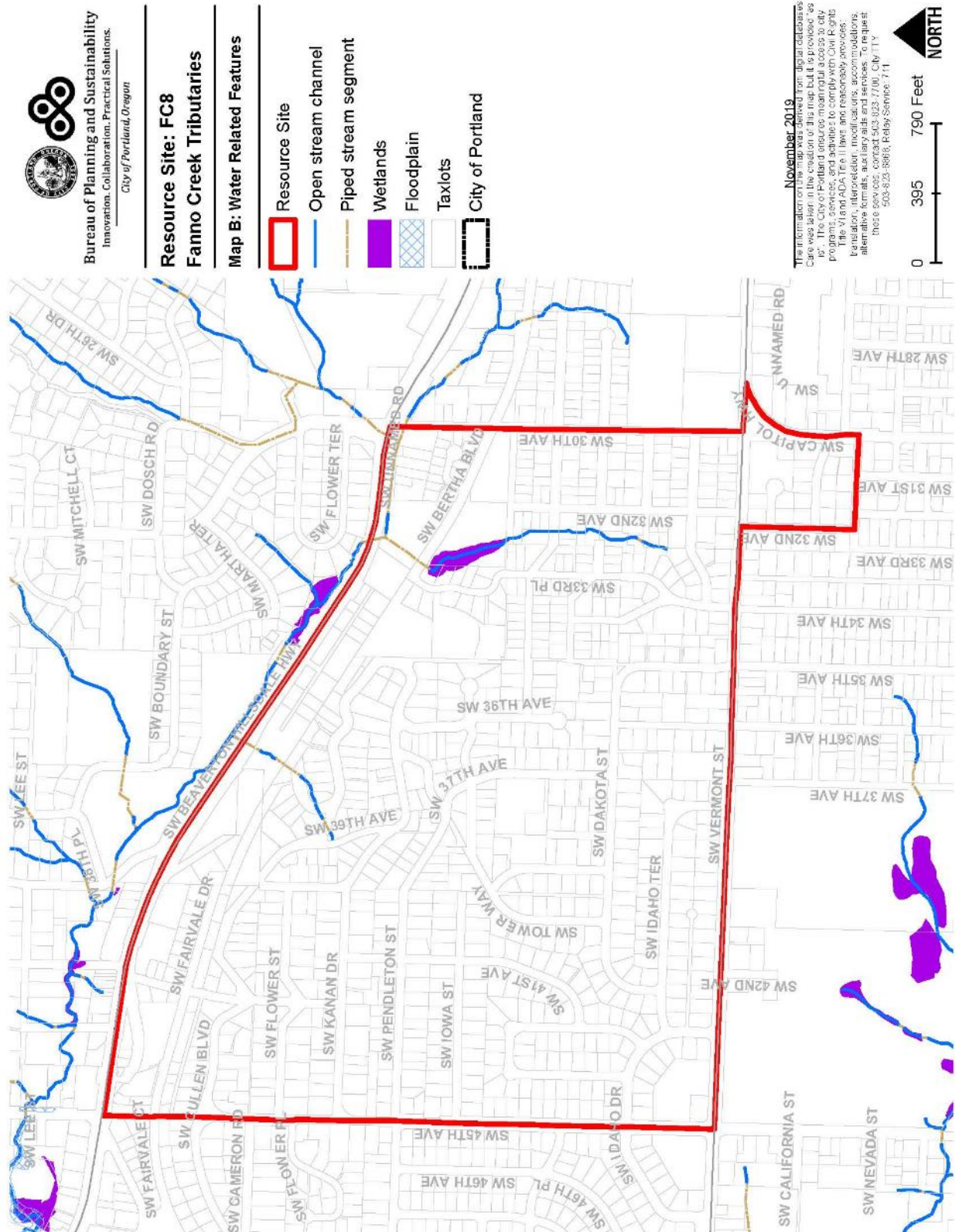
ESEE Decisions

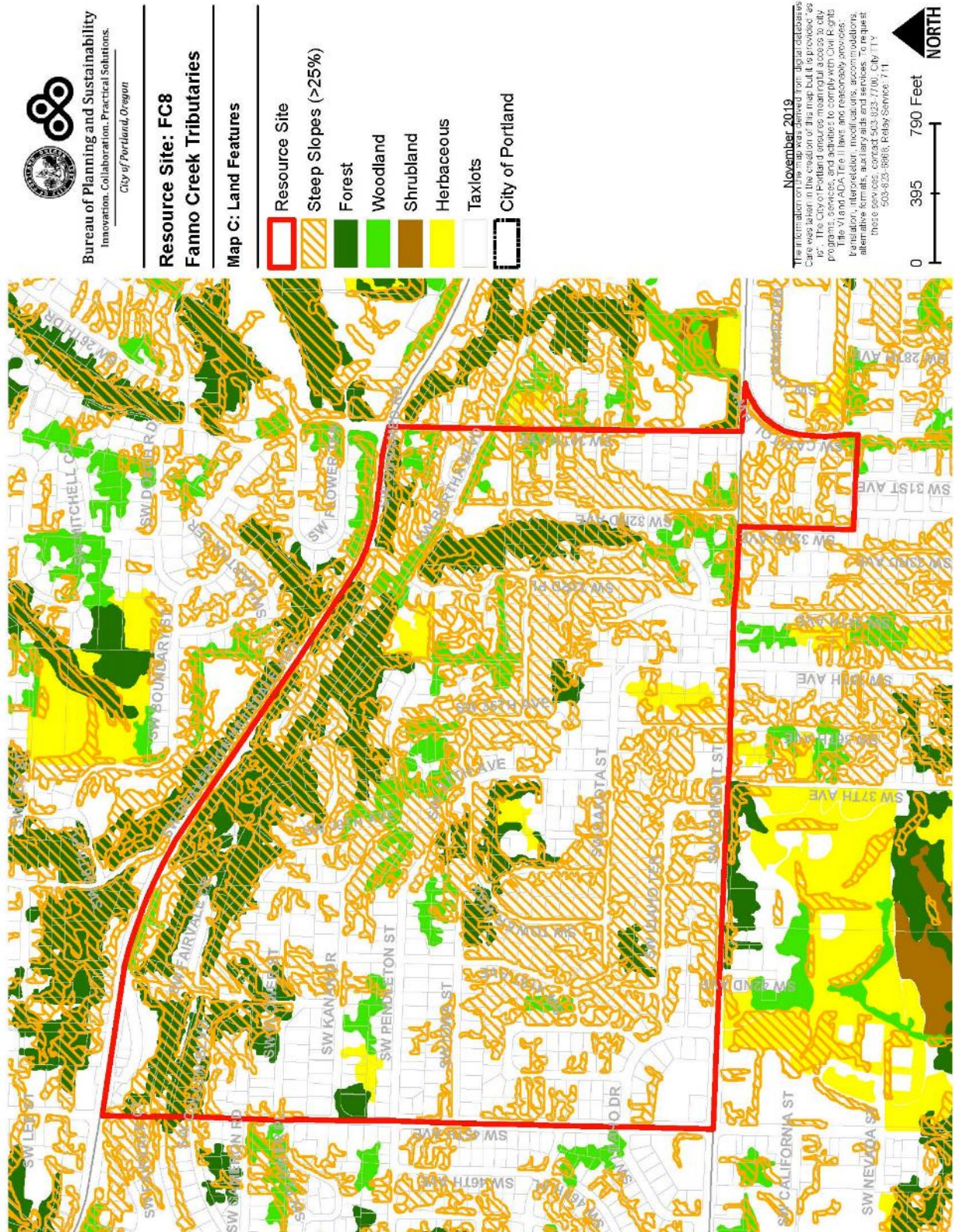
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC8 are:

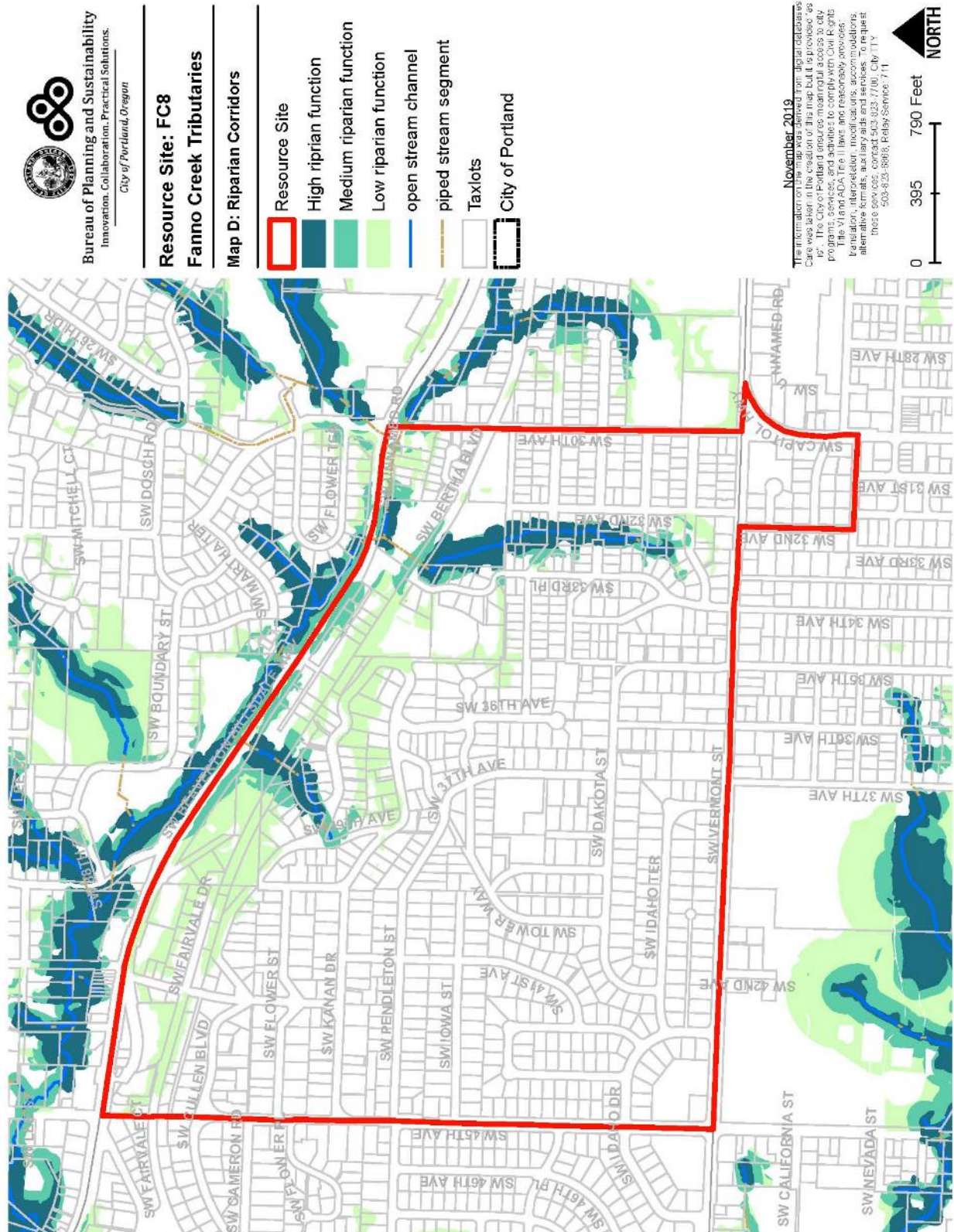
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank or 50 feet of wetlands.
2. *Limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank and wetlands, areas of forest on steep slopes contiguous to but more than 50 feet from stream top-of-bank and wetlands, and areas of forest vegetation on steep slopes along SW Fairvale Dr.
3. *Allow* conflicting uses within all other areas containing significant natural resources.

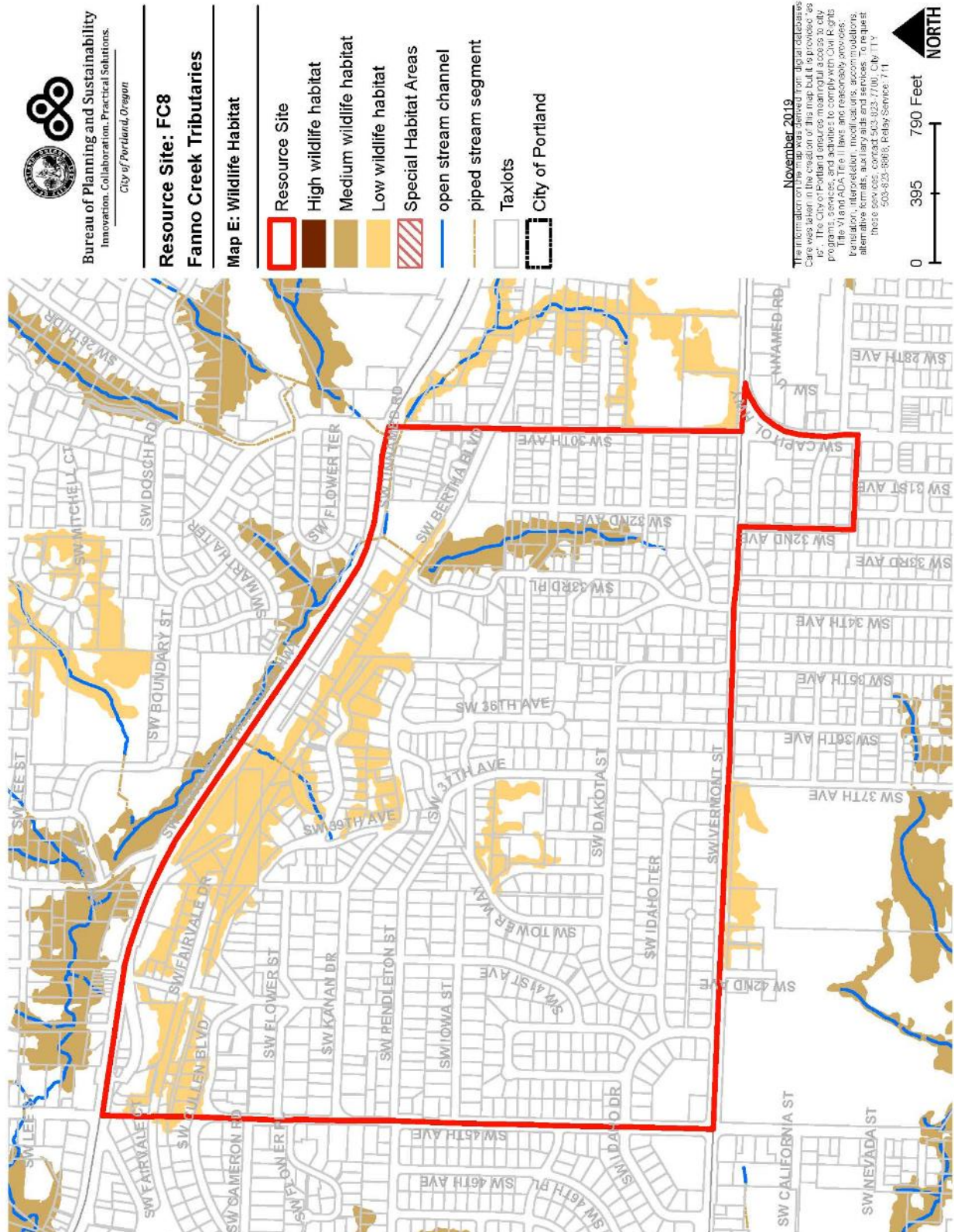
Table C: ESEE Decision for Resource Site FC8	
ESEE Decision	Acres
Strictly Limit	6.5
Limit	23.0
Allow	233.4

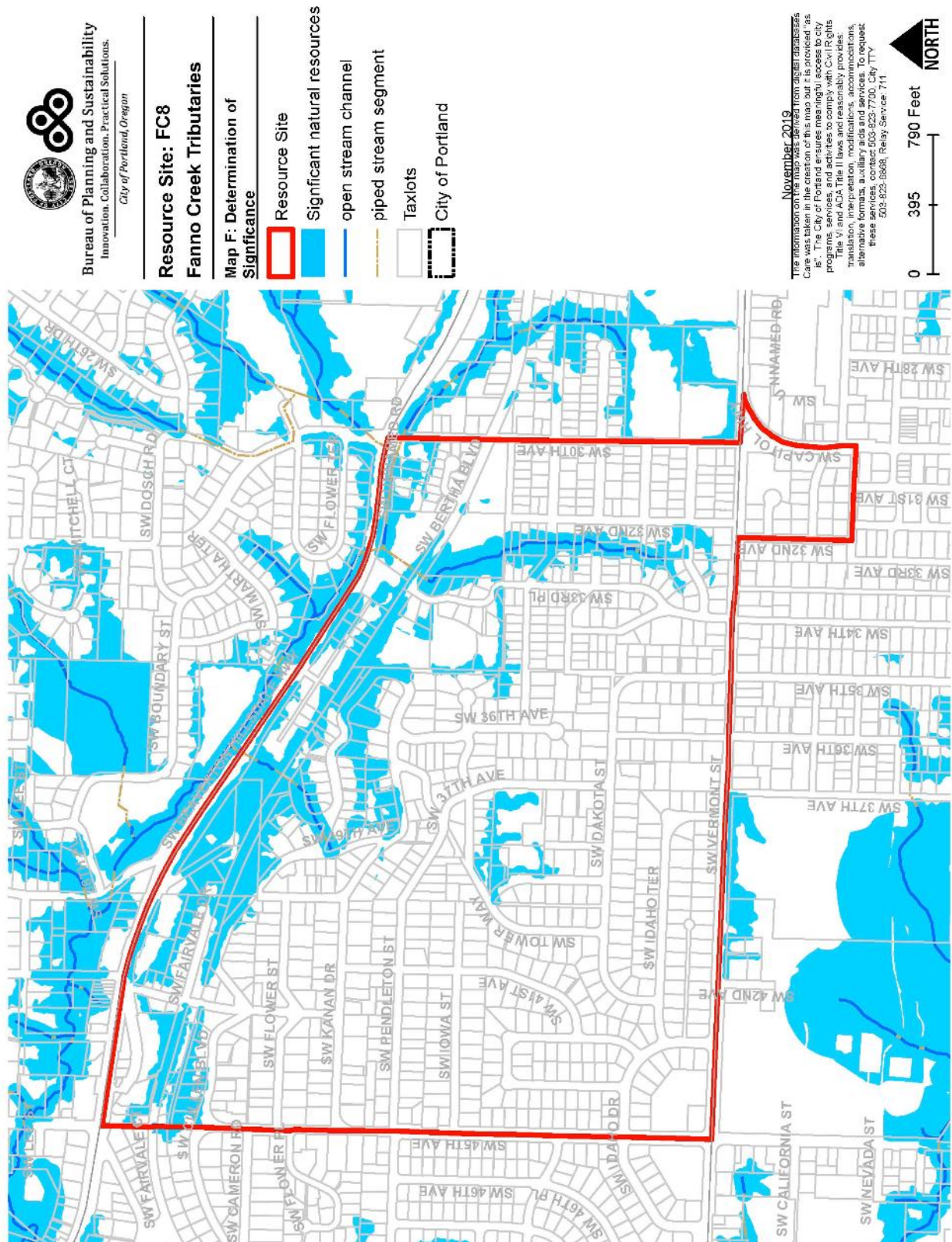


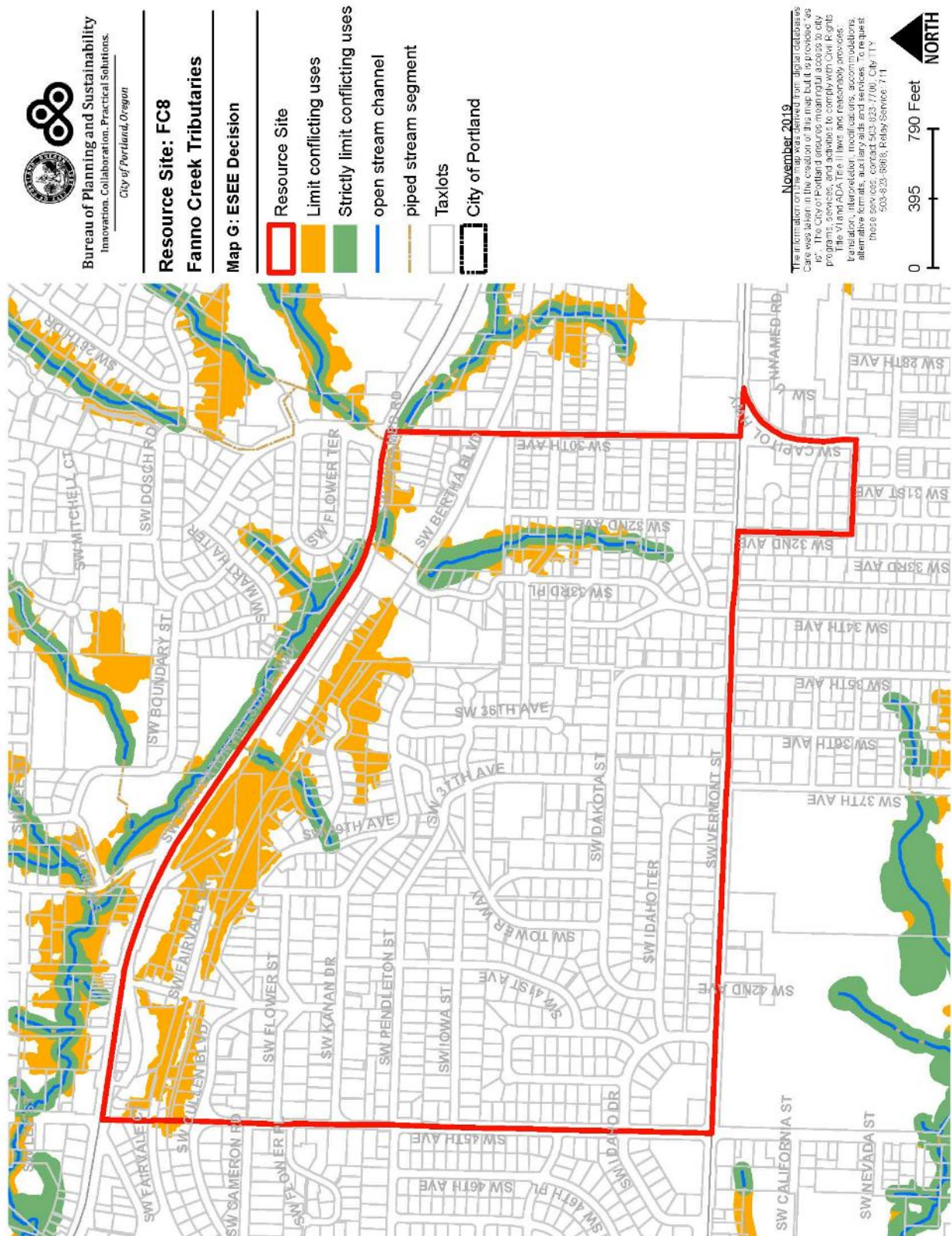






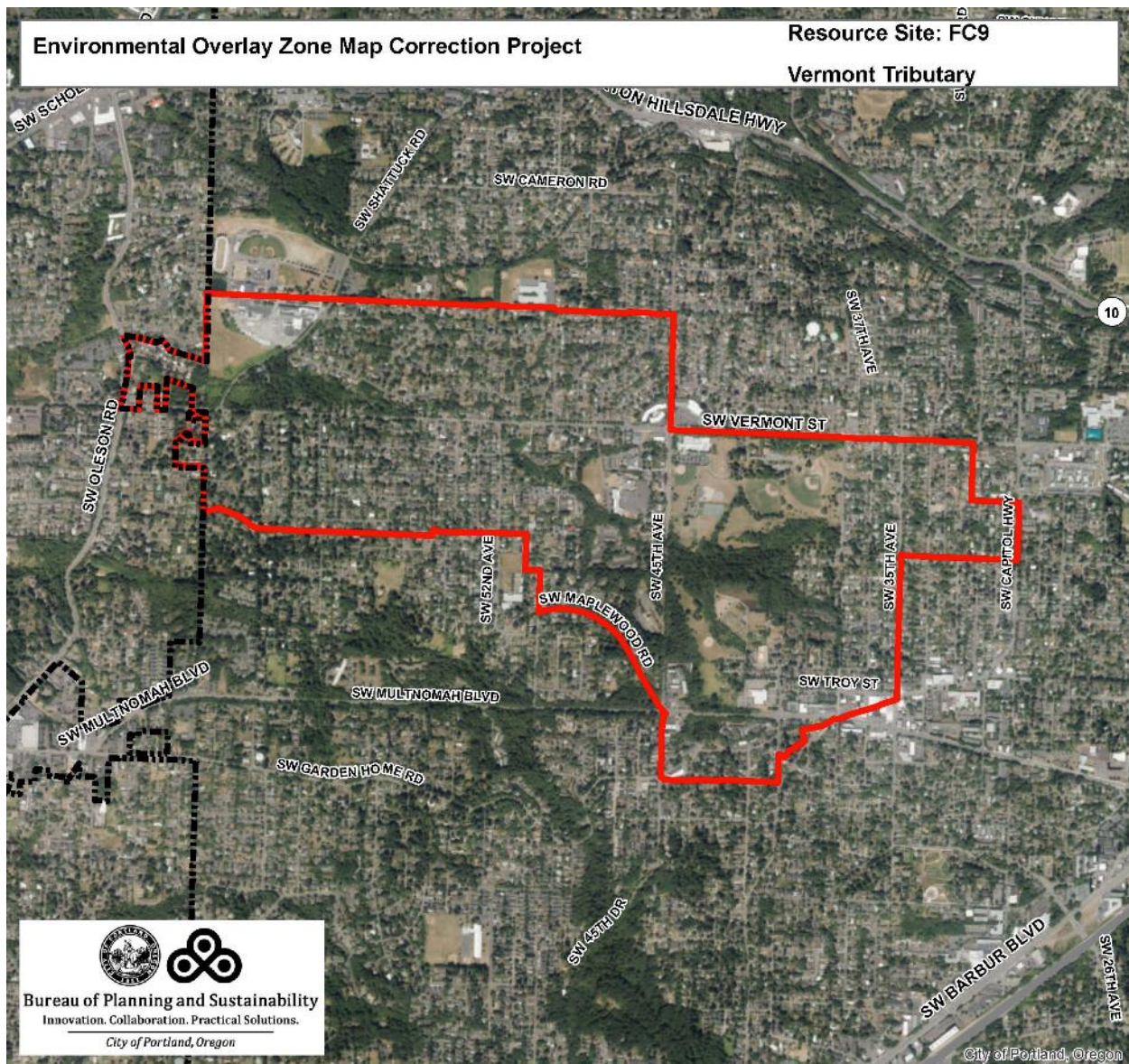






Resource Site No.: FC9 Resource Site Name: Vermont Tributary

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 127



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC9
		Study Area
Stream (Miles)		0.0
Wetlands (acres)		13.7
Vegetated Areas >= 1/2 acre (acres)		203.4
Forest (acres)		78.9
Woodland (acres)		46.7
Shrubland (acres)		8.8
Herbaceous (acres)		69.1
Flood Area*		14.2
Vegetated (acres)		10.3
Non-vegetated (acres)		3.9
Steep Slopes (acres)**		146.3
Impervious Surface (acres)		179.5
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC9				
Resource Site (acres) = 612.673731				
	High	Medium	Low	Total
Riparian Corridors*				
acres	58.8	41.4	58.0	158.2
percent total inventory site area	9.6%	6.8%	9.5%	25.8%
Wildlife Habitat*				
acres	0.0	78.9	5.5	84.4
percent total inventory site area	0.0%	12.9%	0.9%	13.8%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	58.8	59.6	42.7	161.1
percent total inventory site area	9.6%	9.7%	7.0%	26.3%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC9 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; flood area; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10, R7, R5, R2.5, R2 and R1 base zones. Commercial uses are allowed in the CE, CM2 and CM1 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC9, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

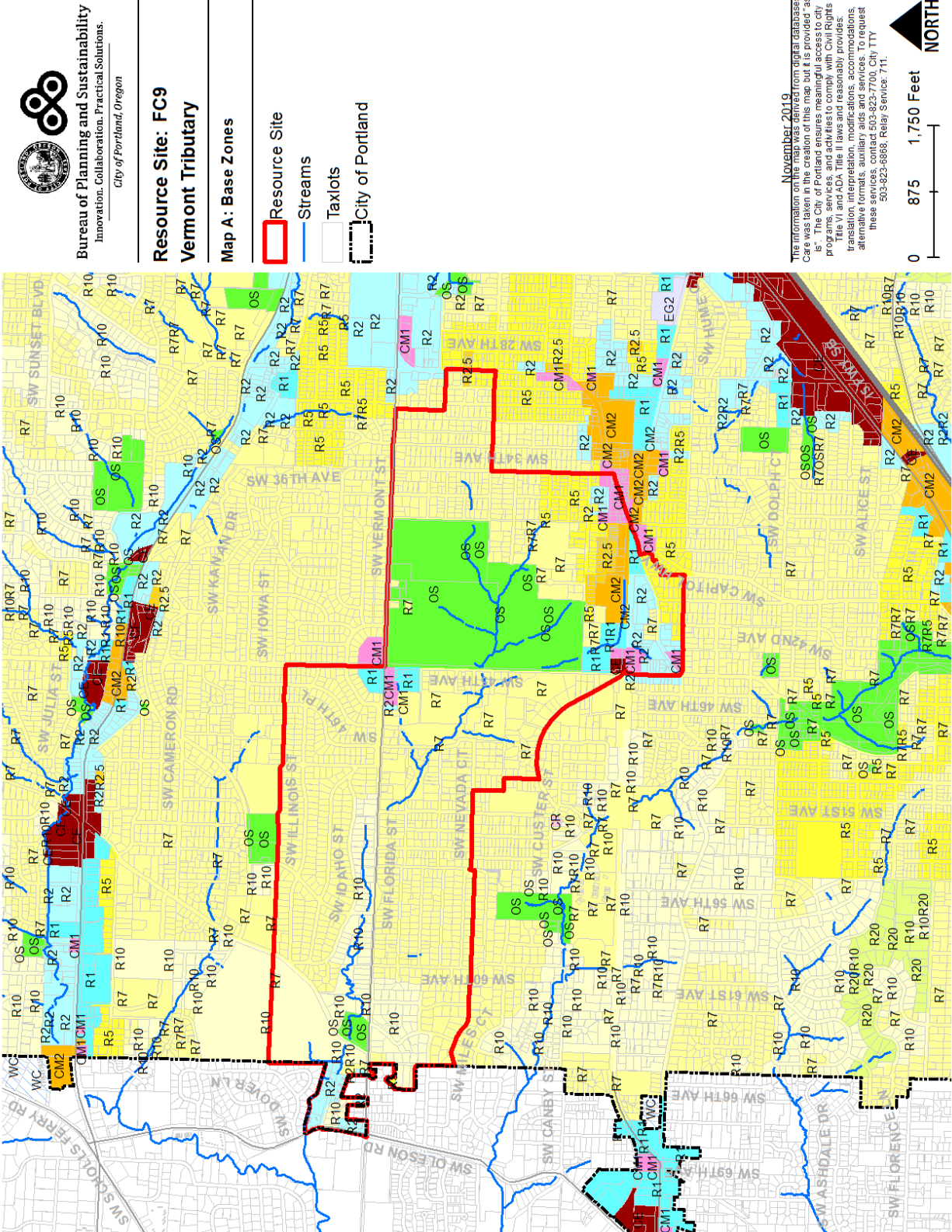
There is residential development located in the floodplain. The structures and impervious surface limit the flood capacity and infiltration functions of the land and increase the flood risk to the property as well as properties up and down stream. New or expanded development in the flood area should be *limited*.

ESEE Decisions

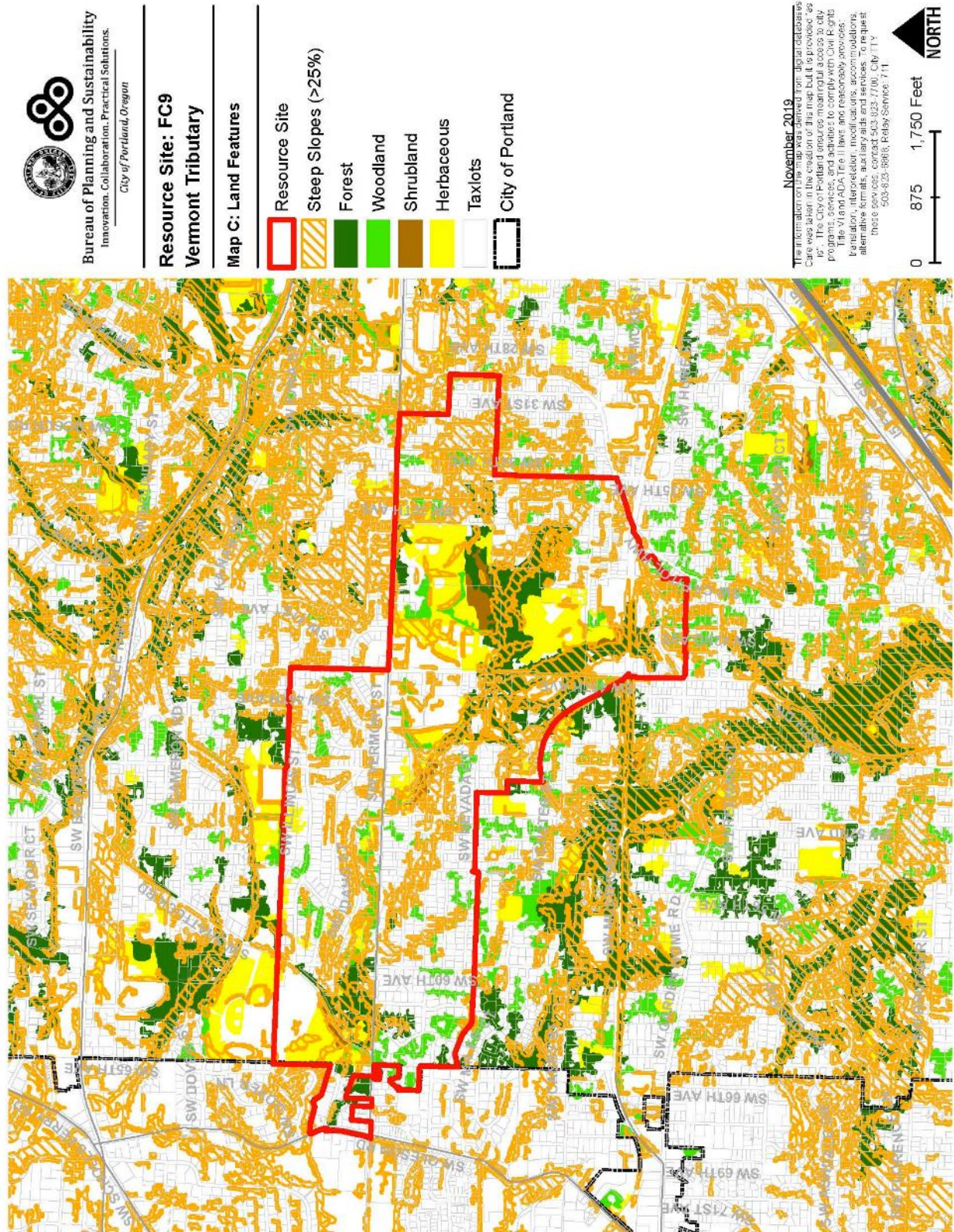
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC9 are:

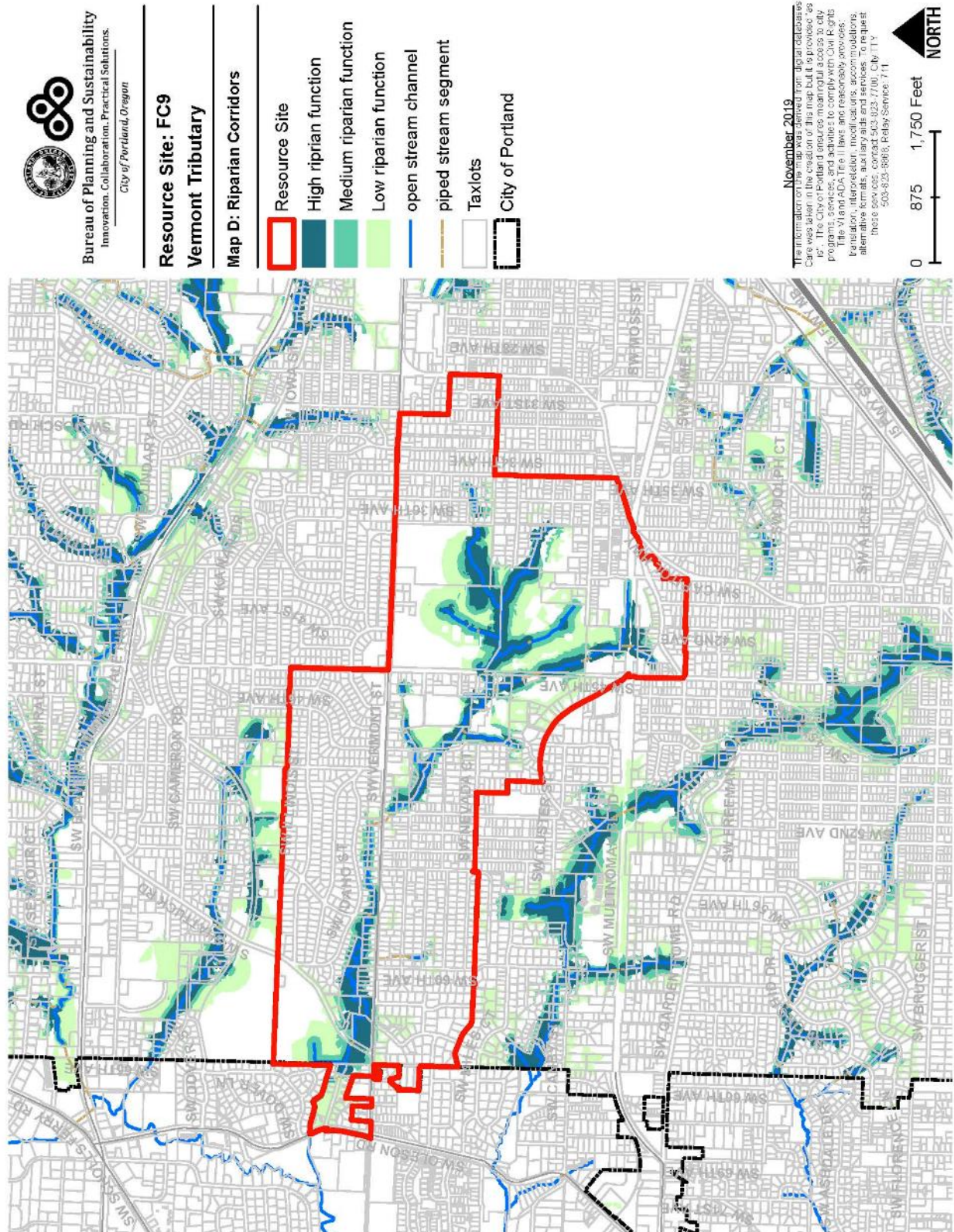
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Strictly limit* conflicting uses within flood area, vegetated or developed, located between stream ordinary high water mark and 170 feet measured horizontally from the ordinary high water mark.
3. *Strictly limit* conflicting uses within areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank extending to 100 feet from streams.
4. *Limit* conflicting uses within flood area, vegetated or developed, located more than 170 feet measured horizontally from the ordinary high water mark.
5. *Limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 100 feet from stream top-of-bank and within areas of forest on steep slope contiguous to but more than 100 feet from stream top-of-bank.
6. *Allow* conflicting uses within all other areas containing significant natural resources.

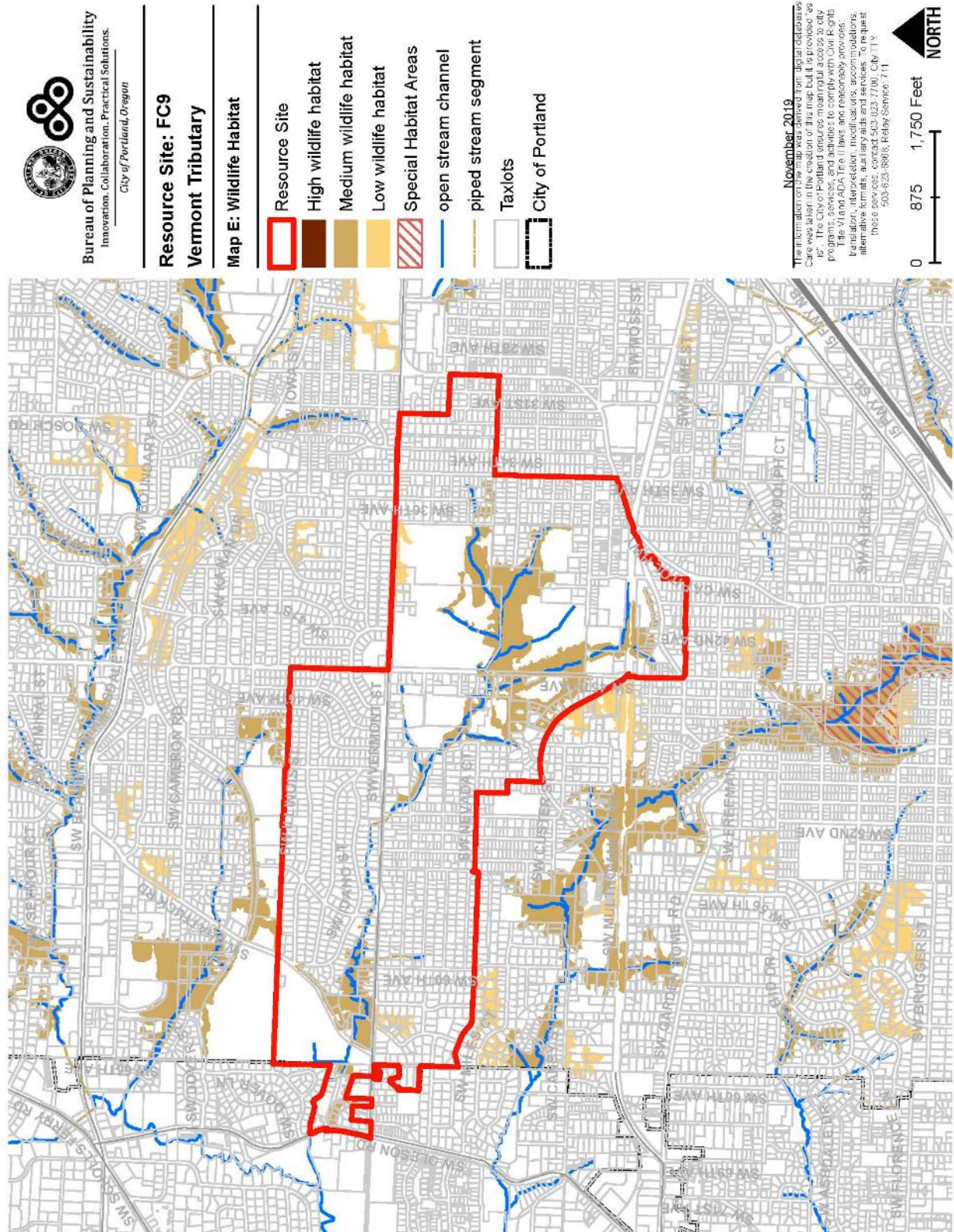
Table C: ESEE Decision for Resource Site FC9	
ESEE Decision	Acres
Strictly Limit	72.3
Limit	30.9
Allow	509.5

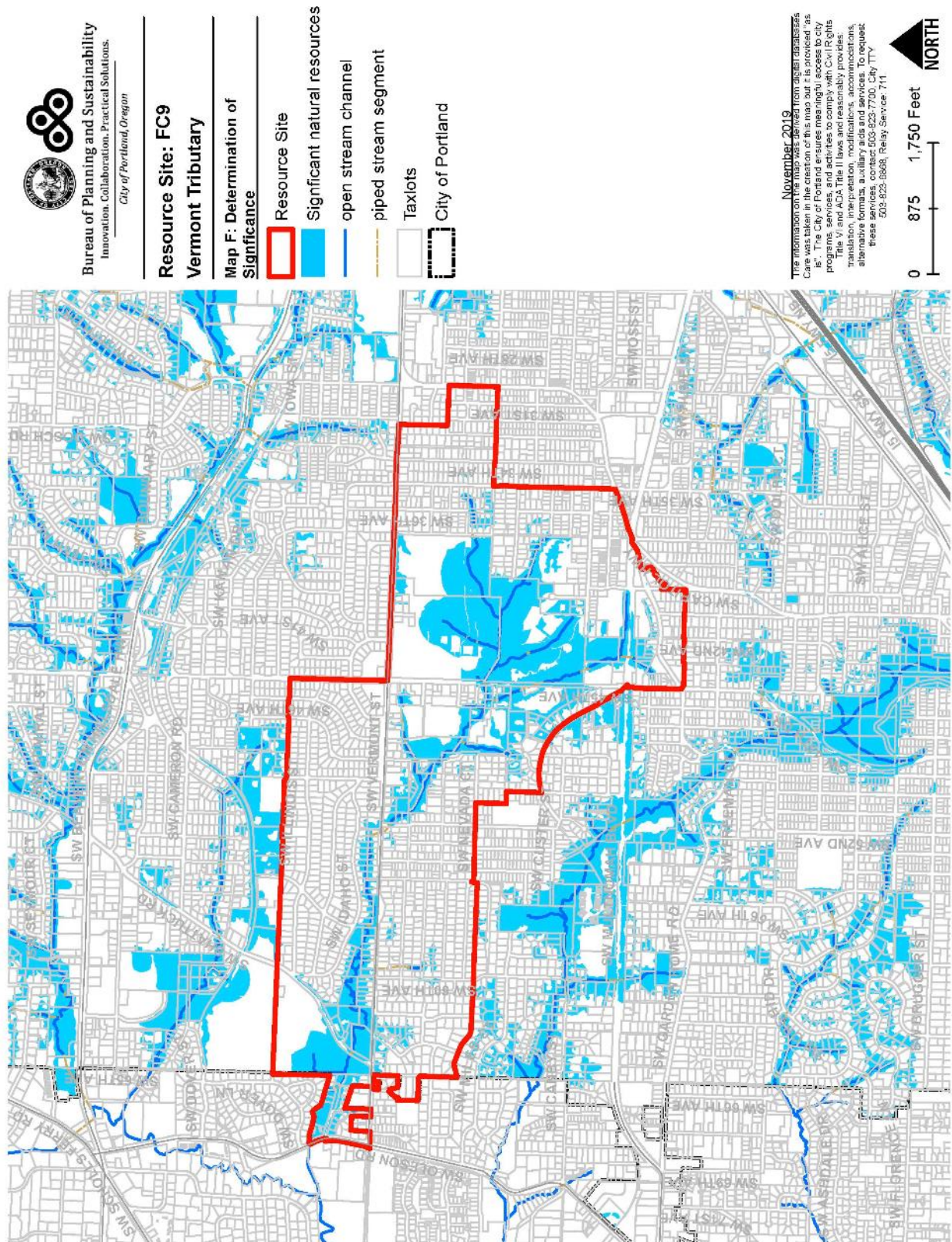


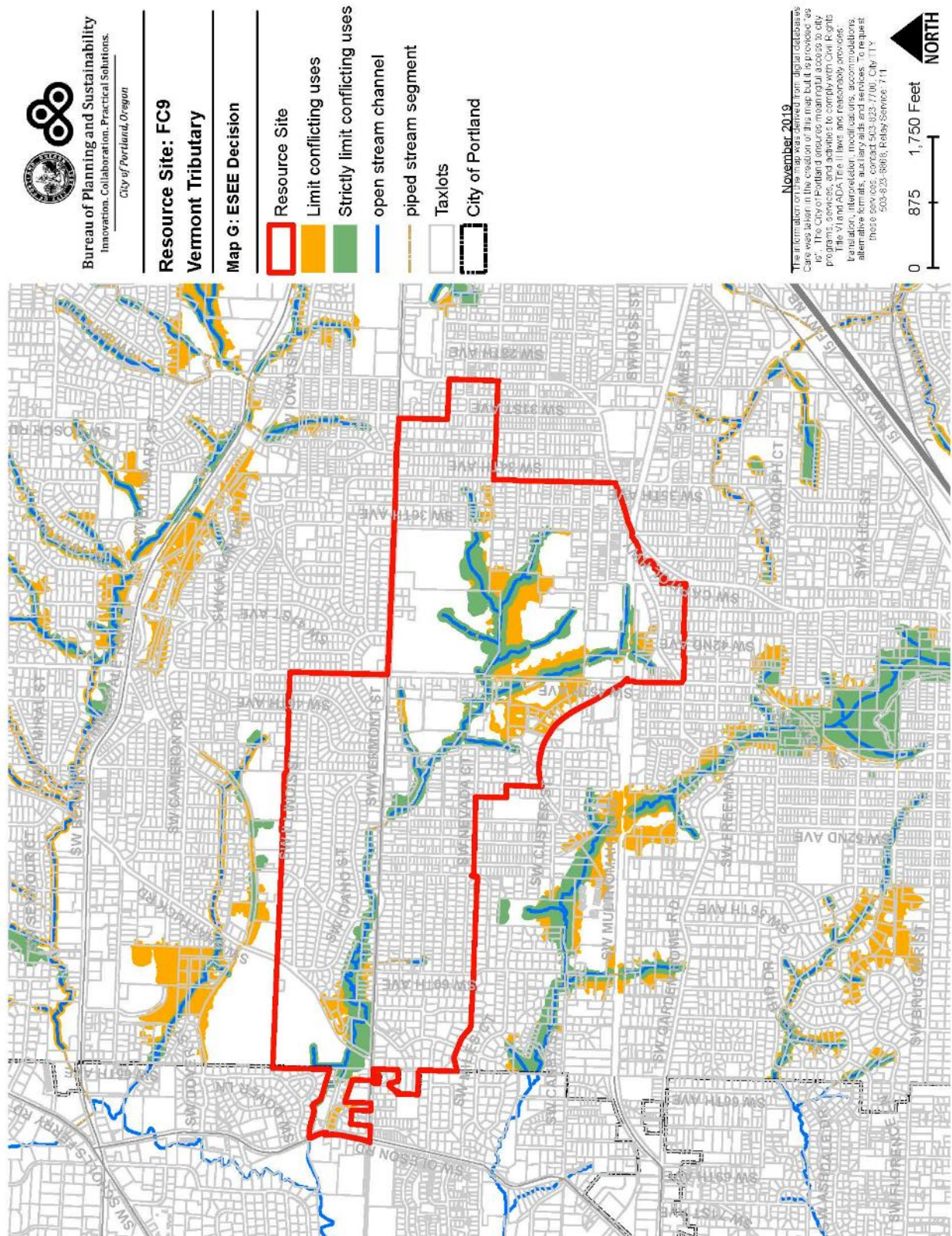






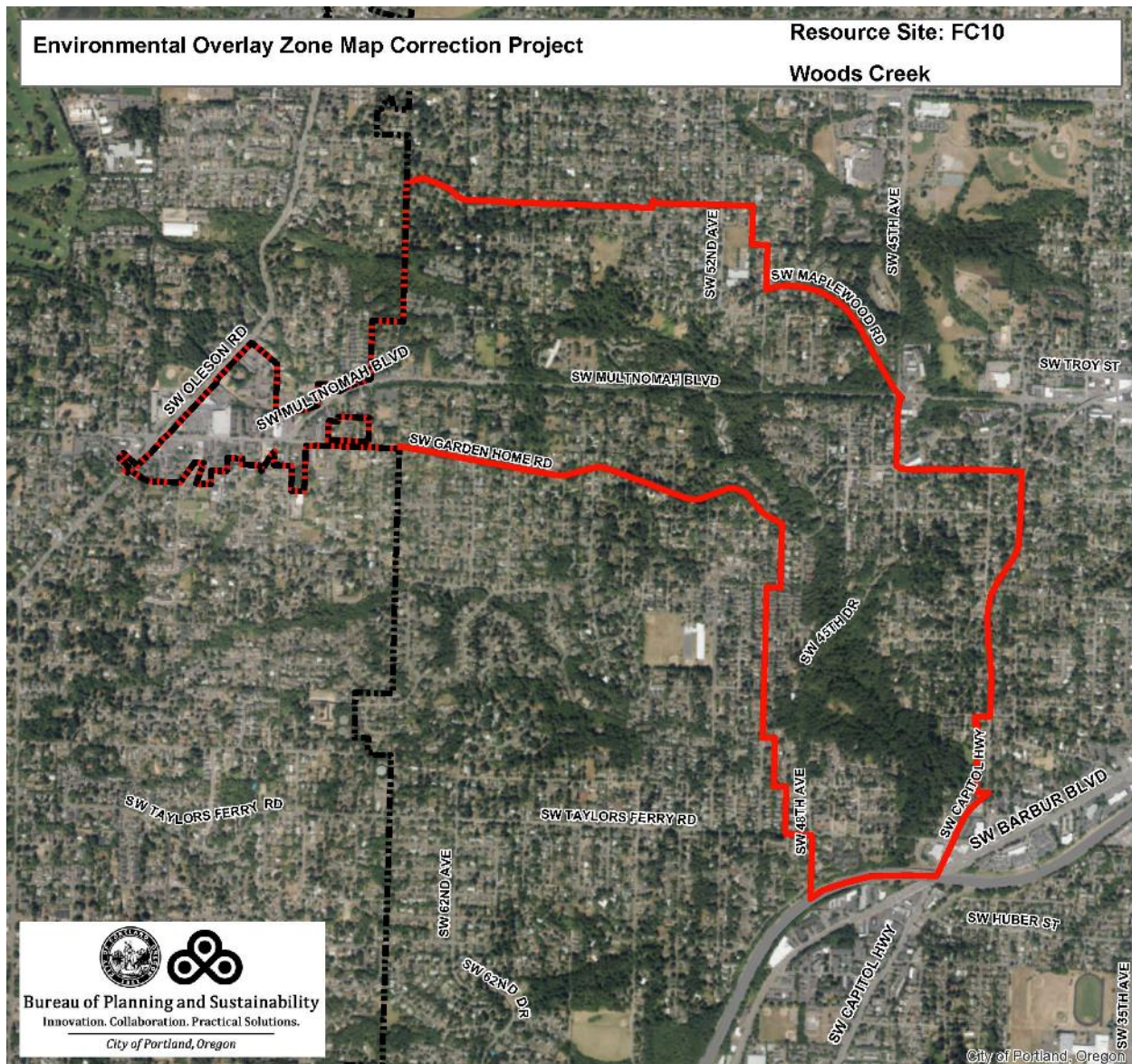






Resource Site No.: FC10 Resource Site Name: Woods Creek

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 128



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC10
		Study Area
Stream (Miles)		3.9
Wetlands (acres)		10.6
Vegetated Areas >= 1/2 acre (acres)		239.0
Forest (acres)		162.8
Woodland (acres)		56.4
Shrubland (acres)		1.8
Herbaceous (acres)		17.9
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		192.5
Impervious Surface (acres)		192.3
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC10				
Resource Site (acres) = 578.056114				
	High	Medium	Low	Total
Riparian Corridors*				
acres	71.1	43.0	64.6	178.7
percent total inventory site area	12.3%	7.4%	11.2%	30.9%
Wildlife Habitat*				
acres	0.0	133.1	30.9	164.0
percent total inventory site area	0.0%	23.0%	5.3%	28.4%
Special Habitat Areas**				
acres				31.9
percent total inventory site area				5.5%
Combined Total⁺				
acres	83.7	67.3	41.9	192.9
percent total inventory site area	14.5%	11.6%	7.2%	33.4%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC10 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10, R7, R5, and R2 base zones. Commercial uses are allowed in the CE, CM2 and CM2 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC10, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

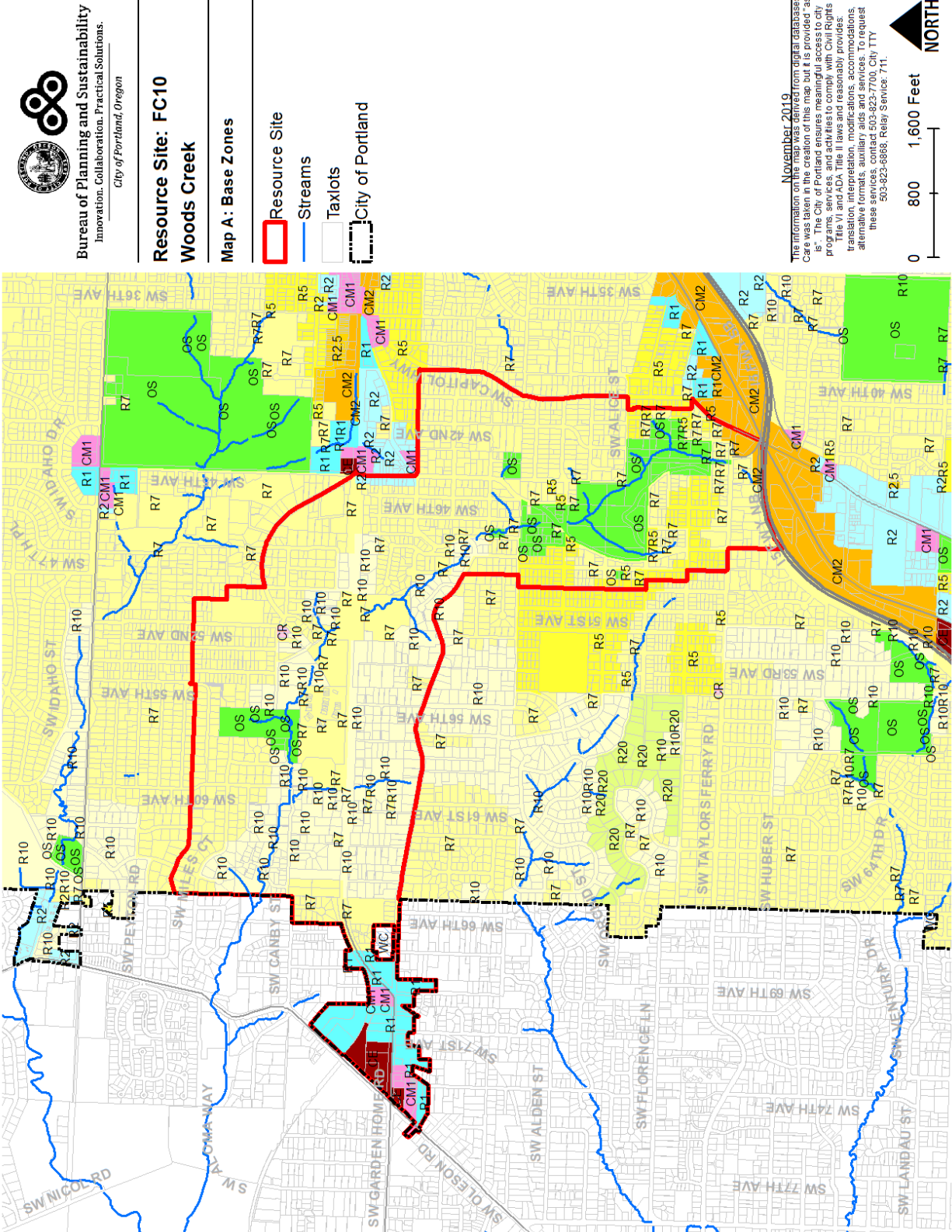
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

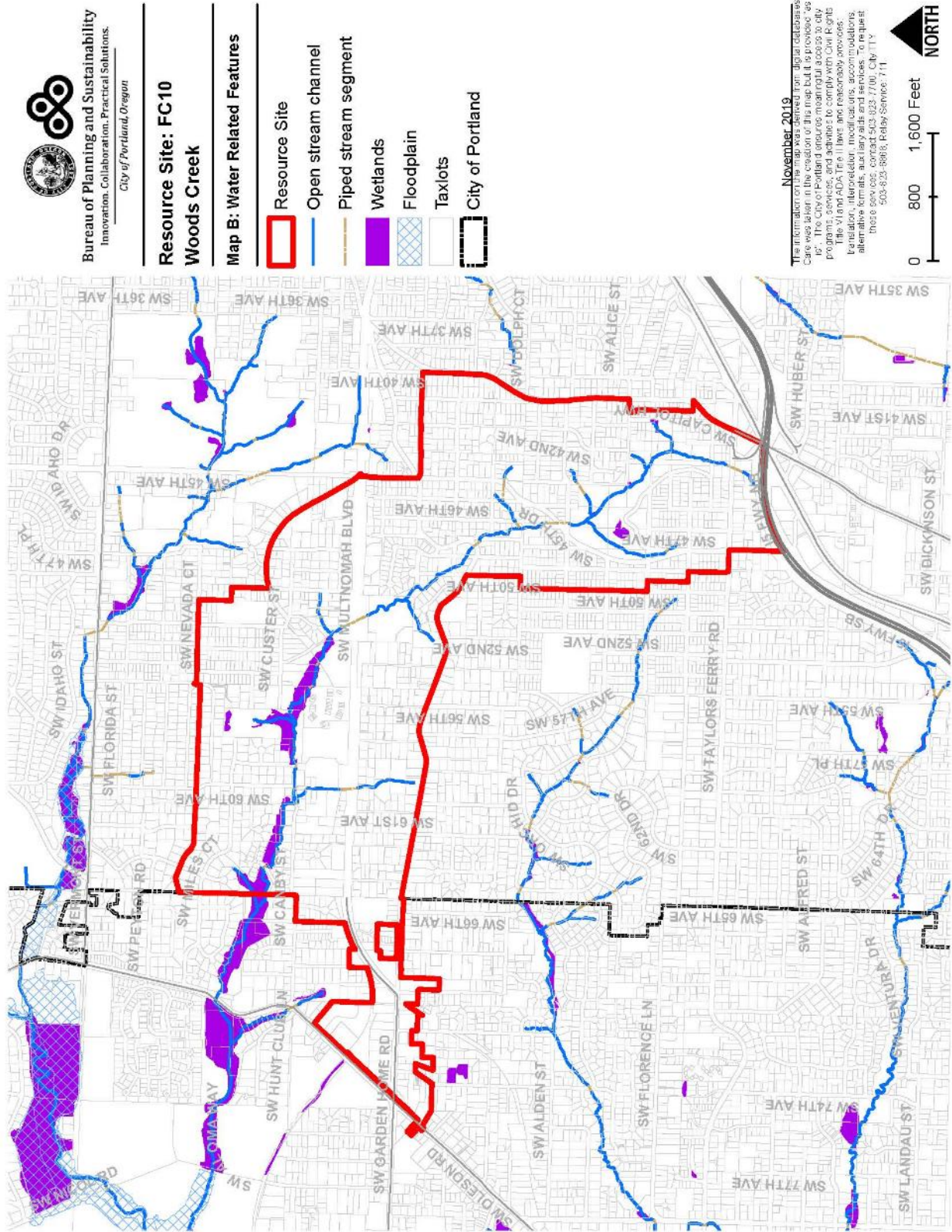
ESEE Decisions

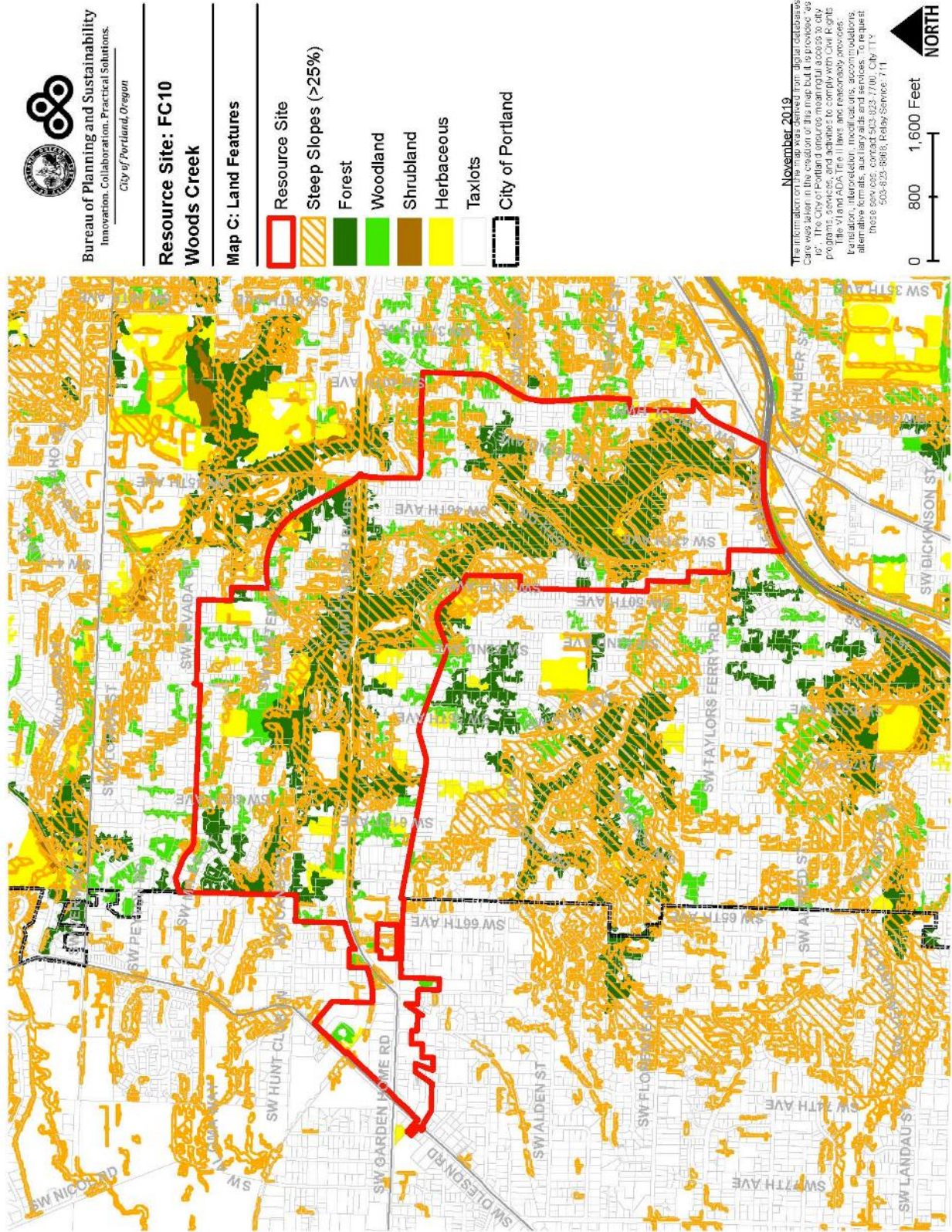
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC10 are:

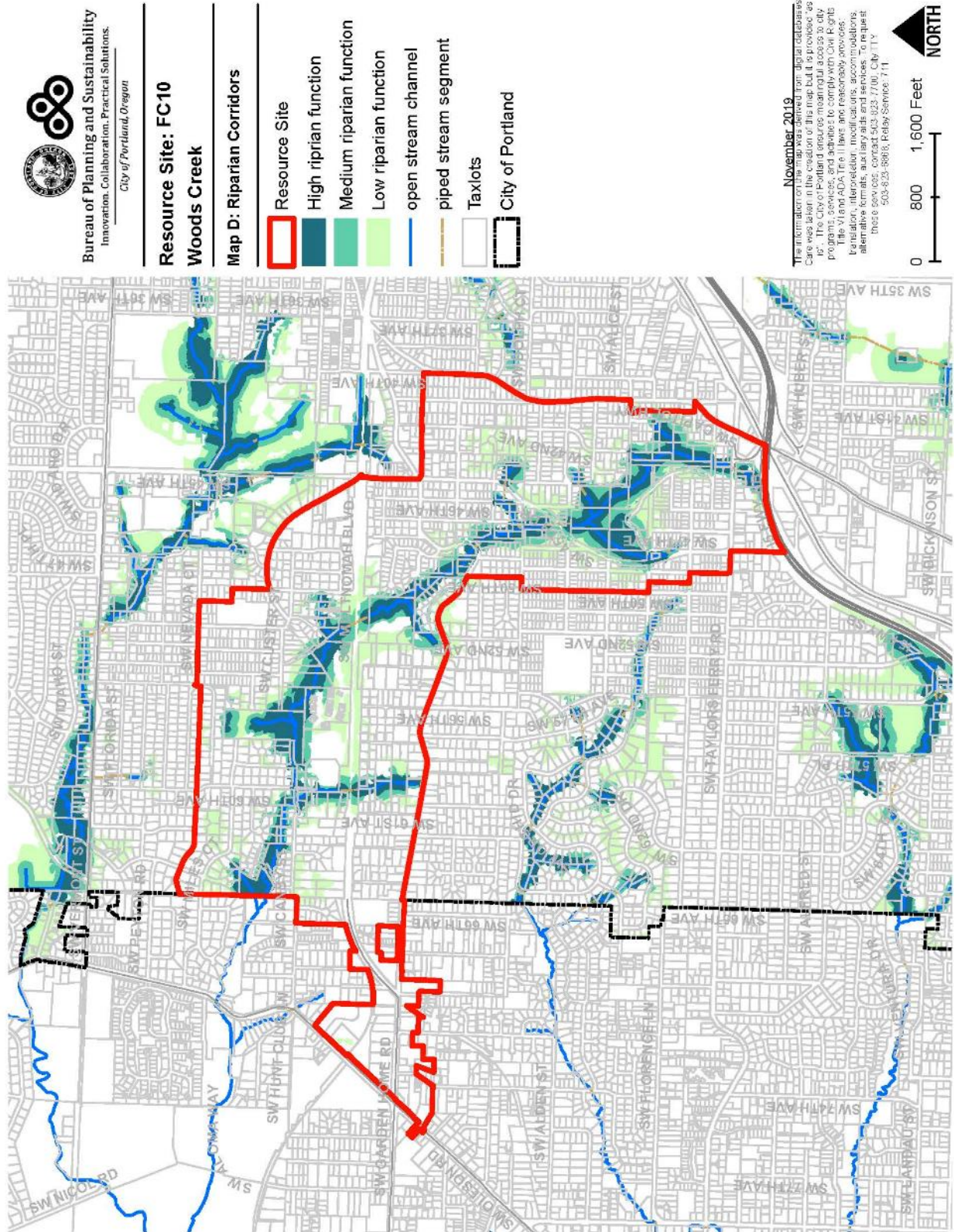
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands
2. Inside Woods Memorial Nature Area, *strictly limit* conflicting uses in areas of forest vegetation located on steep and non-steep slopes.
3. Outside Woods Memorial Nature Area, *strictly limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank extending to 100 feet from streams.
4. Outside Woods Memorial Nature Area, *limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 100 feet from stream top-of-bank and within areas of forest vegetation on steep slopes that are contiguous to but more than 100 feet from top-of-bank streams.
5. *Allow* conflicting uses within all other areas containing significant natural resources.

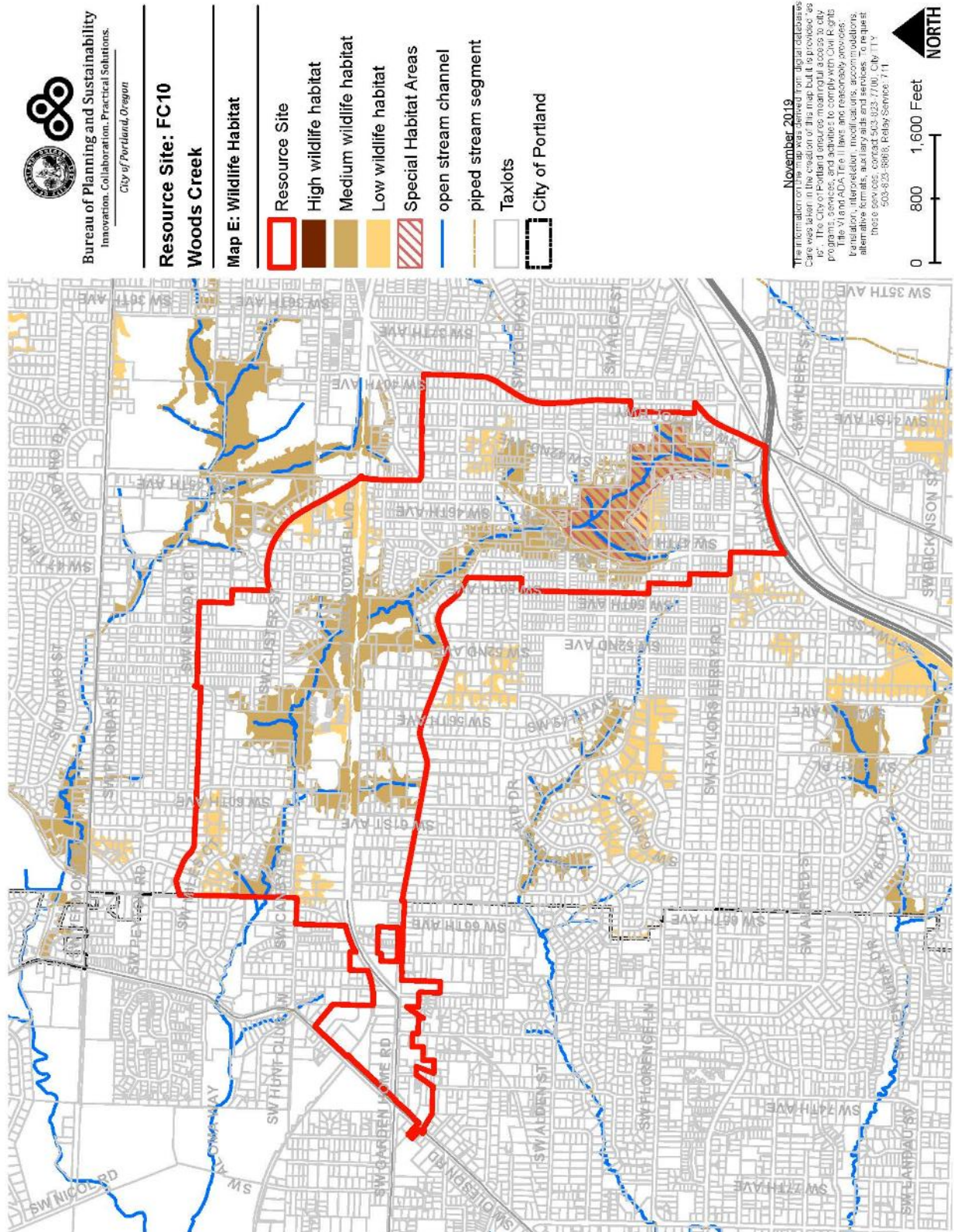
Table C: ESEE Decision for Resource Site FC10	
ESEE Decision	Acres
Strictly Limit	95.5
Limit	33.7
Allow	448.8

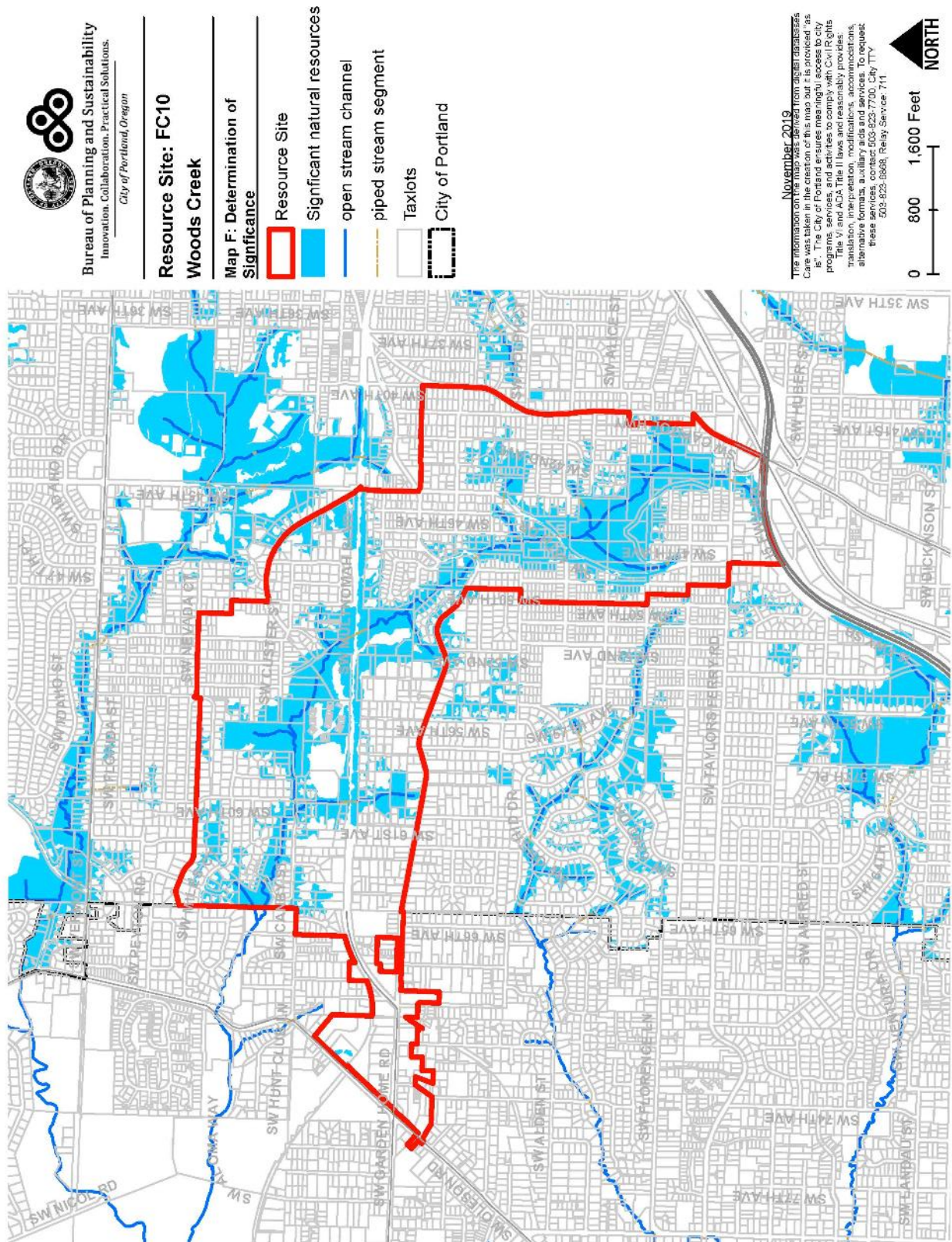


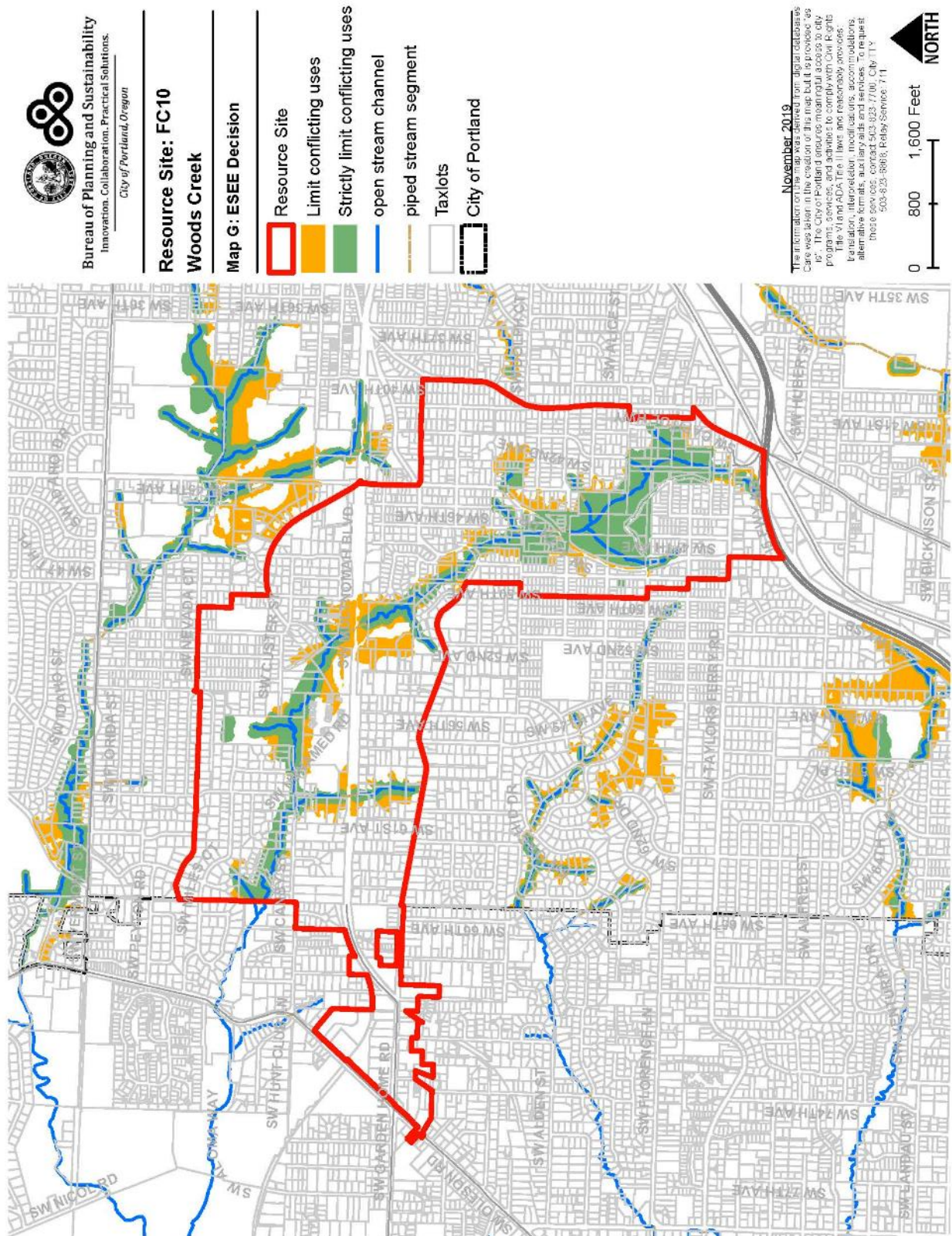






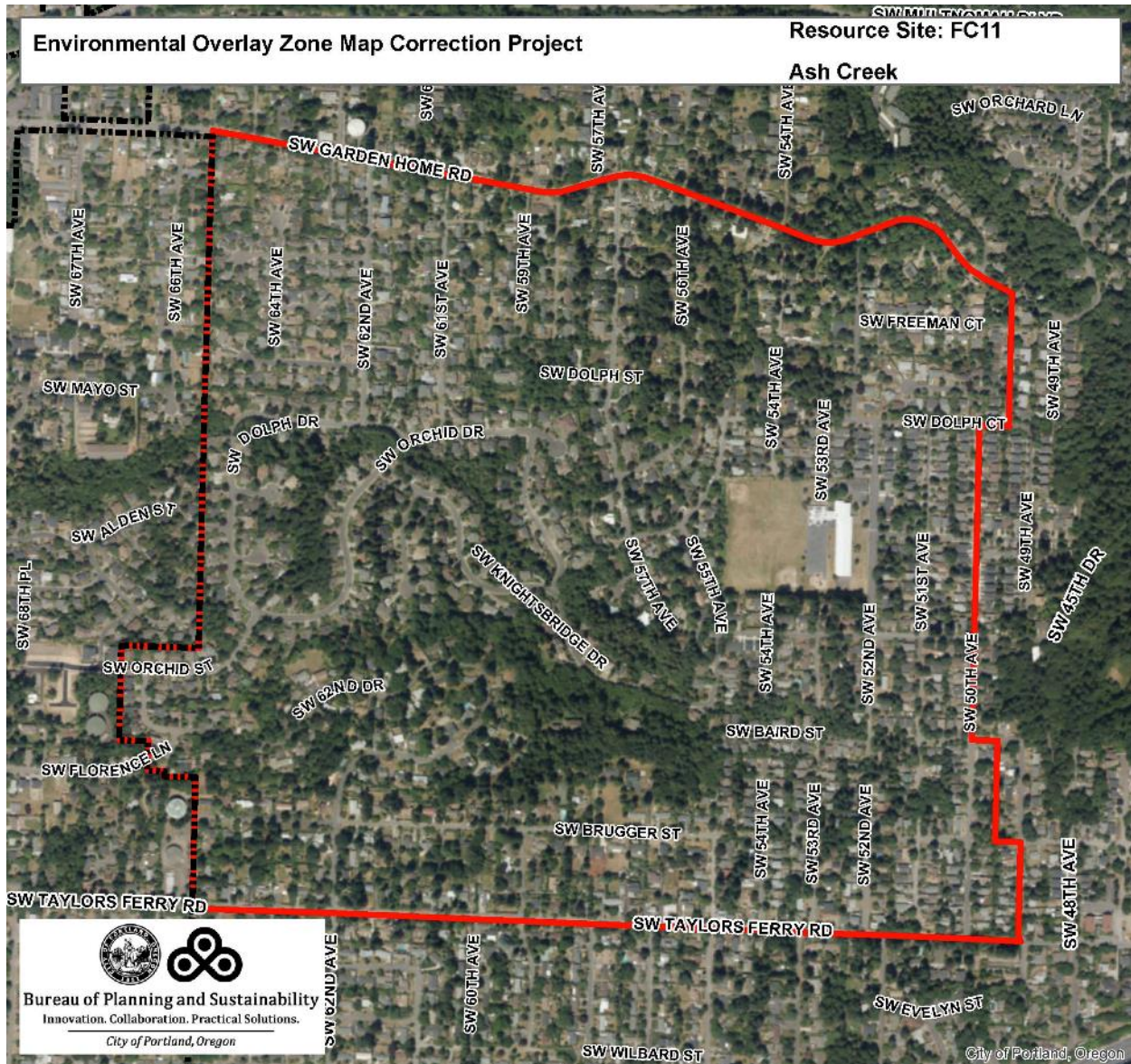






Resource Site No.: FC11 Resource Site Name: Ash Creek

Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 129



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC11
		Study Area
Stream (Miles)		6.4
Wetlands (acres)		0.8
Vegetated Areas >= 1/2 acre (acres)		92.8
Forest (acres)		58.0
Woodland (acres)		20.8
Shrubland (acres)		0.0
Herbaceous (acres)		14.1
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		119.5
Impervious Surface (acres)		115.0
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC11				
Resource Site (acres) = 345.527047				
	High	Medium	Low	Total
Riparian Corridors*				
acres	17.8	9.9	29.9	57.7
percent total inventory site area	5.2%	2.9%	8.7%	16.7%
Wildlife Habitat*				
acres	0.0	14.1	31.0	45.0
percent total inventory site area	0.0%	4.1%	9.0%	13.0%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	17.8	10.2	39.1	67.1
percent total inventory site area	5.2%	3.0%	11.3%	19.4%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC11 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R20, R10, R7 and R5 base zones. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC11, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and

air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

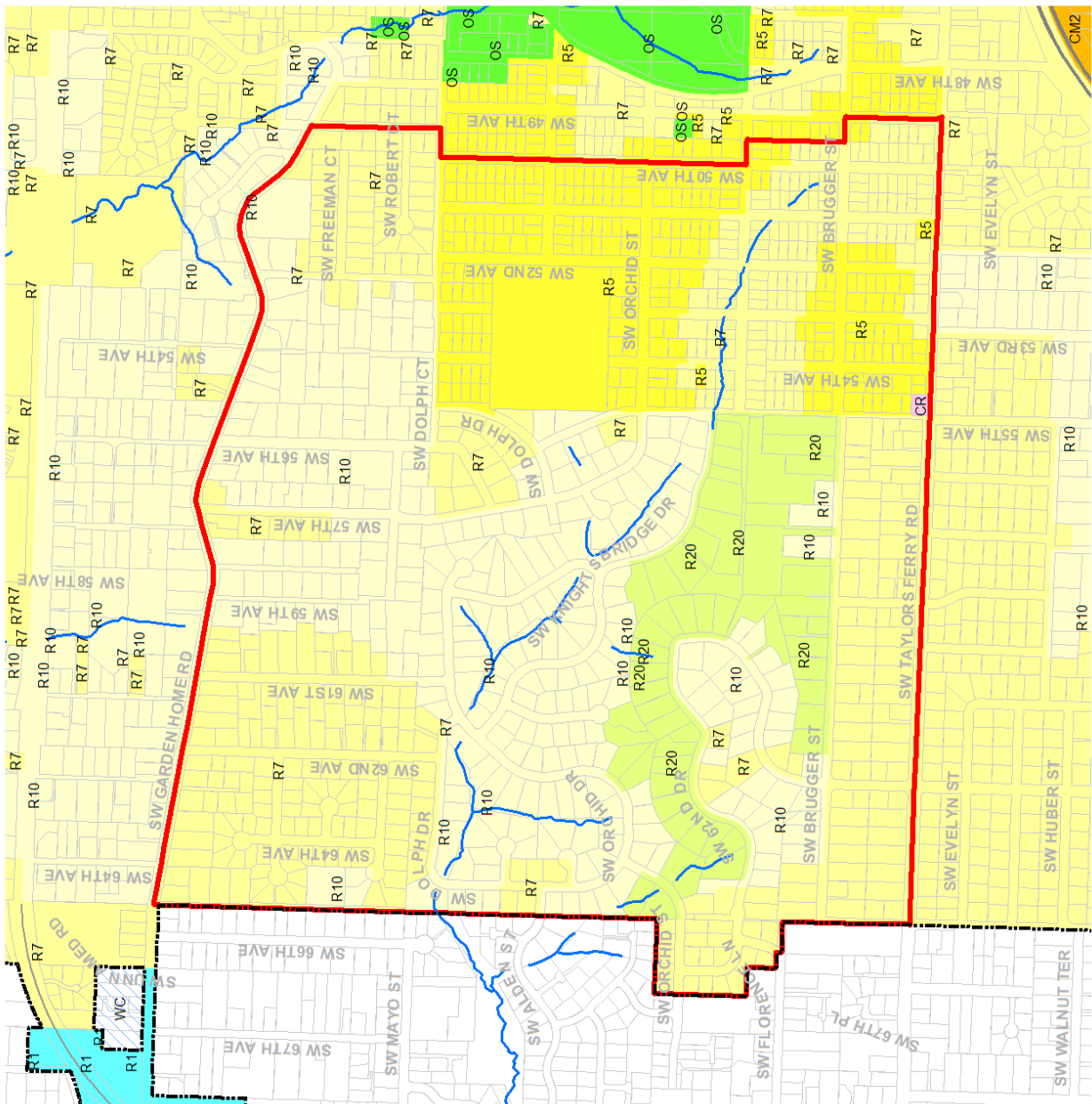
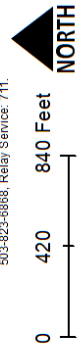
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

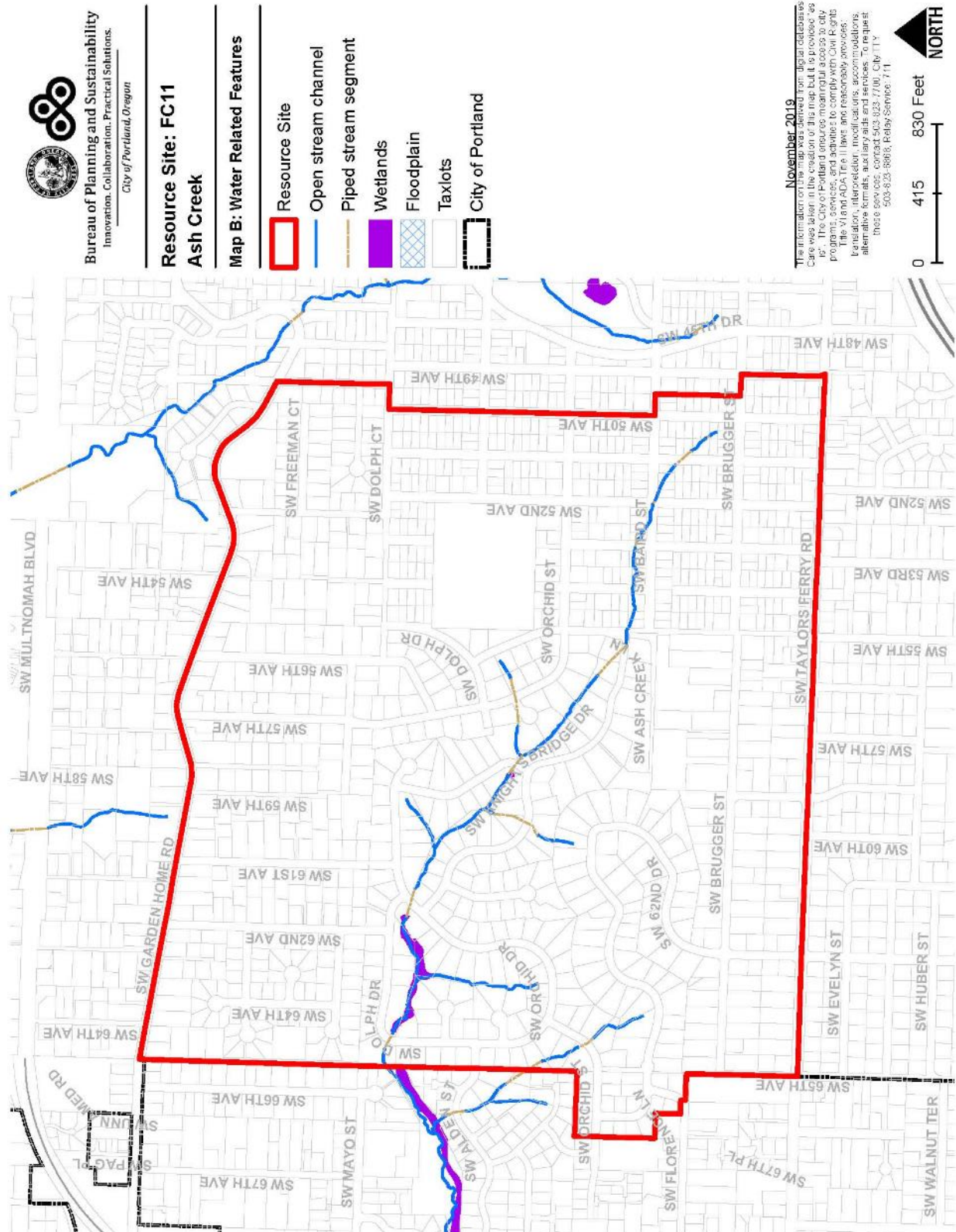
ESEE Decisions

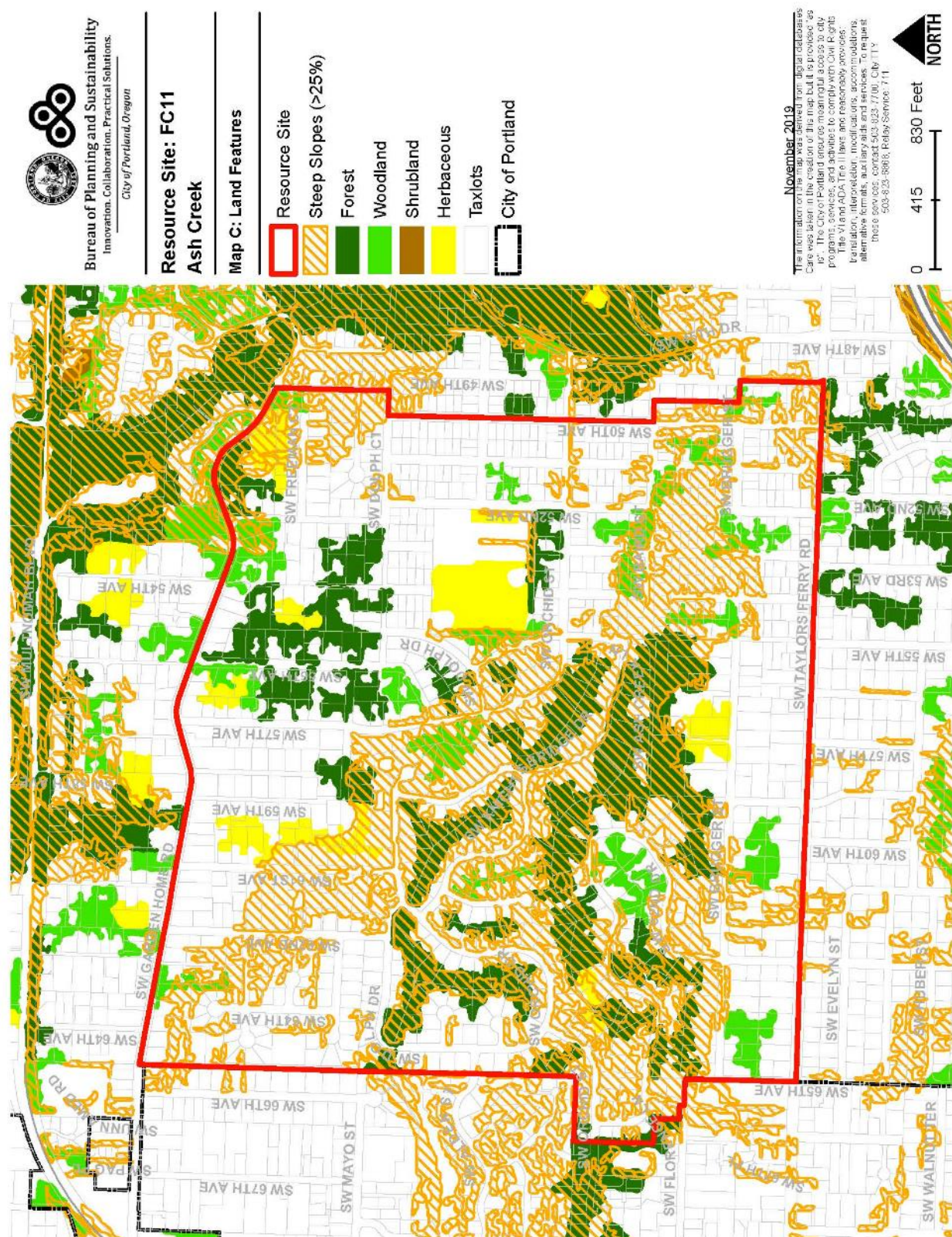
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC11 are:

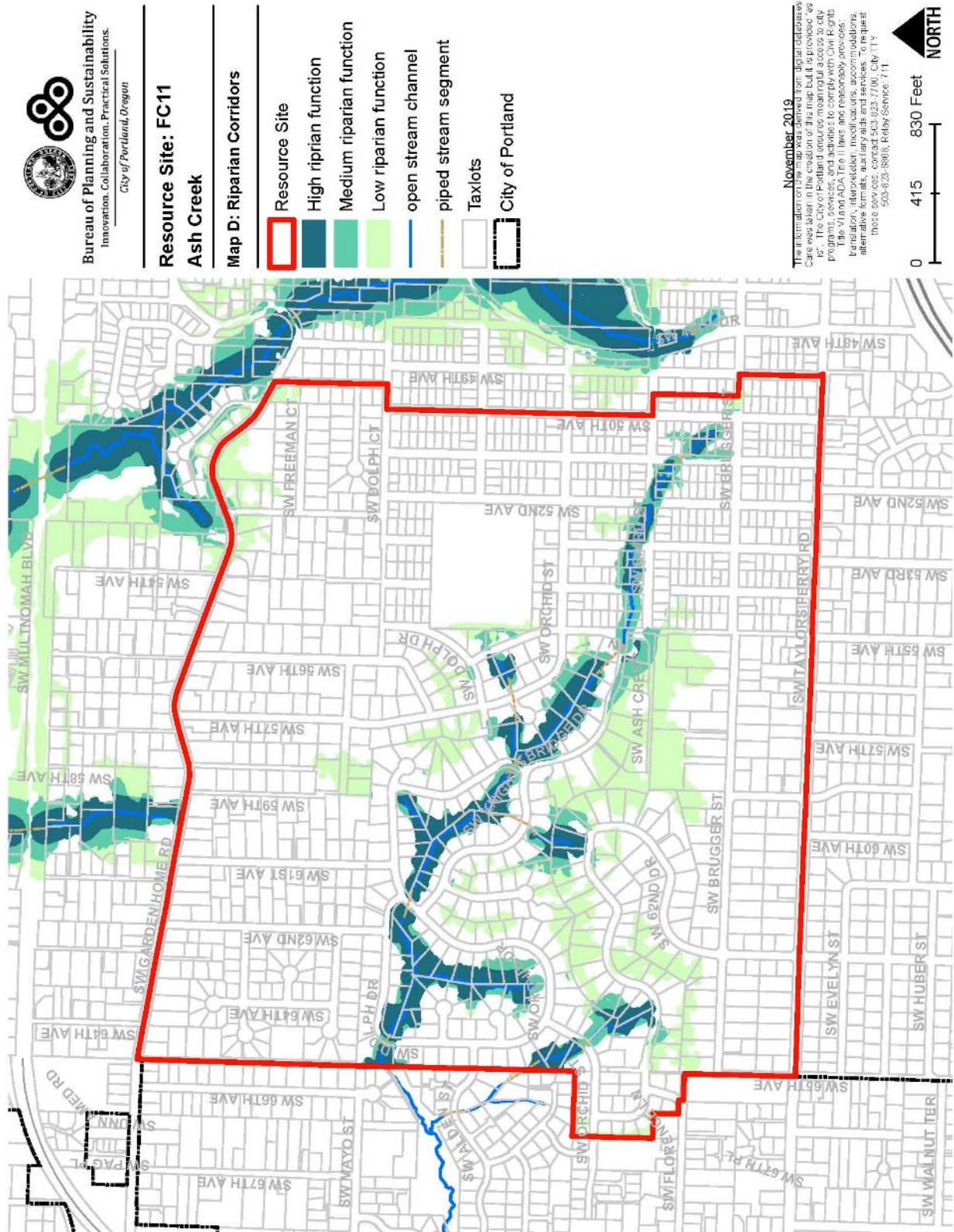
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank and within areas of forest on steep slopes that are contiguous to but more than 50 feet from stream top-of-bank.
3. *Allow* conflicting uses within all other areas containing significant natural resources.

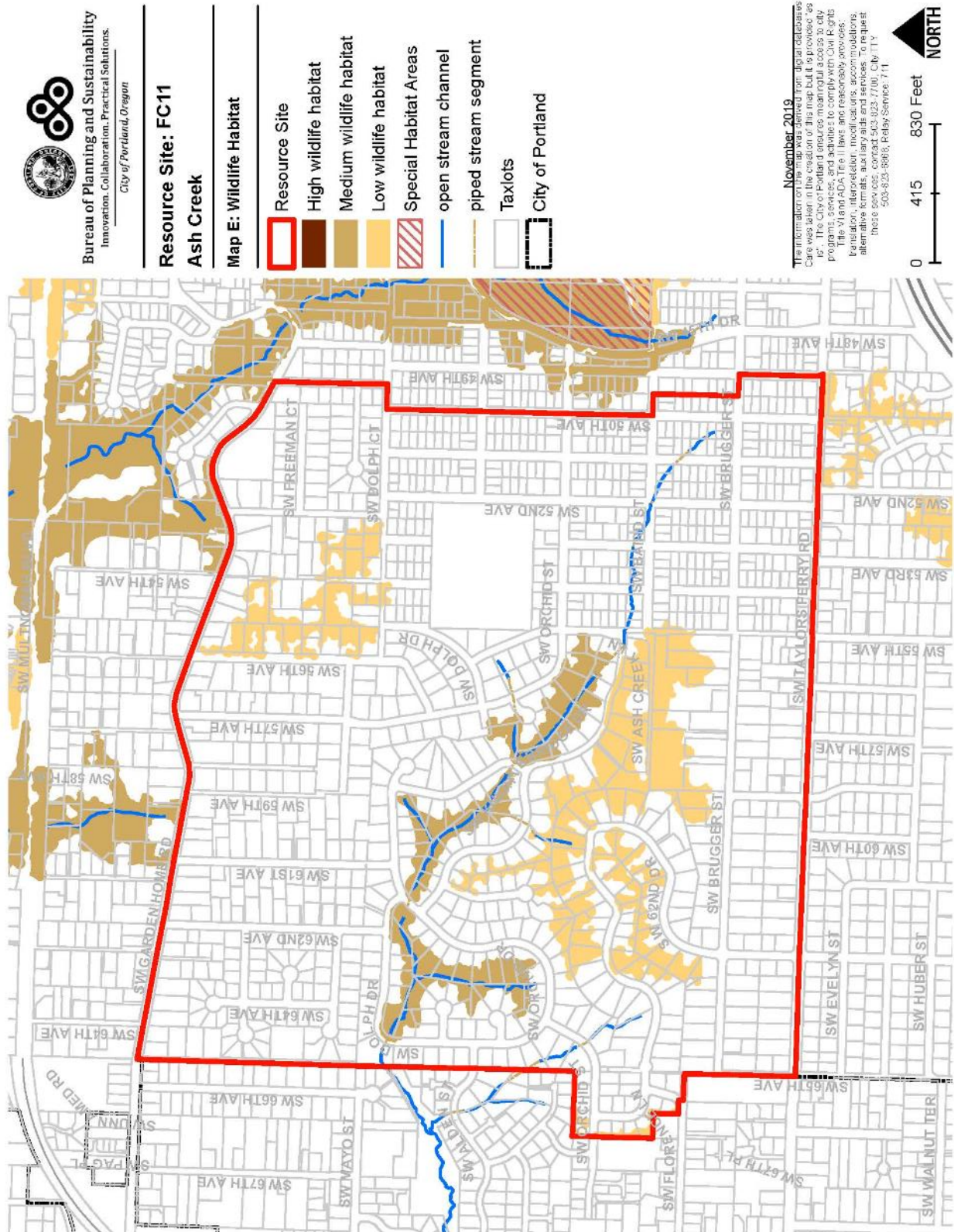
Table C: ESEE Decision for Resource Site FC11	
ESEE Decision	Acres
Strictly Limit	16.9
Limit	21.1
Allow	307.6

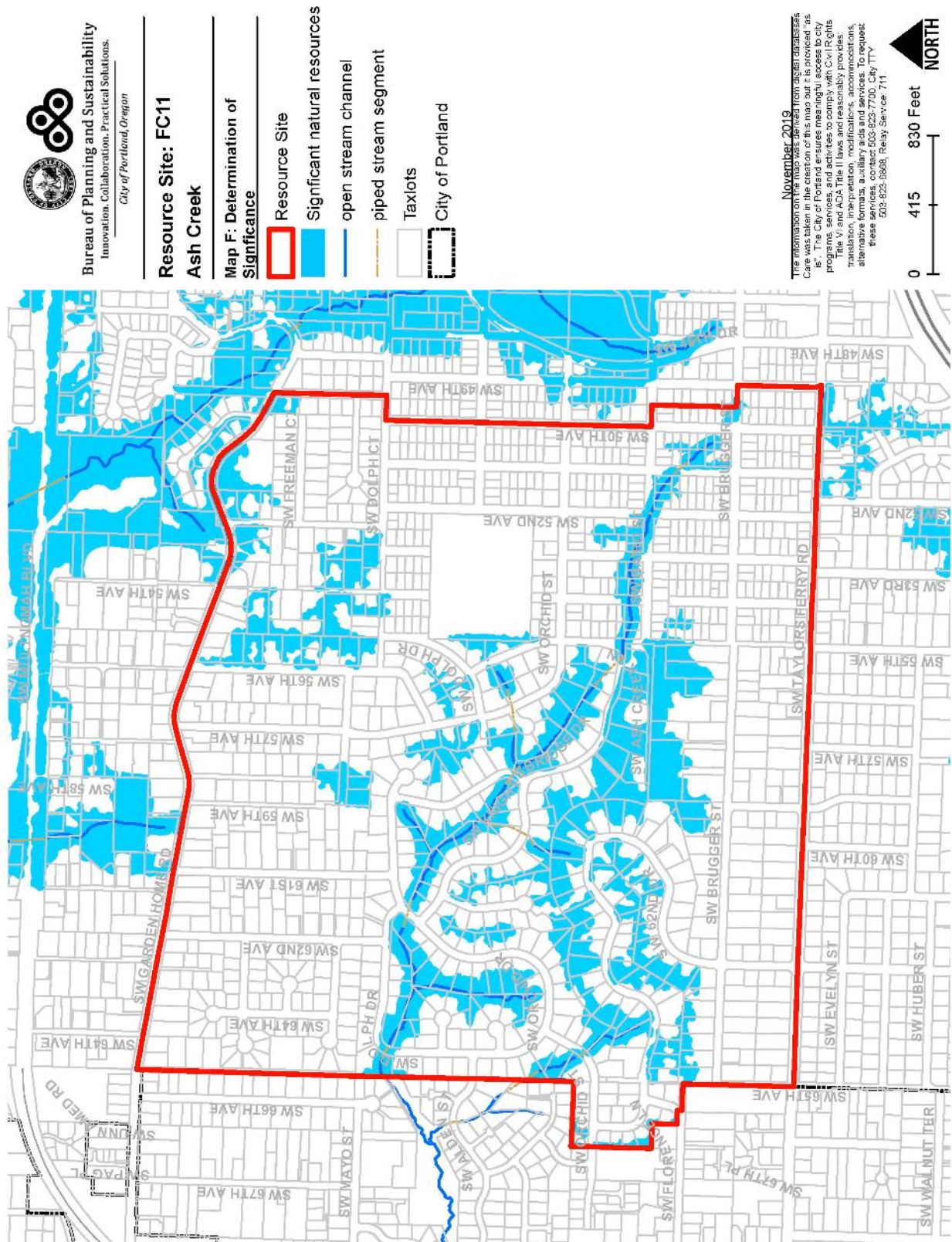


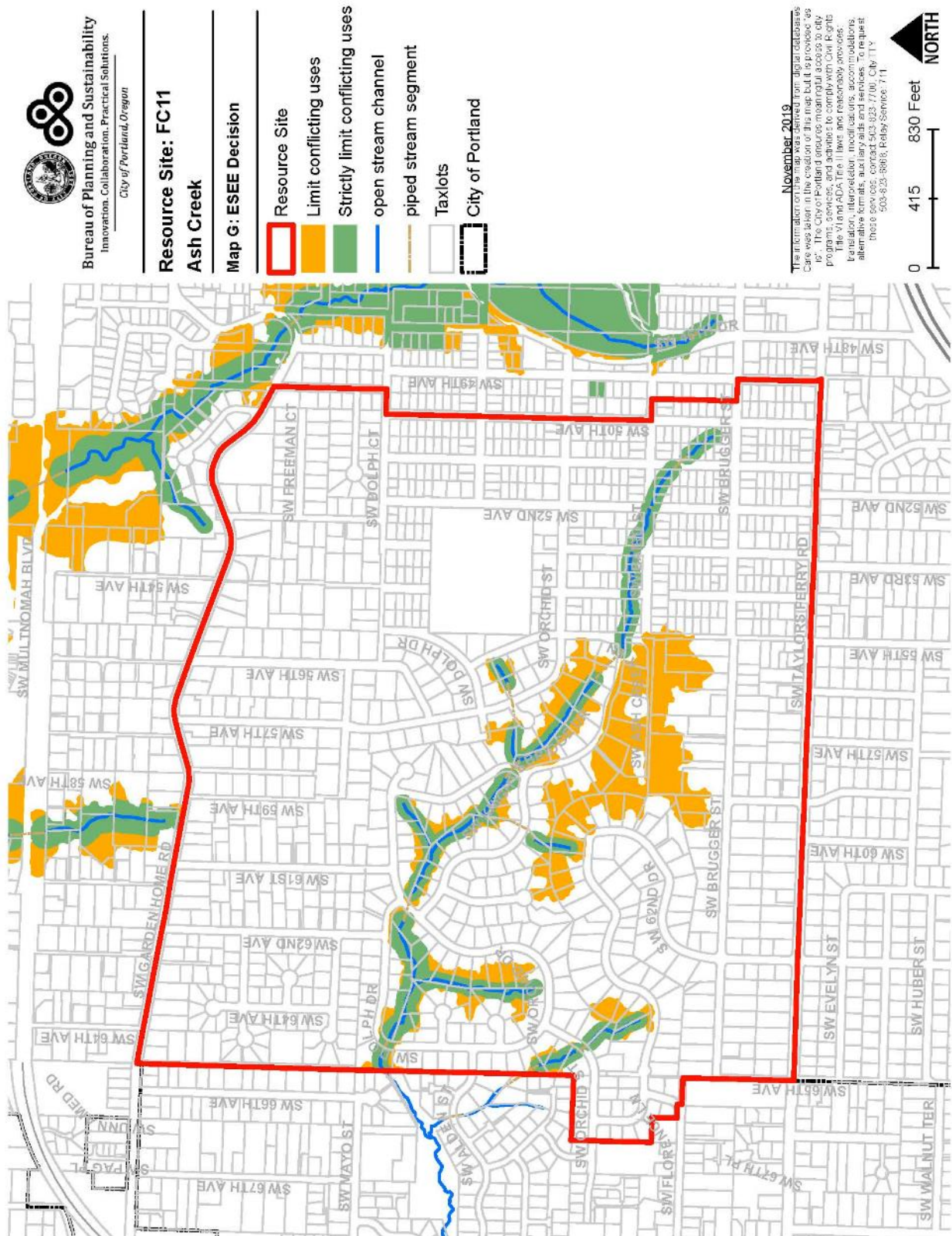




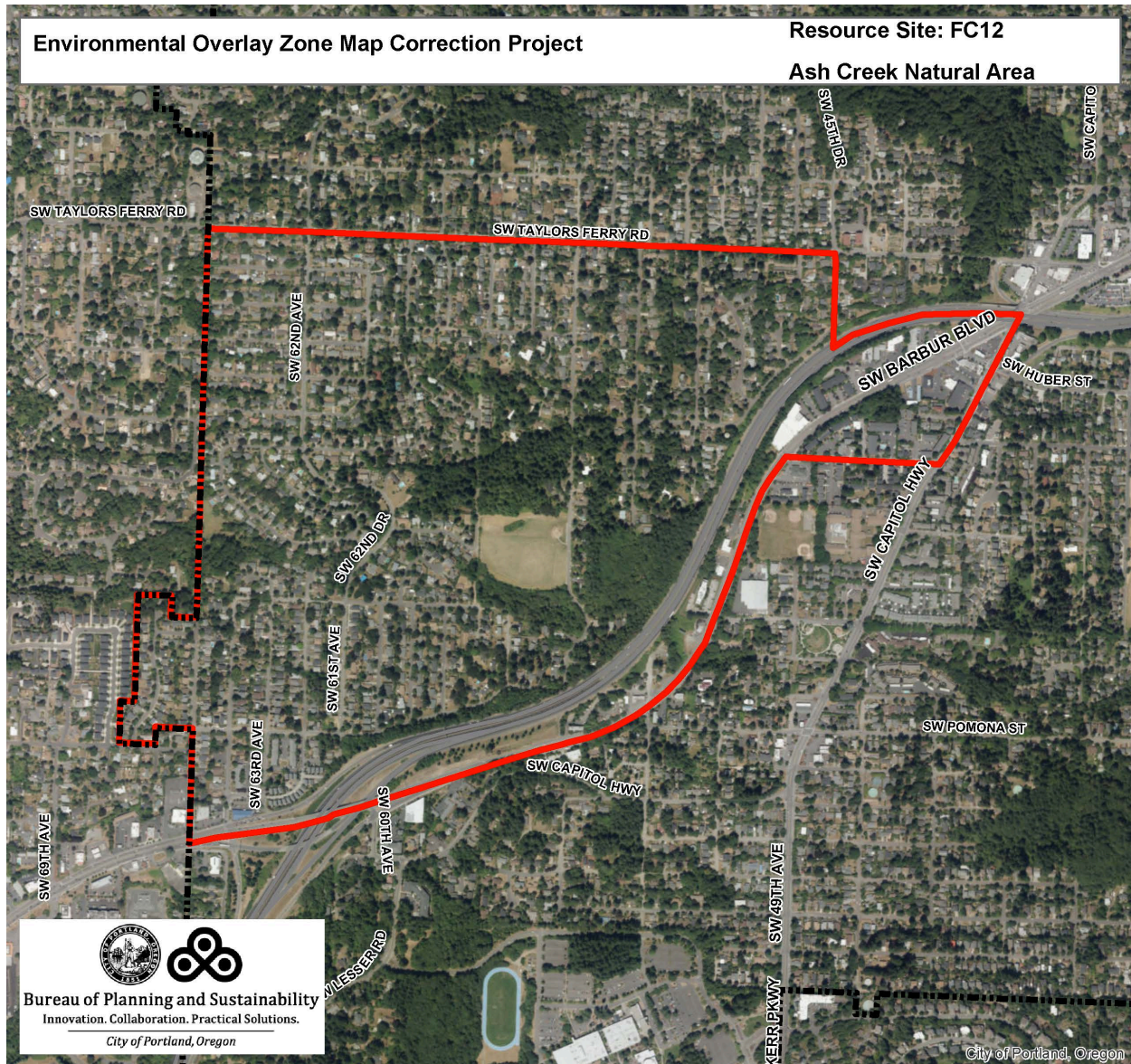








Resource Site No.: FC12 Resource Site Name: Ash Creek Natural Area
Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resources Site No.:** 130



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC12
		Study Area
Stream (Miles)		5.3
Wetlands (acres)		1.1
Vegetated Areas >= 1/2 acre (acres)		97.4
Forest (acres)		56.4
Woodland (acres)		26.9
Shrubland (acres)		1.9
Herbaceous (acres)		12.1
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		102.1
Impervious Surface (acres)		168.2
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC12				
Resource Site (acres) = 387.059195				
	High	Medium	Low	Total
Riparian Corridors*				
acres	23.3	14.2	26.2	63.7
percent total inventory site area	6.0%	3.7%	6.8%	16.5%
Wildlife Habitat*				
acres	0.0	20.7	26.6	47.3
percent total inventory site area	0.0%	5.4%	6.9%	12.2%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	23.3	16.0	30.9	70.3
percent total inventory site area	6.0%	4.1%	8.0%	18.2%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC12 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10, R7, and R2 base zones. Commercial uses are allowed in the CE, CM2 and CM1 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC12, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

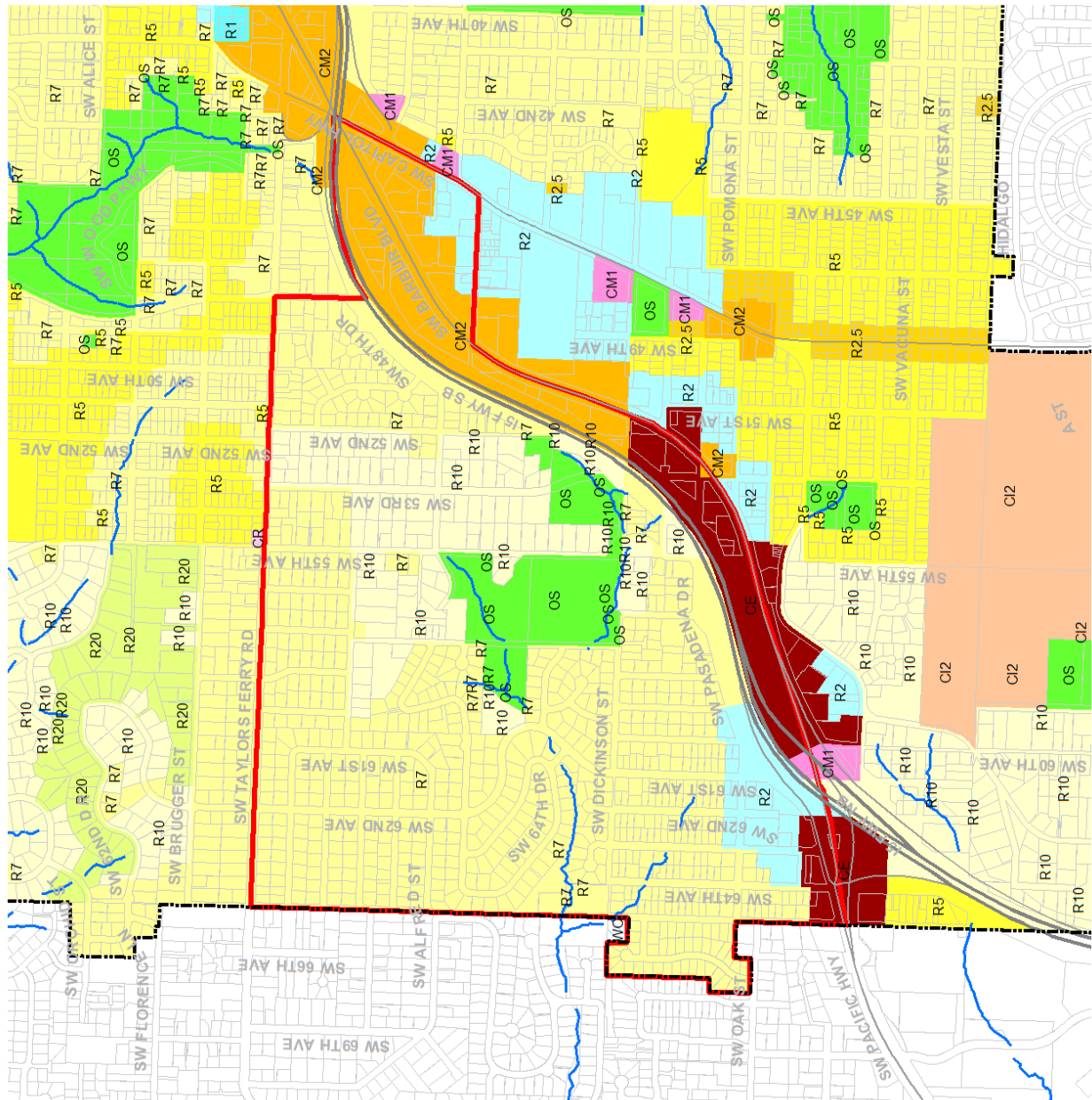
Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

ESEE Decisions

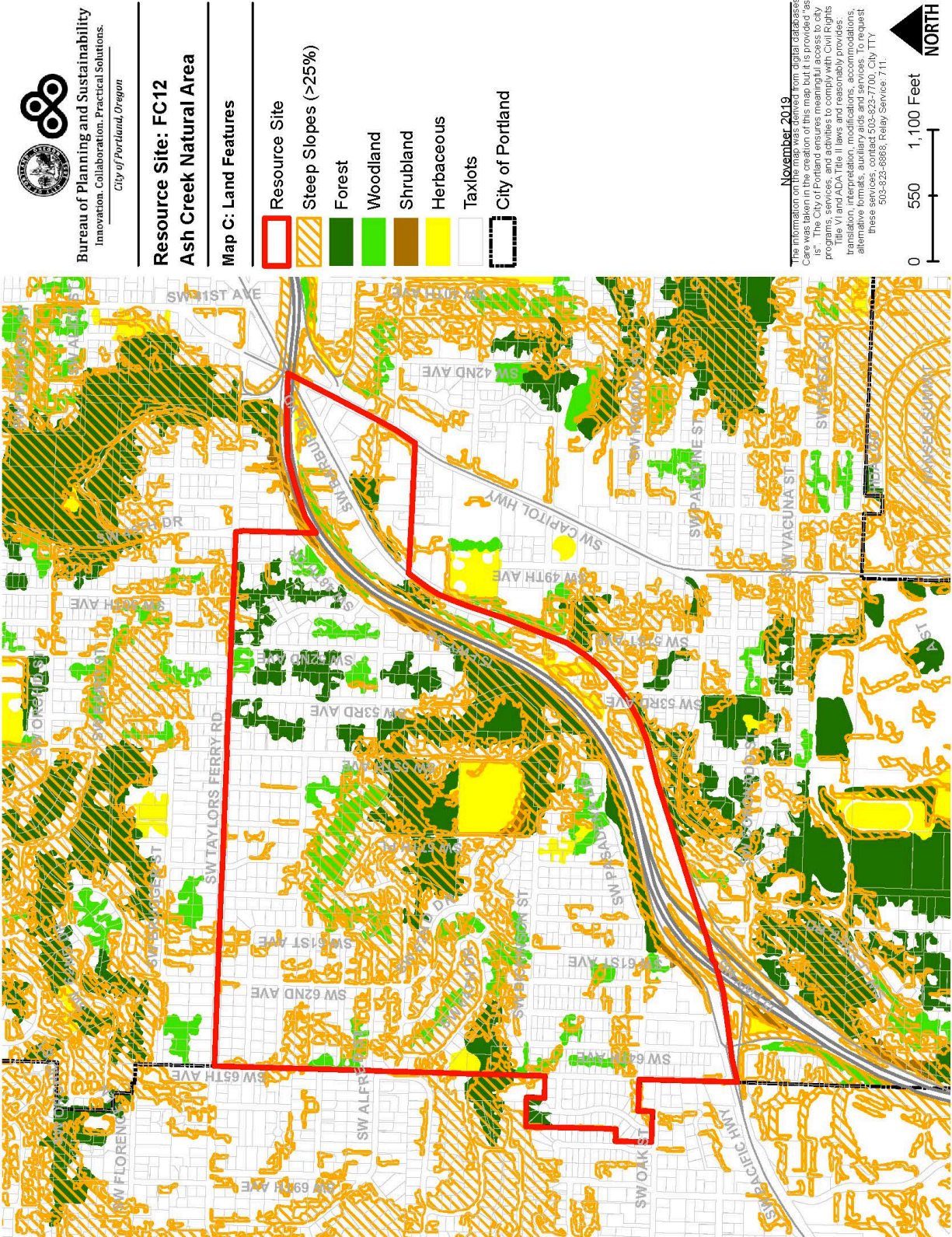
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC12 are:

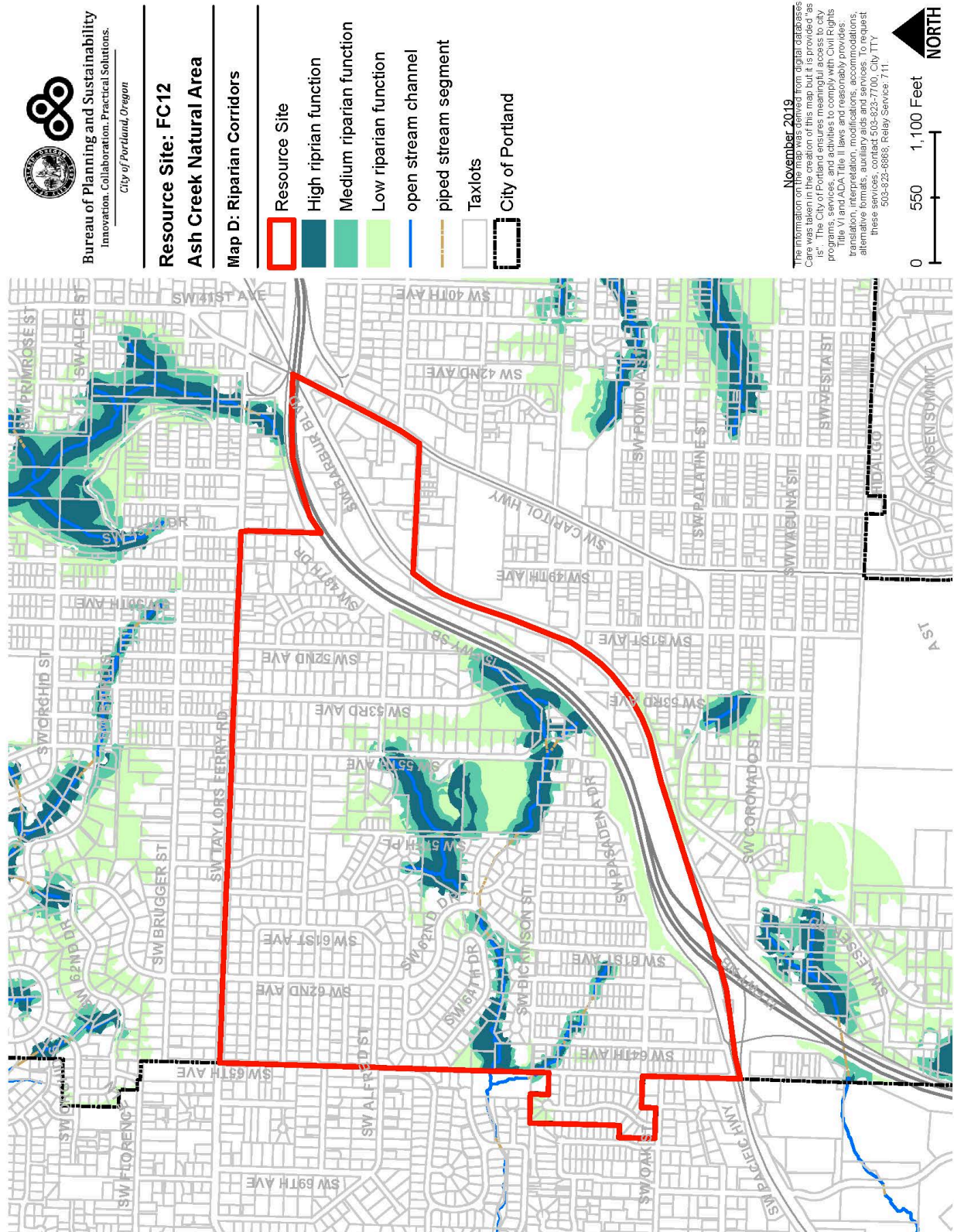
1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 50 feet of wetlands.
2. *Limit* conflicting uses in areas of forest vegetation that are contiguous to but more than 50 feet from stream top-of-bank and within areas of forest on steep slopes that are contiguous to but more than 50 feet from stream top-of-bank.
3. *Allow* conflicting uses within all other areas containing significant natural resources.

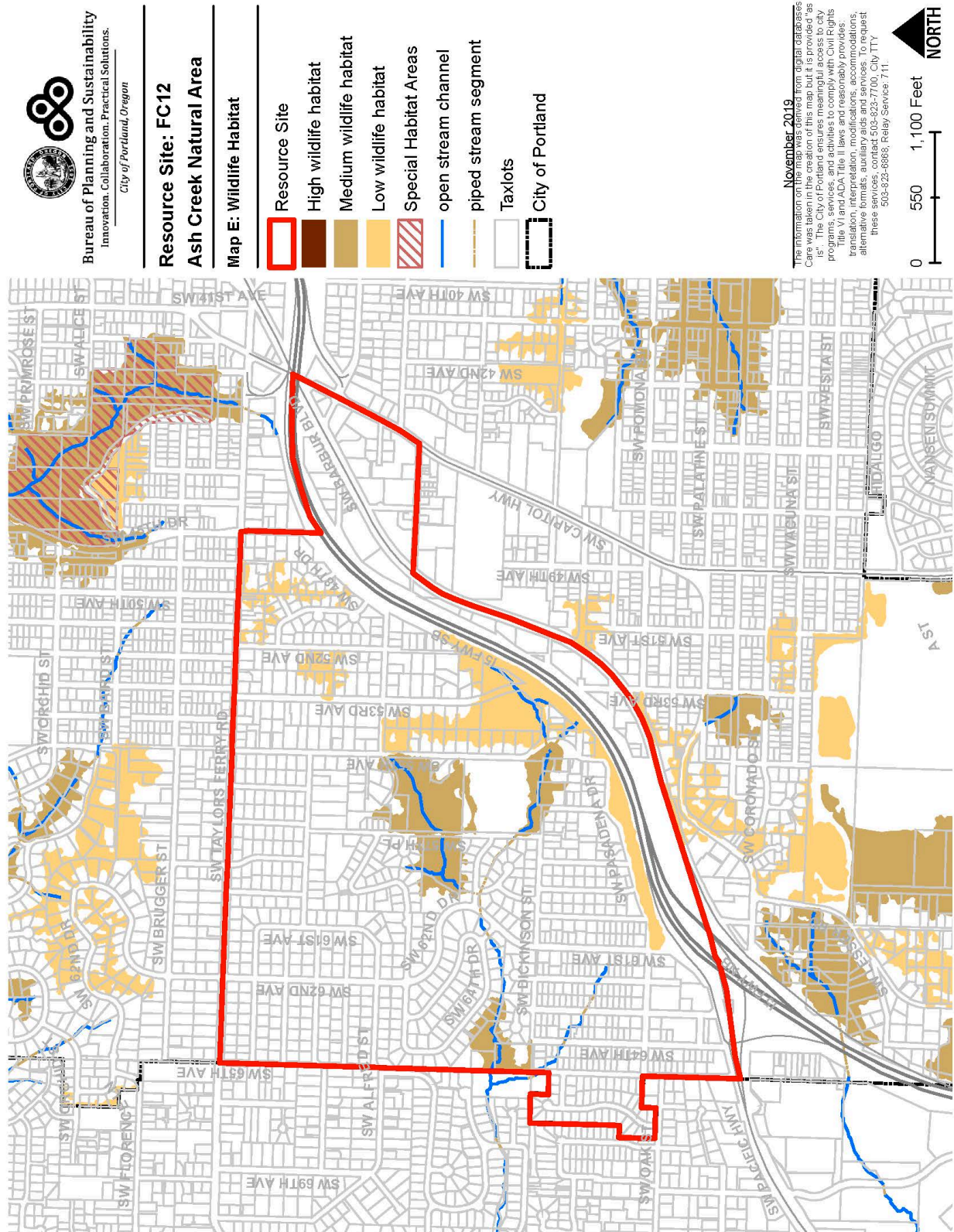
Table C: ESEE Decision for Resource Site FC12	
ESEE Decision	Acres
Strictly Limit	18.8
Limit	28.8
Allow	339.5

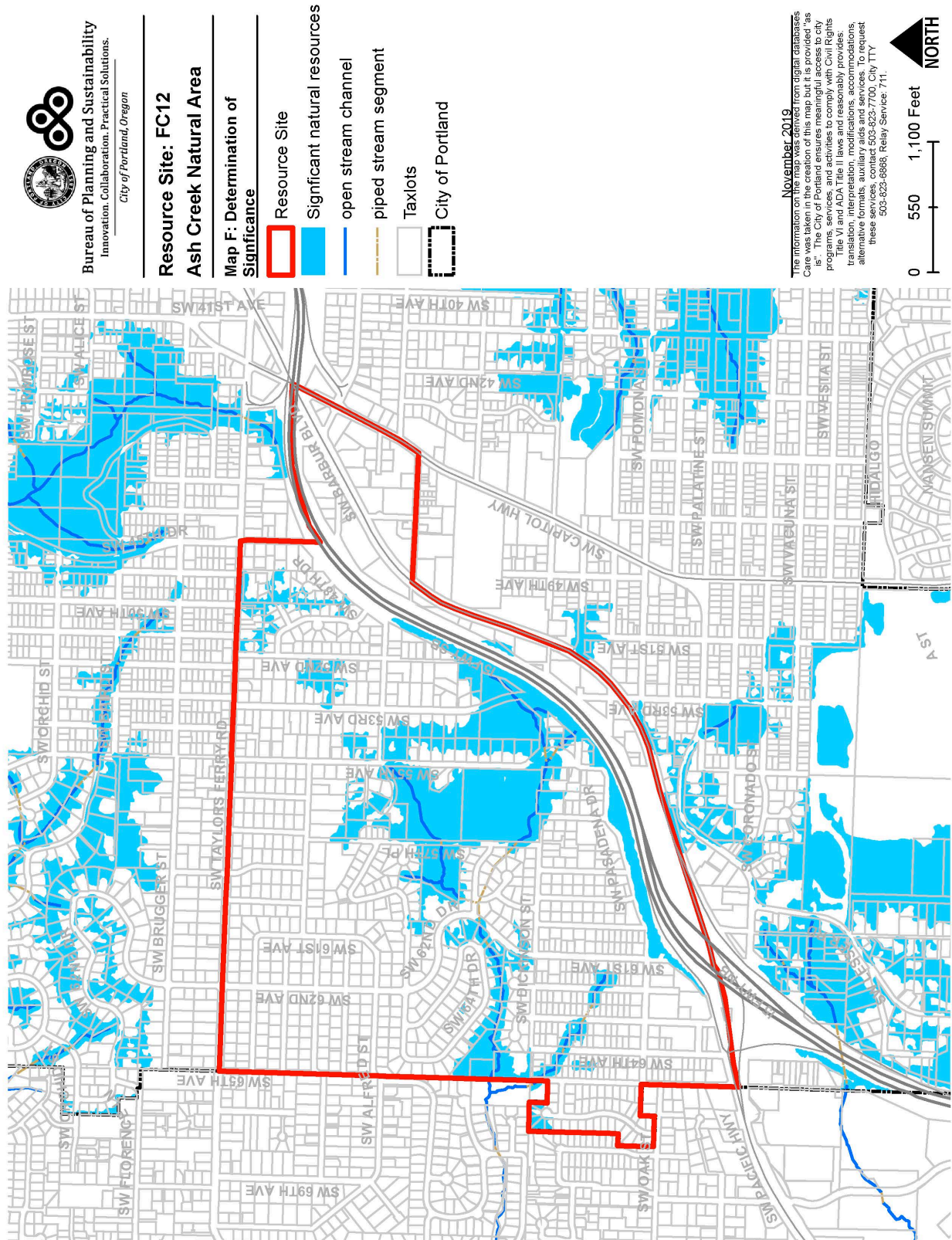


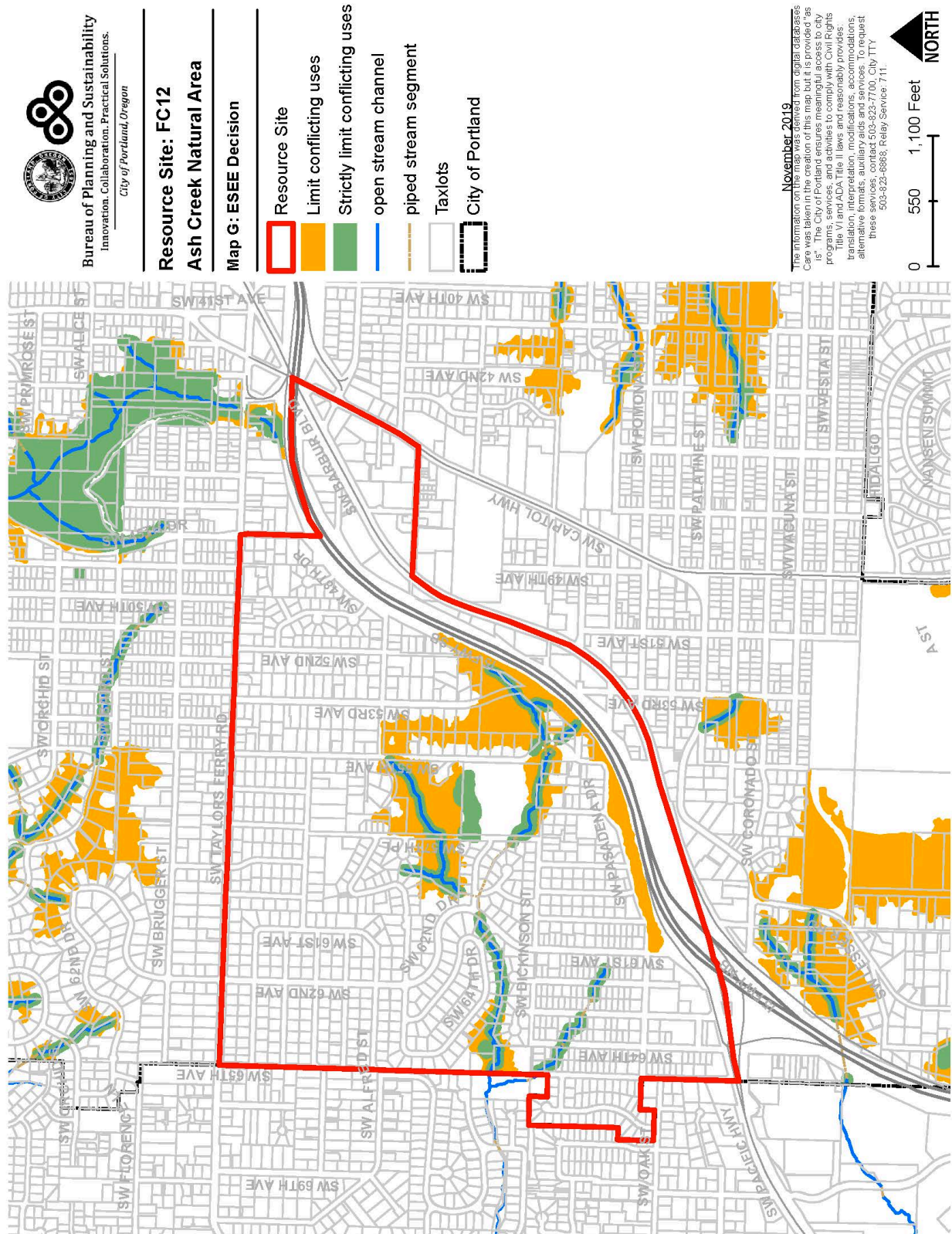




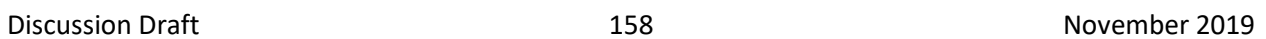








Previous Plan: Fanno Creek and Tributaries Conservation Plan **Previous Resource Site No.:** 131



Natural Resources Inventory

Table A: Quantity of Natural Resource Features in Resource Site		FC13
		Study Area
Stream (Miles)		4.4
Wetlands (acres)		0.5
Vegetated Areas >= 1/2 acre (acres)		153.4
Forest (acres)		114.2
Woodland (acres)		18.6
Shrubland (acres)		1.6
Herbaceous (acres)		19.1
Flood Area*		0.0
Vegetated (acres)		0.0
Non-vegetated (acres)		0.0
Steep Slopes (acres)**		111.7
Impervious Surface (acres)		134.3
* The flood area includes the FEMA 100-year flood plain plus the adjusted 1996 flood inundation area.		
**Slopes are derived from LiDAR. Steep slopes are area with a slope greater than 25%.		

Description to be included in the next draft.

Table B: Quality of Natural Resource Functions in Resource Site FC13				
Resource Site (acres) = 431.364792				
	High	Medium	Low	Total
Riparian Corridors*				
acres	14.2	11.6	49.6	75.4
percent total inventory site area	3.3%	2.7%	11.5%	17.5%
Wildlife Habitat*				
acres	0.0	70.8	34.0	104.8
percent total inventory site area	0.0%	16.4%	7.9%	24.3%
Special Habitat Areas**				
acres				0.0
percent total inventory site area				0.0%
Combined Total⁺				
acres	14.2	59.2	37.4	110.8
percent total inventory site area	3.3%	13.7%	8.7%	25.7%
<p>* High-ranked riparian resources, Special Habitat Areas, and wildlife habitat include open water.</p> <p>** Special Habitat Areas rank high for wildlife habitat.</p> <p>+Because riparian resources, Special Habitat Areas, and wildlife Habitat overlap, the results cannot be added together to determine the combined results.</p>				

Determination of Significance

Natural resource features mapped in the resource site that provide functions identified in the Natural Resources Inventory are determined to be significant (Map F). Within resource site FC13 the following significant features and functions are present:

Significant Natural Resource Features: open stream; wetlands; forest vegetation within 300 feet of waterbodies; forest vegetation on steep slopes (>25% slope) contiguous to and within 780 feet of waterbodies; developed land within 50 feet of waterbodies; forest patches and associated and contiguous woodland patches two acres in size or larger; and Special Habitat Areas.

Significant Riparian Corridor Functions: microclimate and shade; stream flow moderation and water storage; bank function and sediment, pollution and nutrient control; large wood and channel dynamics; organic inputs, food web and nutrient cycling; and riparian wildlife movement corridor.

Significant Wildlife Habitat Functions: interior area; food and water; resting, denning, nesting and rearing; movement and migration; and reduction of noise, light and vibration.

Resource Site Specific ESEE

The General ESEE analysis, Volume 2, describes the conflicting uses and provides an overarching analysis of the economic, social, environmental and energy consequences of prohibiting, limiting or allowing the conflicting uses within areas of significant natural resources. In addition to the General ESEE analysis, the following resource site-specific consequences are considered.

Conflicting Uses

The common impact of conflicting uses in the resource site include clearing vegetation; grading activities and soil compaction; add impervious surface; modifying streams and floodplains; generating pollution; landscaping with non-native or invasive vegetation; building fences or other wildlife barriers; and other impacts such as noise, light, litter and pets.

Within the resource site residential uses are allowed outright or conditionally in the R10, R5, R2.5 and R2 base zones. Commercial uses are allowed in the CE, CI2, CM2 and CM1 base zone. Open space uses are allowed in the OS base zone. Development of new uses may involve vegetation clearing, grading, filing, and soil compaction, as well as the addition of impervious surfaces and landscaping with non-native plants, with associated impacts on the natural resources. Basic utilities and other infrastructure are allowed in all base zones. New or upgraded utility corridors may be cleared of vegetation and may fragment wildlife habitat.

ESEE Analysis

The analysis of economic, social, environmental and energy consequences provided in Volume 2 is confirmed for resource site FC13, with the following additional information that clarifies the analysis.

Strictly limiting or limiting conflicting uses generally would retain the riparian corridor and wildlife habitat functions of the significant natural resource features including maintaining habitat for at risk species, maintaining the flow moderation, water quality and flood control functions of streams and

wetlands, maintaining vegetation on steep slopes, and maintaining the stormwater management and air-cooling functions of the tree canopy. Mitigation for negative consequences of additional development in areas of high or medium ranked natural resources should be required. New or expanded development should be setback from a minimum distance streams and wetlands.

Steep slopes are susceptible to erosion and landslides. Development should be clustered away from steep slopes and trees and vegetation should be maintained to reduce the landslide risks. New or expanded development on steep slopes should be *limited*.

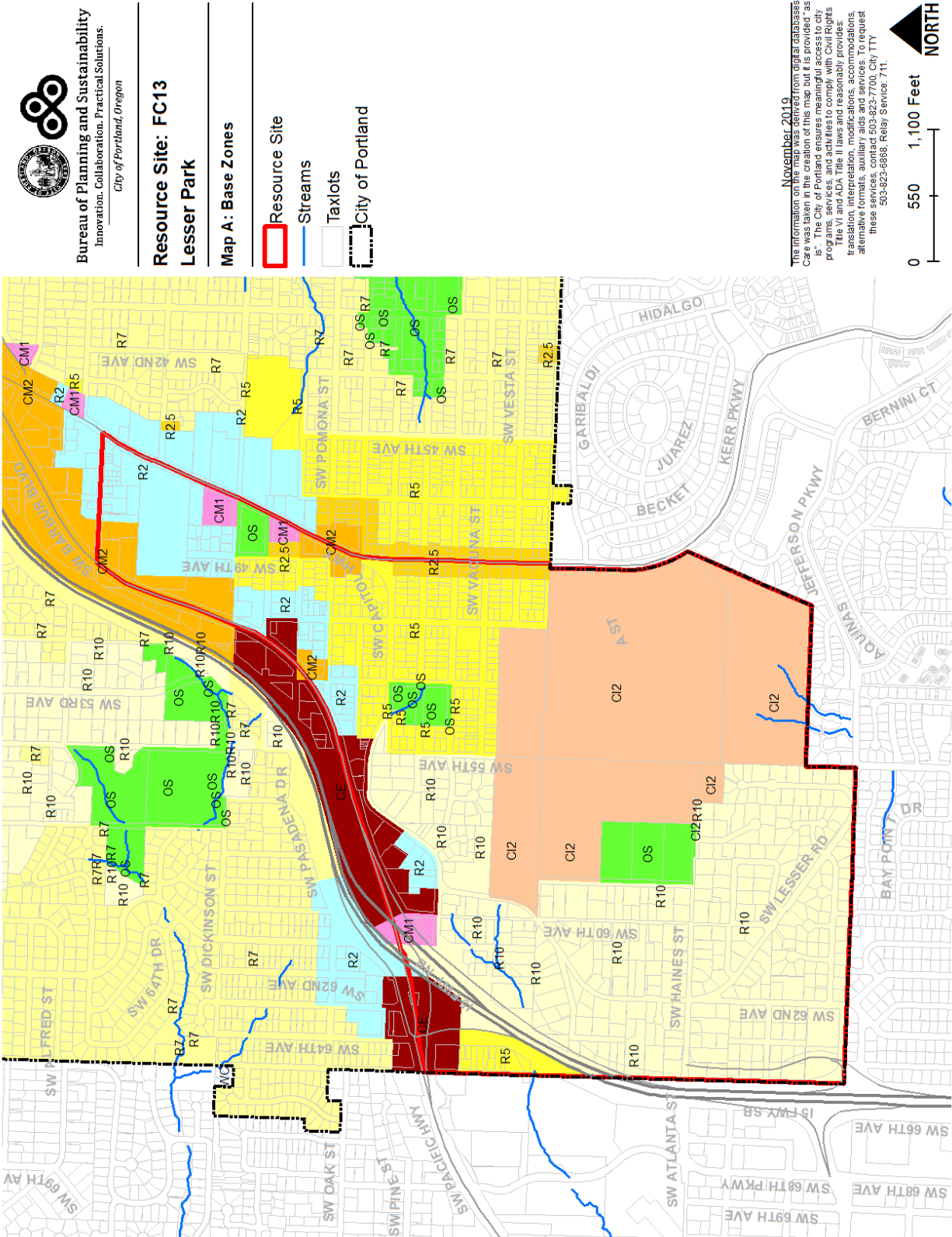
ESEE Decisions

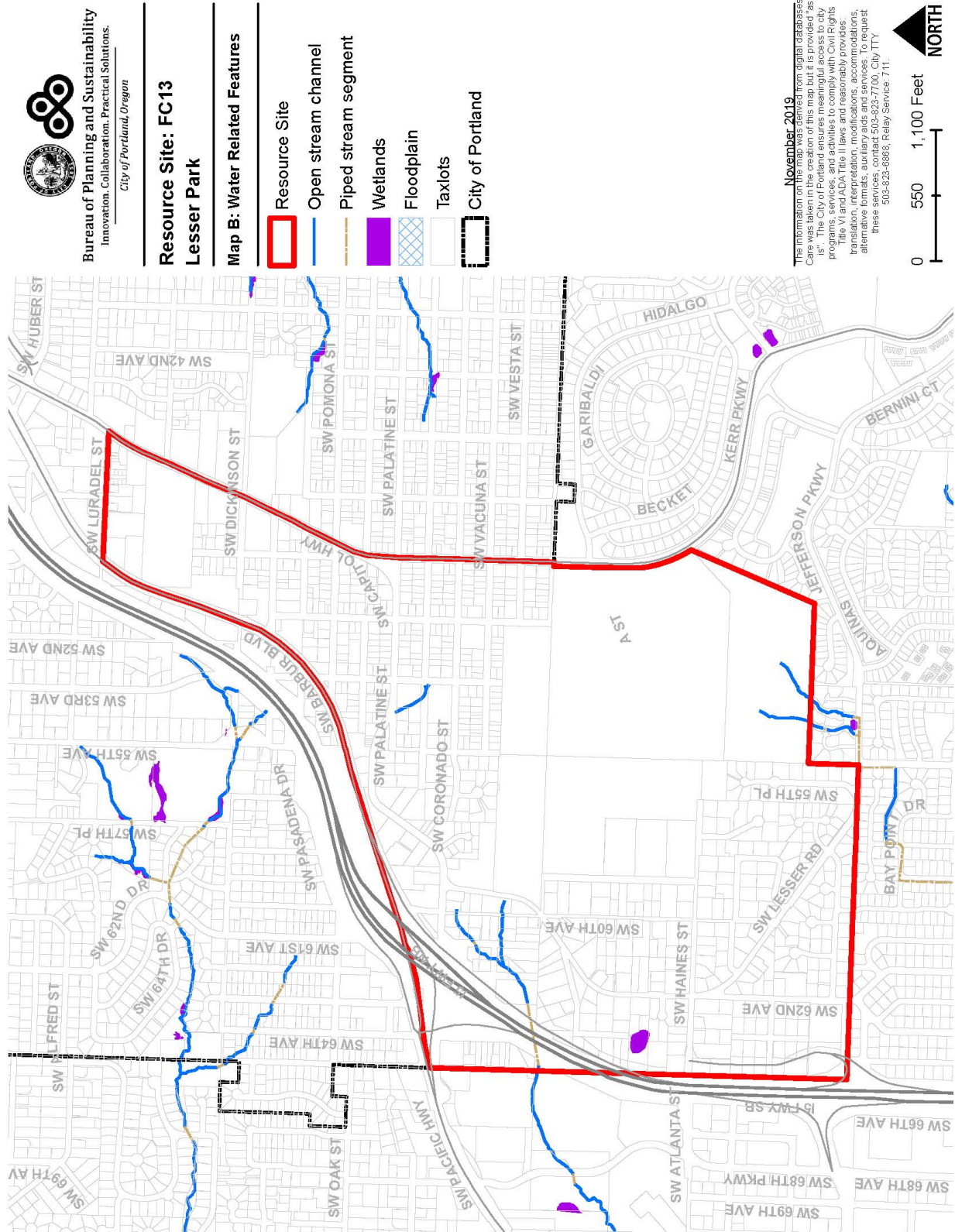
Based on the ESEE general recommendations (Volume 2) and resource site-specific ESEE, the ESEE decisions for Resource Site FC13 are:

1. *Strictly limit* conflicting uses within stream channels from top-of-bank to top-of-bank, wetlands, land within 50 feet of stream top-of-bank and land within 25 feet of wetlands.
2. *Limit* conflicting uses within land between 25 and 50 feet of wetlands, areas of forest vegetation on steep and non-steep slopes that are contiguous to but more than 50 feet from stream top-of-bank, forest vegetation on steep and non-steep slopes within and contiguous to Sylvania Park, the forest patch between SW Lesser Rd and Lesser Park and on lots to the northwest of the PCC Sylvania campus.
3. *Allow* conflicting uses within all other areas containing significant natural resources.

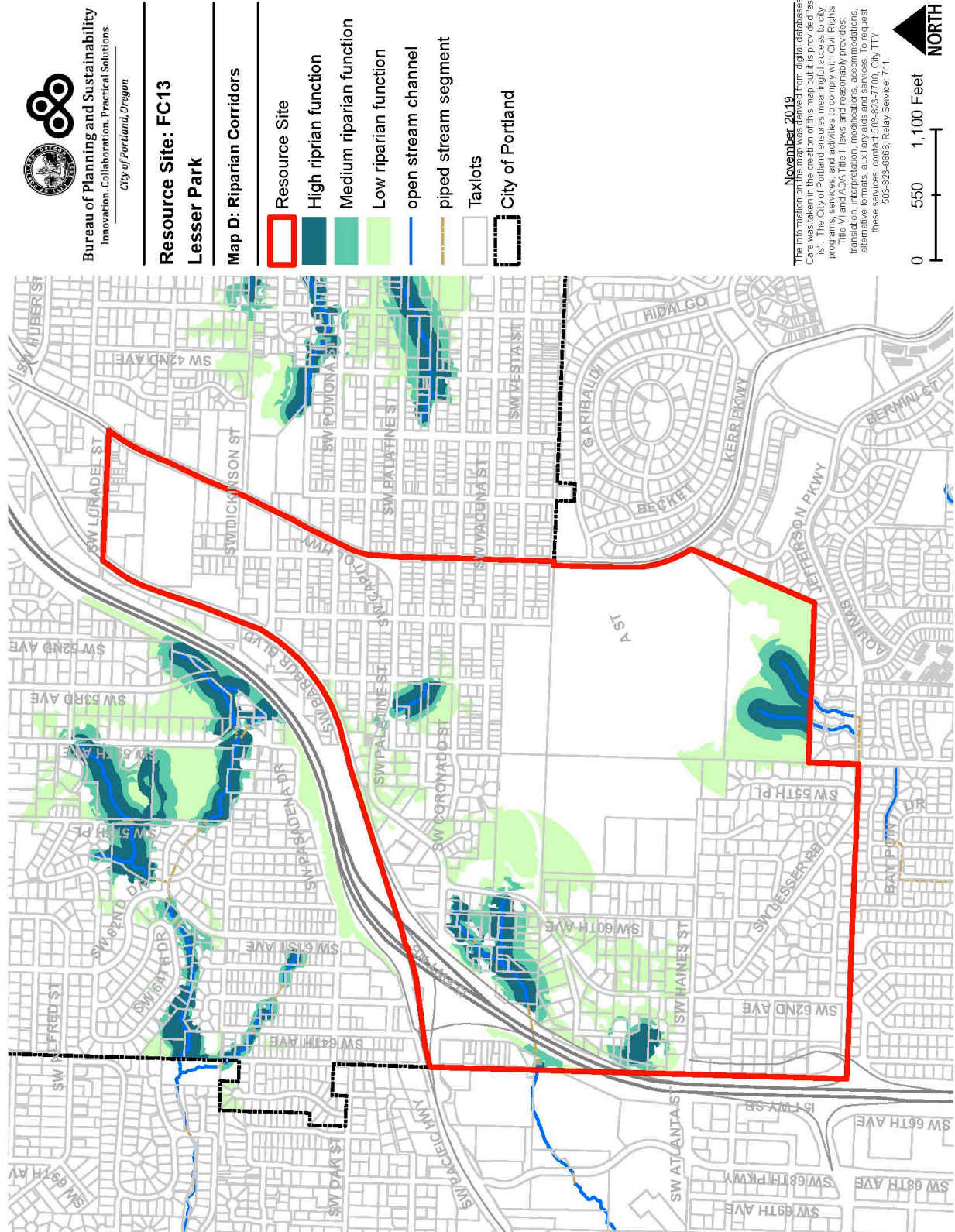
There is a roughly 9-acre patch of forest vegetation between the riparian forest to the west of SW Lesser Rd and the forested area of Lesser Park. This forest patch provides a wildlife habitat connectivity corridor. Impacts to the forest patch should be avoided and unavoidable impacts should be mitigated to maintain the wildlife connectivity.

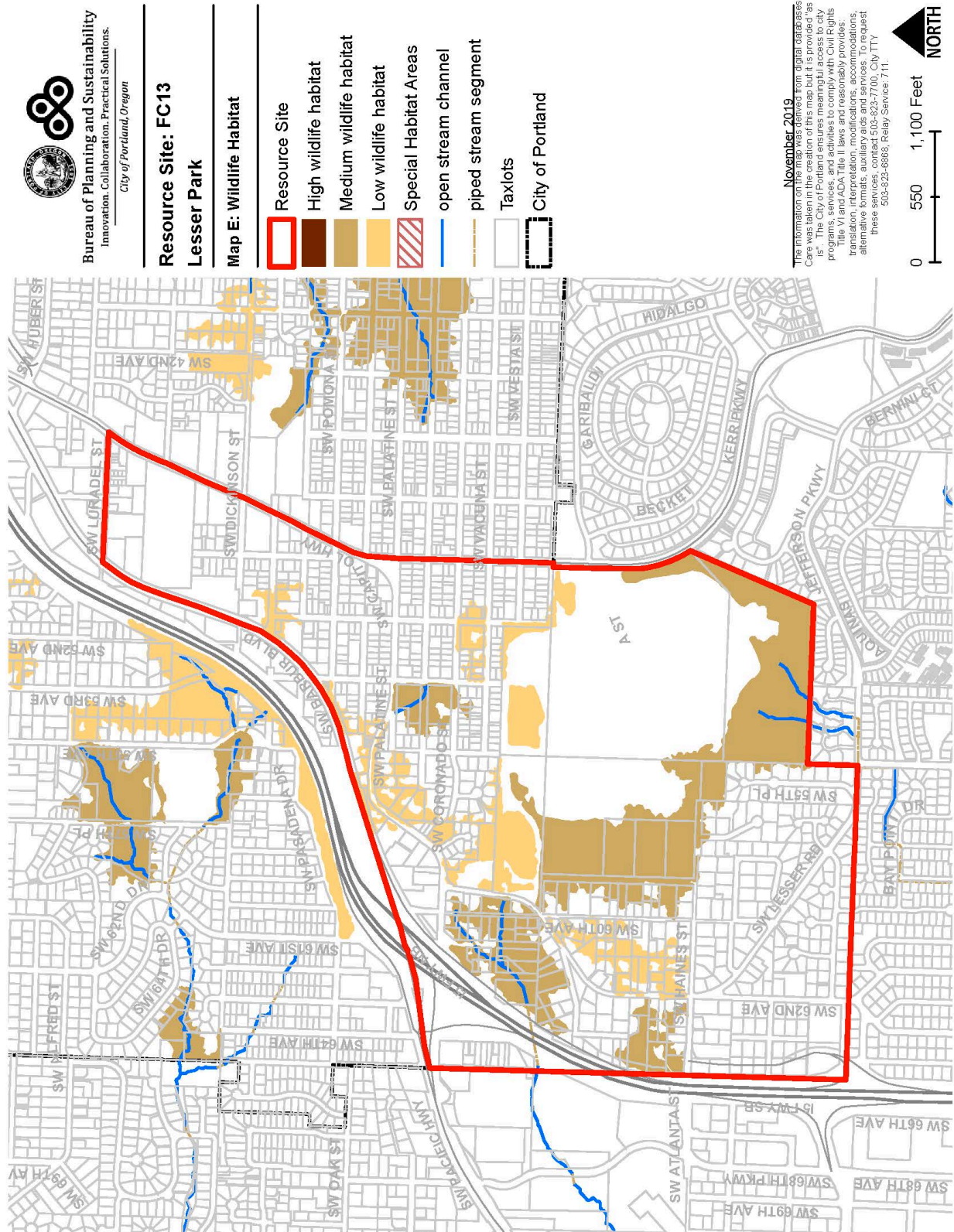
Table C: ESEE Decision for Resource Site FC13	
ESEE Decision	Acres
Strictly Limit	8.2
Limit	70.7
Allow	352.5

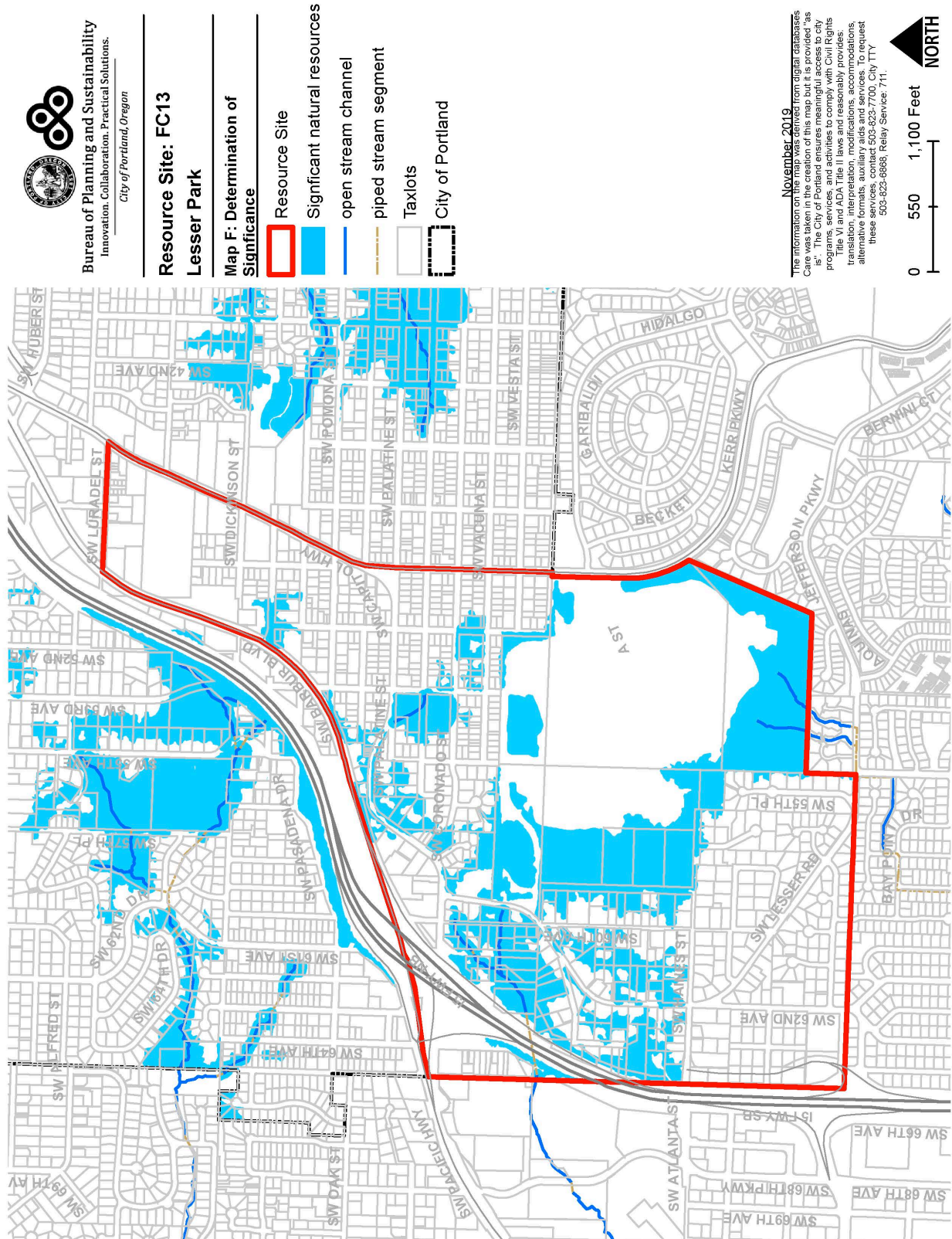


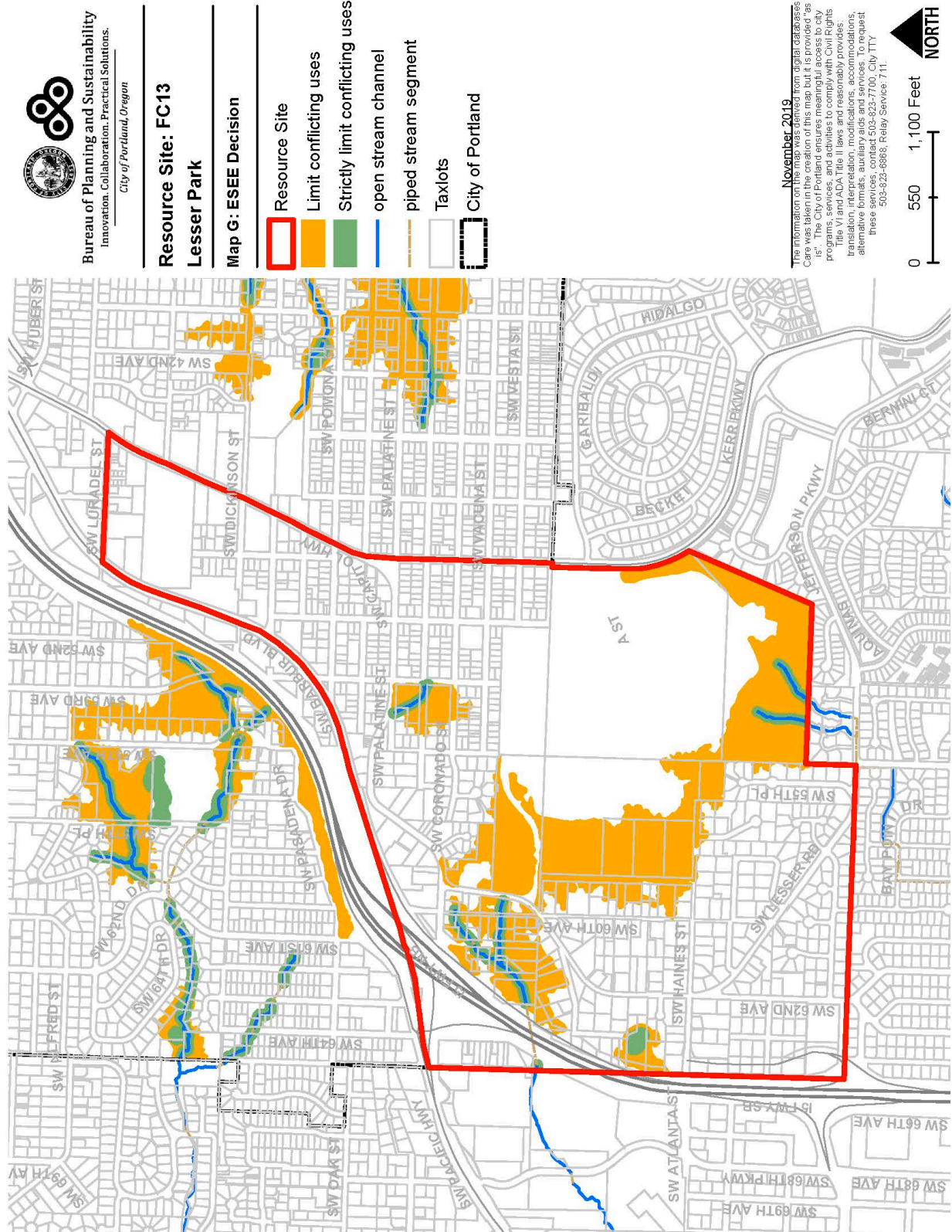














The *Environmental Overlay Zone Map Correction Project* plan documents:

Volume 1 – Project Report, Summary of Results and Implementation

The purpose of the Project Report is to document the overall project approach and methodology, summarize public engagement, provide an at-a-glance summary of the results by resource site, and present the updated zoning code maps and refinements to zoning code chapter 33.430, Environmental Zones.

Volume 2 – General Economic, Social, Environmental and Energy Analysis

The General ESEE evaluates the tradeoffs between protecting natural resources and other city goals for economic development, housing, public health, etc. The General ESEE provides an overall recommendation regarding which natural resource features should be protected. The General ESEE recommendations are then affirmed, clarified or modified for each resource site based on resource site-specific circumstances. The resource site-specific ESEEs are presented in Volume 3, Part A-H.

Volume 3 – Resource Site Inventory and ESEE Decisions

For each of the geographies listed below, each document presents an inventory of natural resource features and functions, a site-specific Economic, Social, Environmental and Energy Analysis (ESEE), and the ESEE decisions regarding which natural resource should be protected for each resource site.

Part A1 – Forest Park and Northwest District, Resource Sites 1 – 20

Part A2 – Forest Park and Northwest District, Resource Sites 21 – 41

Part B – Skyline West

Part C – Tryon Creek and Southwest Hills East

Part D – Fanno Creek

Part E – East Buttes and Terraces

Part F – Johnson Creek

Part G – Boring Lava Domes

Volume 4 – Appendices

Appendices include the Regulatory Context; 2012 NRI Project Report; stream, vegetation and wetland mapping protocols; and the at-risk species list.