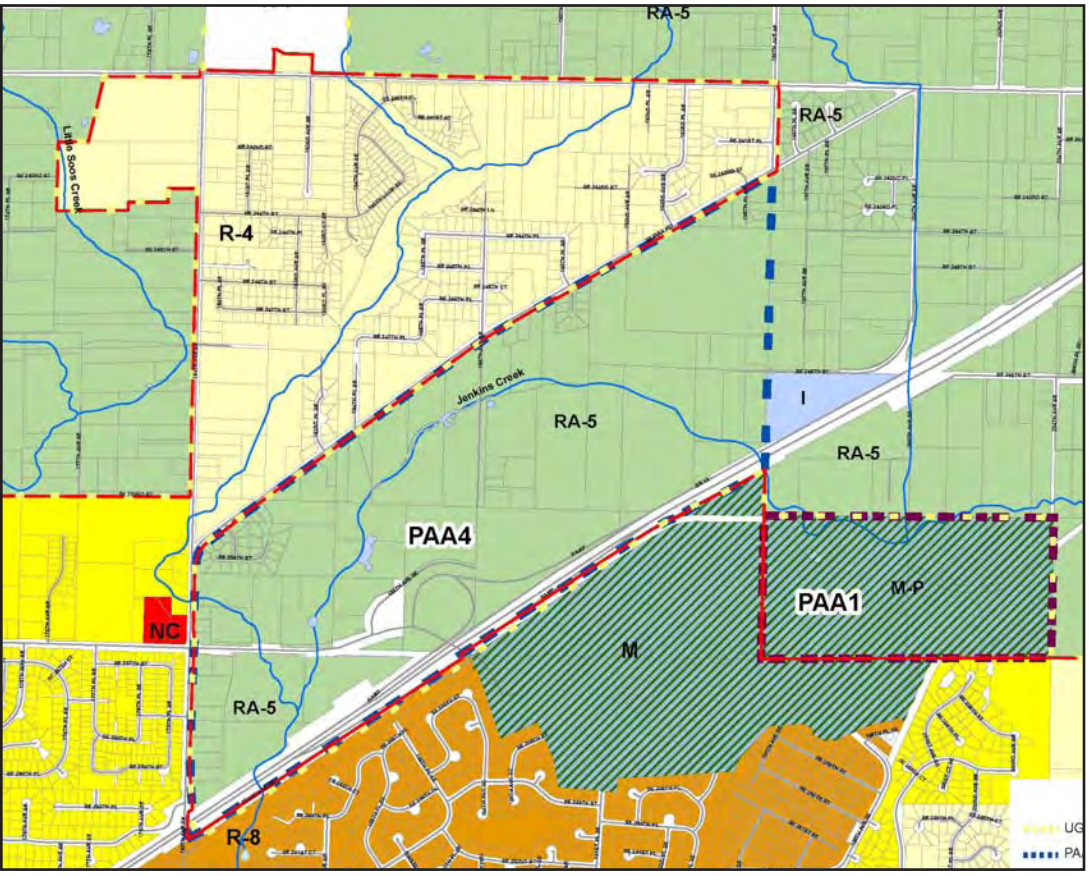
Northern Gateway Area Study

August 2012

City of Covington Washington



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The Watershed Company

NORTHERN GATEWAY AREA STUDY

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NORTHERN GATEWAY AREA STUDY

1.0 EXECUTIVE SUMMARY

1.1 Study Area

The Northern Gateway Study Area (hereafter call the Study Area) is located primarily to the northeast of the city and is approximately 484 acres in size, bisected by SR 18, and surrounded on three sides by areas within the city limits. As of the 2010 census there were 96 housing units and 33 jobs located in the Study Area.[1]

The area lying to the north of SR 18 (commonly referred to as "the notch") is approximately 275 acres in size and lies entirely within unincorporated King County. In general it is separated topographically by Jenkins Creek into an upper portion along SE Wax Road and 180th Avenue SE and a lower portion abutting SE 256th Street and SR 18. The upper portion is characterized primarily by low density residential uses with some commercial use and a large Washington State Department of Transportation (WSDOT) vacant property used to temporarily stockpile soil and store equipment. The lower portion is characterized primarily by Jenkins Creek and associated wetlands, other vacant land, some of which has been cleared and some of which is heavily vegetated, and the north half of an interchange with SR 18.

The area lying to the south of SR18 is approximately 209 acres in size and is characterized primarily by a large gravel extraction operation with a few industrial buildings, vacant land including a stretch of Jenkins Creek and a heavily vegetated hillside, and the south half of an interchange with SR 18. About 64% of the south area lies within the city limits with the remainder located in the City's urban growth area.

The purpose of the Northern Gateway Area Study is to comprehensively review the area in terms of suitability for urban (primarily commercial) development, inclusion of the north study area in the King County urban growth area (UGA) and Covington Potential Annexation Area (PAA), and annexation of the southeast study area already assigned as a PAA to Covington.

1.2 Existing Conditions

Based on a review of existing conditions, the Study Area can accommodate urban-level commercial and residential development. While Jenkins Creek and associated wetlands are a valuable resource in the area, the Study Area contains a substantial amount of buildable land directly accessible from both sides of the interchange with SR 18 and from SE Wax Road/180th Ave SE, after allowing for implementation of critical area protection standards. Water and sanitary sewer systems have capacity to serve the area but specific facilities to serve the area would have to be built or expanded. Similarly, existing and planned roads in the vicinity have capacity to serve the area; however, high levels of development that generate significant levels of additional traffic may require capacity improvements at some locations. Schools are located close by, as are fire and emergency medical service facilities. Trail systems are planned for the area.

1.3 Market Demand

There is a substantial demand for new retail, office, and housing, based on a 20-year analysis of growth in population, employment and market capture for the greater Covington market area. The demand is estimated to range from

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[1] Employment is estimated from the US Census Local Employment Dynamics (LED) data, which is a combination of Census and IRS data. The LED indicates jobs are broken down as follows: Construction=30 and Other Services (not including government services) = 3. LED separately defines resource jobs. The consultant team surmises that the mine jobs are "suppressed" and construction jobs may be based on home occupations with job sites located elsewhere.

450,000 square feet to nearly 1 million square feet for new retail space; from 122,000 to over 713,680 square feet for new office space; and from 2,290 to over 3,900 for new housing units.

These market demand estimates accommodate pending development approved in preliminary plats and commercial site development permits, which equal about 549 housing units and 713,680 square feet of office space. The upper estimate for office space demand reflects the City's' approval of commercial site development permits, which are likely to be built in the next five years. This amount of office space far exceeds the City's historic trend of office space development reflected in the lower estimate.

1.4 Land Supply

Based on a review of the amount of vacant and redevelopable land; land in critical areas; land necessary for roads, public purposes, and market conditions; existing zoning; and the number of residential and commercial projects approved but not yet constructed; the City has a substantial amount of buildable land available to meet the projected 20-year market demand for retail, office, and housing uses.

Within the city limits under the current zoning there is a buildable land supply for over 2,780 housing units and over 1,667,000 square feet of commercial space. Assuming the portion of the south area within the city limits was rezoned (see the next section for the assumptions about projected land uses), there would be buildable land supply for over 3,110 housing units and over 2,342,000 square feet of commercial space. If the south UGA was annexed, the land supply could accommodate over 3,600 housing units and the same amount of commercial space. Finally if the City's UGA was expanded to include the north study area and if the area was annexed to the City, the buildable land supply could accommodate over 3,700 housing units and over 3,067,600 square feet of commercial space.

1.5 Preliminary Fiscal Impact of Annexation

Two areas were analyzed for future annexation to the city: the north study area (assuming expansion of the UGA) and the portion of the south area currently in the UGA (approximately 70 acres). For purposes of the analysis it was assumed that the north study area would be developed primarily for retail and office uses and that the 70 acres in the south area UGA would be developed primarily for medium-density residential uses (the portion of the south area already in the city limits would be developed for a substantial amount of retail, office, and medium-density residential uses.)

Assuming both areas are annexed to the city in 2014, for the first 10 years the net tax revenues would exceed the net expenditure for services by about $50,000 if the south area UGA were annexed while the net tax revenues would exceed the net expenditure for services by about $271,000 if the north study area were annexed. The preliminary fiscal analysis evaluated operating revenues and expenditures, but it should be noted that new capital expenditures will be needed in the annexed areas, primarily related to stormwater facilities, streets, and recreational facilities. Some or all of these costs could be borne by new development.

1.6 Growth Targets

The adopted Countywide Planning Policies for King County include the following growth targets for Covington:

- Net New Housing Units 2006-2031: 1,470 units
- Net New Jobs 2006-2031: 1,320 jobs

As pointed out in the discussion above on land supply, the City has a buildable land supply capacity under current zoning today for over 2,780 housing units or over 3,110 housing units if the south area of the city limits (gravel extraction operation portion) was rezoned to allow for residential uses. Similarly, the City has a buildable land supply capacity under current zoning today for more than 3,662 jobs (based on 1,667,000 square feet of commercial space)

or over 5,150 jobs (based on 2,342,000 square feet of commercial space) if the south area of the city limits (gravel extraction operation) was rezoned to allow for commercial uses.

Clearly the City has sufficient buildable land capacity to meet its year 2031 targets for housing and jobs; however, it should be noted that, in terms of building permits and pending plats and commercial site plans, the City has approved 712 housing units and 2,773 jobs since 2006. In six years then it has met nearly 50% of its 25 year housing target and over 200% of its 25-year jobs target in spite of the slowdown in the local and national economies.

The Study Area contains a mix of urban and rural densities and is adjacent to areas characterized by urban growth. While the existing buildable land supply can meet the City's mandated long-term housing and jobs growth targets, the pace of permitted lots and new jobs together with the market demand show there is demand for more growth, and growth targets should be revisited.

2.0 PURPOSE AND SCOPE OF THE STUDY

The purpose of the Northern Gateway Area Study is comprehensively evaluate land approximately 484 acres in area, some or which is inside the city limits and some of which is outside the city limits, to gain a better understanding of:

- the existing conditions in the area
- the status of the city's progress toward meeting its 2031 housing and jobs targets
- the buildable lands supply capacity for housing and jobs in the city limits and in the Study Area
- the 20-year market demand for retail space, office space and housing
- the feasibility of expanding the King County UGA and Covington Potential Annexation Area (PAA)
- the feasibility of annexing a portion of the Study Area already in the City's UGA

To meet study purposes, the appendices to the Northern Gateway Area Study contain technical information on the following topics:

- Wetland & Stream Reconnaissance Summary, addressing critical areas including steep slopes as well as wetlands and streams
- Evaluation of existing infrastructure, including water, sewer and storm drainage facilities
- Transportation
- Public Services Capacity Analysis (Parks, Schools, Fire/ emergency medical services (EMS))
- Buildable Lands Capacity and Build-Out Analysis and Market Analysis
- Preliminary Land Use Concept Plan
- Preliminary Fiscal Analysis of Annexation
- Policy Analysis
- State Environmental Policy Act (SEPA) Approach

3.0 STUDY AREA

The Northern Gateway Study Area is approximately 484 acres in size, and, as mentioned above, some of the area is located within the city limits and some is not. See Exhibit 1. The study area is bisected by SR 18 and for purposes of

this study the portion north of SR 18 will be referred to as the north study area and the portion south of SR 18 will be referred to as the south area. The south area is further divided into two subareas: the portion that lies within the city limits will be referred to as the southwest study area and the portion that lies outside of the city limits but within Covington's UGA will be referred to as the southeast study area. The southeast portion is one of two areas analyzed in this study for annexation to the city. The north study area is the area commonly referred to as "the notch" and is the area under consideration in this study for expansion of the City's UGA and the second area analyzed for annexation to the city.

4.0 CURRENT ZONING

The north study area of approximately 275 acres lies entirely within unincorporated King County and has an R-4 rural zoning classification. See Exhibit 2. In general it is separated topographically by Jenkins Creek into an upper portion along SE Wax Road and 180th Avenue SE and a lower portion abutting SE 256th Street and SR 18.

The south area of approximately 209 acres is divided into a southwest portion of approximately 134 acres which is within the city limits and zoned for mining uses, and a southeast portion of approximately 75 acres within unincorporated King County but within the City's UGA and also zoned for mining uses. The City has identified the southeast portion as a future potential annexation area that could help the City achieve its policy to "facilitate long-range planning and decision making consistent with Covington's … long term growth needs." (LNP2.8) See Exhibit 2.

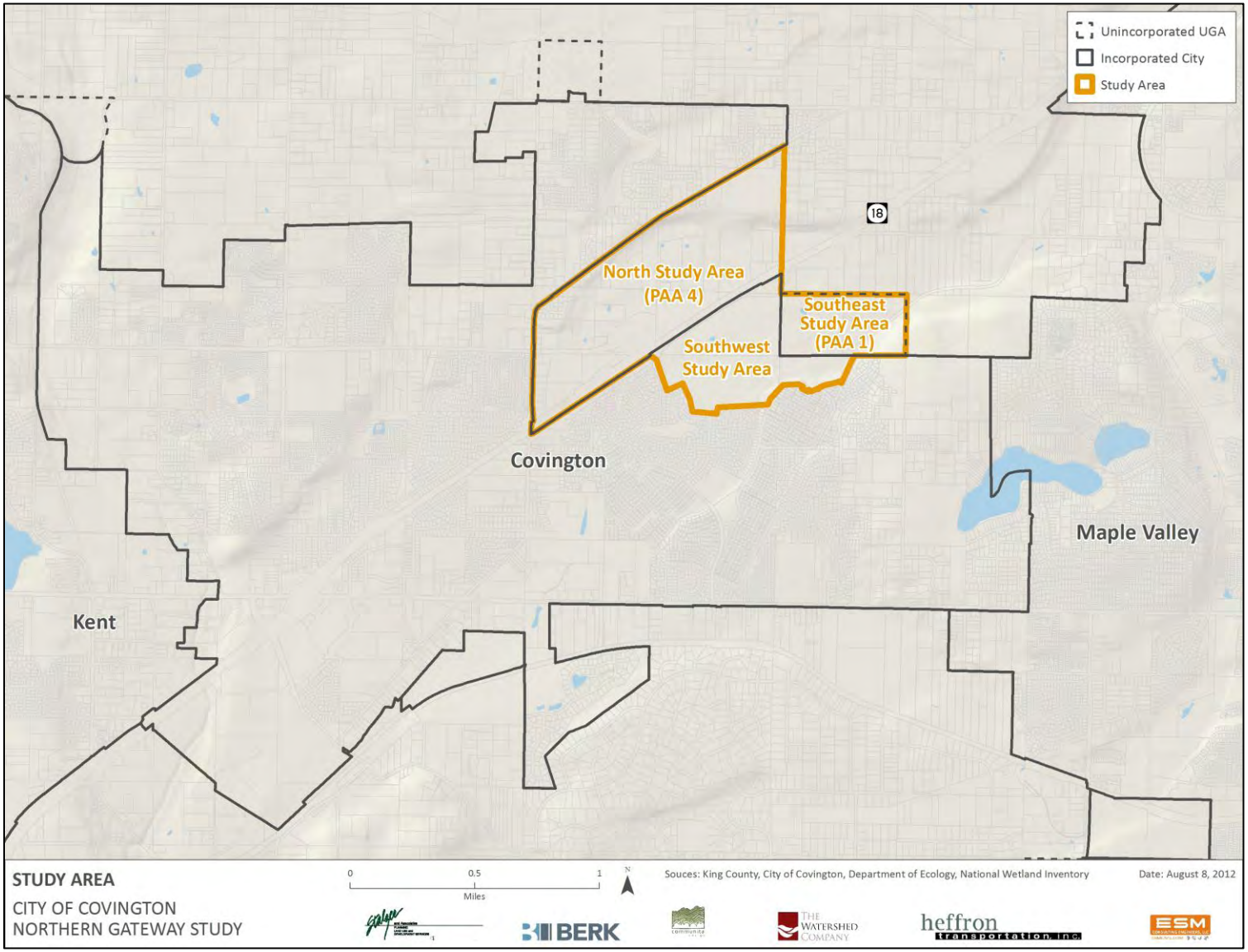
5.0 PRESENT LAND USE

The upper portion of the north study area is characterized primarily by residential uses with some commercial use and a large Washington State Department of Transportation (WSDOT) vacant property used to temporarily stockpile soil and store equipment. The lower portion contains the north half of an interchange for SR18 with the remainder primarily being vacant land between Jenkins Creek and SR18, some of which has been cleared and some of which remains heavily vegetated. There are 96 homes in the north study area, of which 92 are occupied (2010 US Census). As of the 2010 census 244 persons live in the north study area.

The defining characteristics of the south area are an interchange for SR 18, a large gravel extraction operation, and vacant land. There are no occupied structures on the south area other than industrial buildings associated with the gravel extraction operation. Part of the vacant land in the southeast portion contains Jenkins Creek and a heavily vegetated hillside.

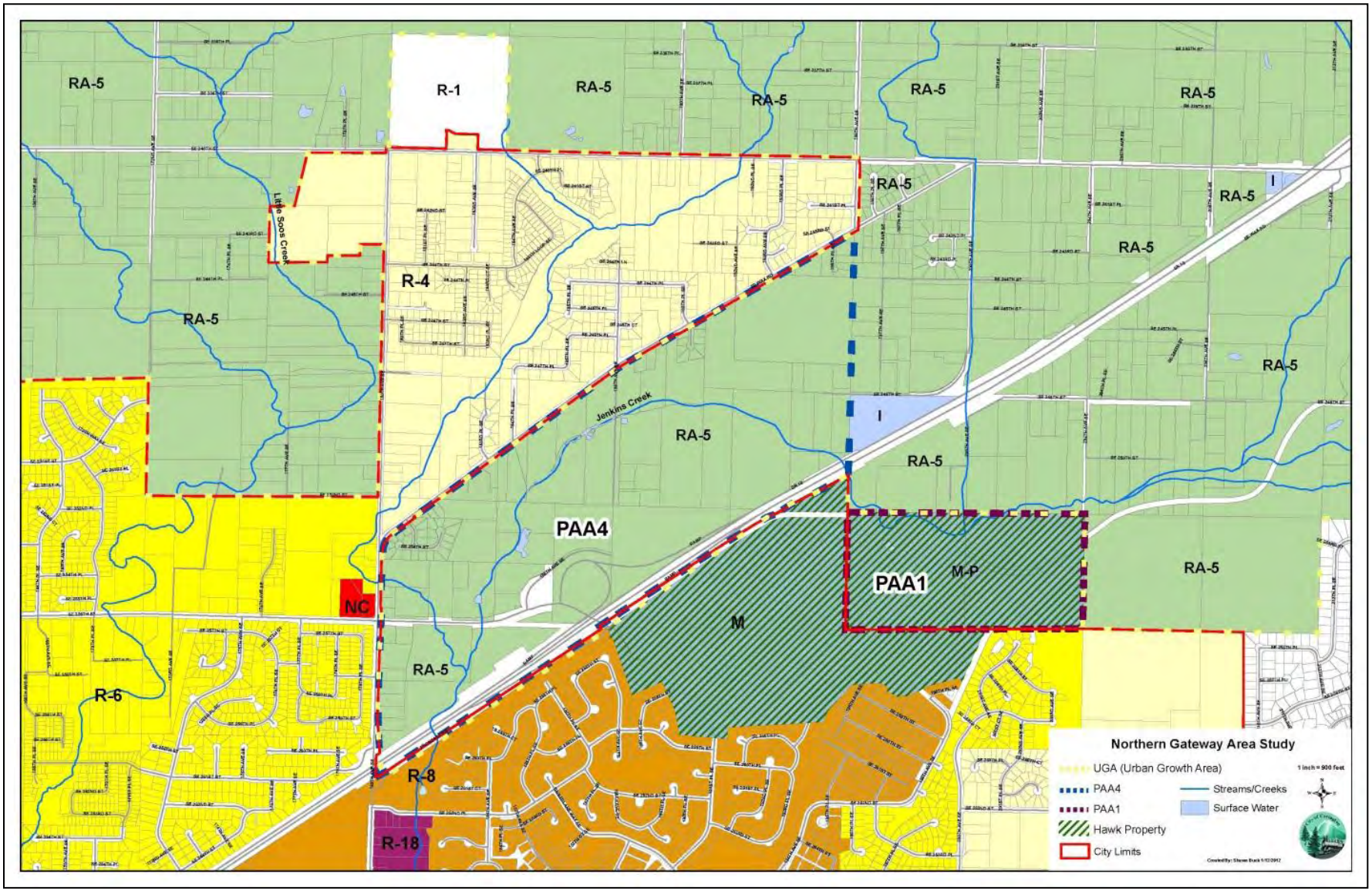
Exhibit 3 shows the present land use pattern. It should be noted that the map does not represent ownership, and some publicly owned parcels are shown as vacant where there is no improvement value. Vacant properties are classified based on the King County Assessor's data; some lots are vacant following platting, until a building is erected.

Exhibit 1 Northern Gateway Study Area



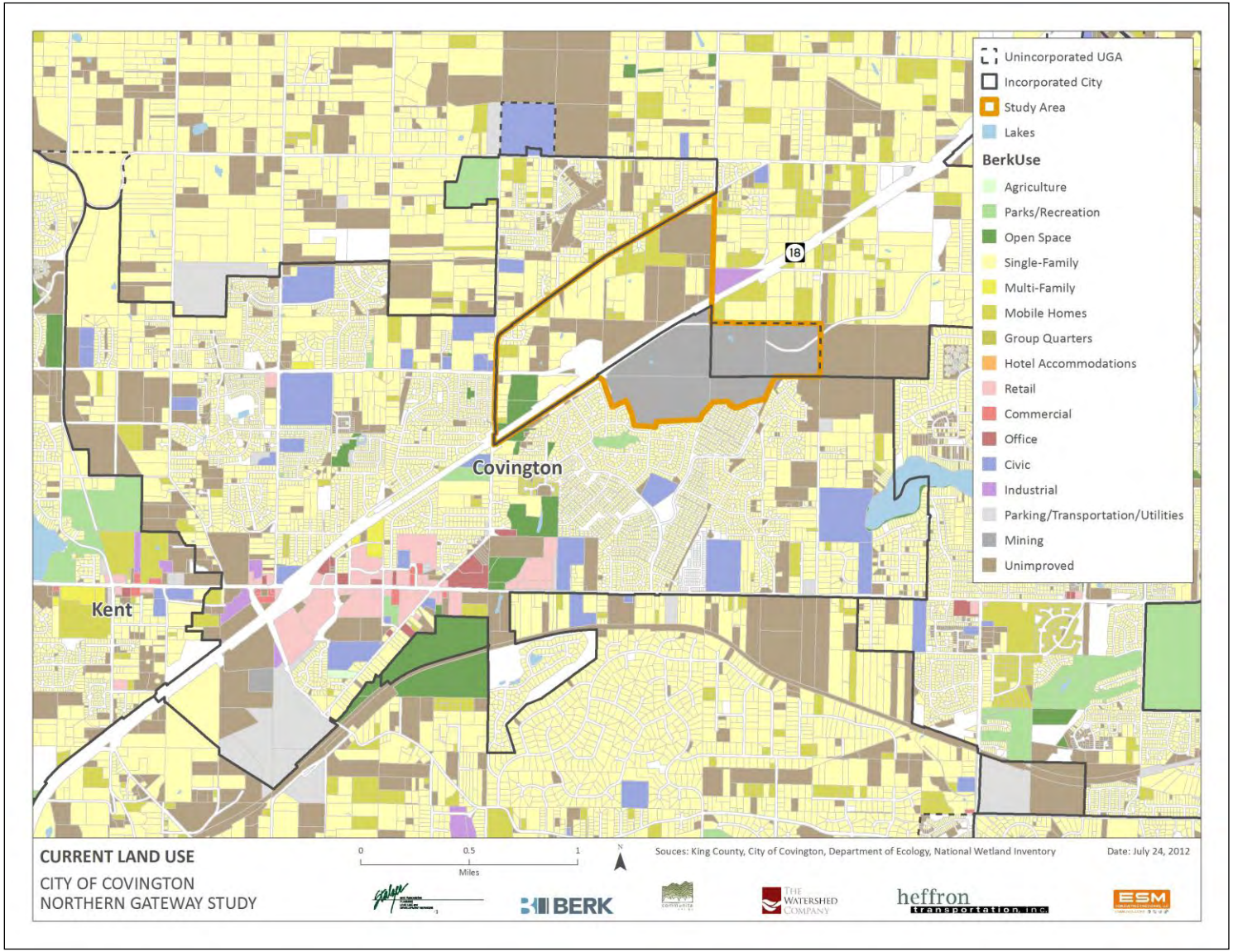
Source: King County GIS Center; BERK 2012

Exhibit 2 Current Zoning



Source: City of Covington 2012

Exhibit 3 Present Land Use



Source: King County Assessor 2012; BERK 2012

6.0 Existing Conditions

An important consideration for annexation of the southeast study area and expansion of the UGA to include the north study area is the suitability of those areas for urban development. The following existing conditions review provides information needed to address that issue. As indicated below, the north study area now has urban services and infrastructure or can be extended urban services and infrastructure. While Jenkins Creek and associated wetlands are a valuable resource in the area, the Study Area contains a substantial amount of buildable land directly accessible from both sides of the interchange with SR 18 and from SE Wax Road/180th Ave SE, after allowing for implementation of critical area protection standards.

6.1 Critical Areas

The Study Area contains three types of critical areas: streams, wetlands, and steep slopes/geologically hazardous areas. See Exhibit 4.

Jenkins Creek and the Jenkins Creek Tributary (#0089) are both documented as salmonid-bearing streams (see Exhibit 5). While the entire reach of Tributary 0089 may not be fish bearing, the segment within the Study Area is presumed to be fish accessible. King County critical area standards require buffers of 165 feet for both streams while the City of Covington critical area standards require buffers of 115 feet for both streams.

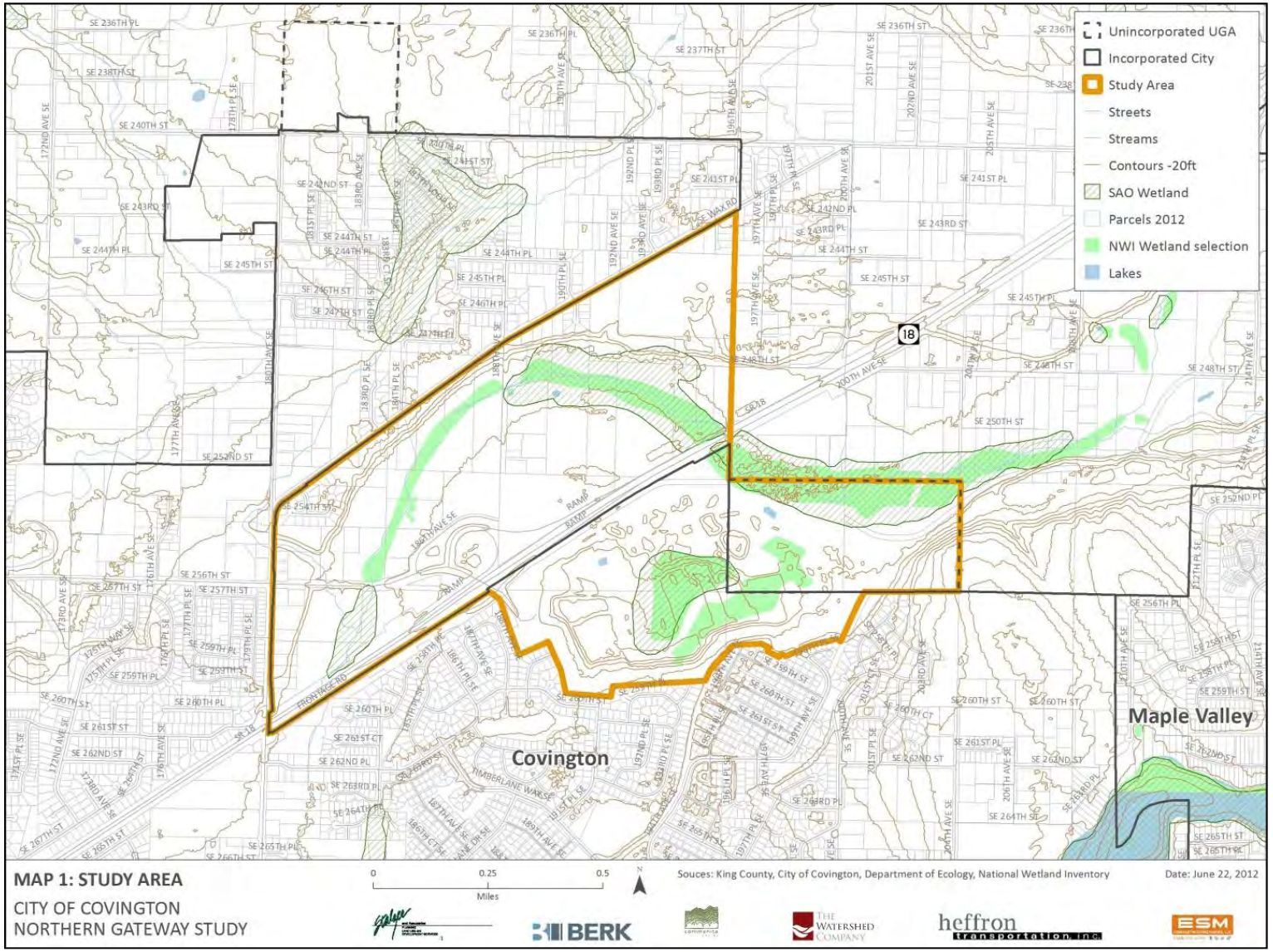
Wetlands were reviewed in the field where access was available. Property access and viewpoint locations were limited for this broad-scale inventory, and as a result, some wetlands could not be conclusively categorized. Six wetlands have been identified in an approximate manner based on the National Wetland Inventory, King County Maps, and limited field evaluation. Four wetlands are found in the north study area (Units 1b, 2, 3 and 4), and two are found in the south area (Units 1a and 5). See Exhibit 5. The higher quality wetlands are found along Jenkins Creek in the north study area. Wetland unit 5 (primarily in the southwest study area) is comprised of a series of open water ponds. The status of these ponds needs to be evaluated in future studies, as a Department of Natural Resources reclamation permit has been approved for the gravel extraction site (DNR Surface Mining Reclamation Permit No. 70-011068).

Depending on the type of land use intensity proposed (high, moderate, or low), King County critical area standards require wider buffers than do the City of Covington's critical area standards for Category I and II wetlands. King County and Covington critical area buffer standards are similar for Category III and IV wetlands.

Topography indicates that steep slopes and/or landslide hazard areas are present in the north study area between Jenkins Creek and SE Wax Road in an arc that generally parallels Jenkins Creek (See Exhibit 4). Both King County and City of Covington standards require a 50 foot buffer from the edge of these critical areas. Buffer modification may be allowed when a geologist or geotechnical engineer can demonstrate that the alteration would not reduce slope stability.

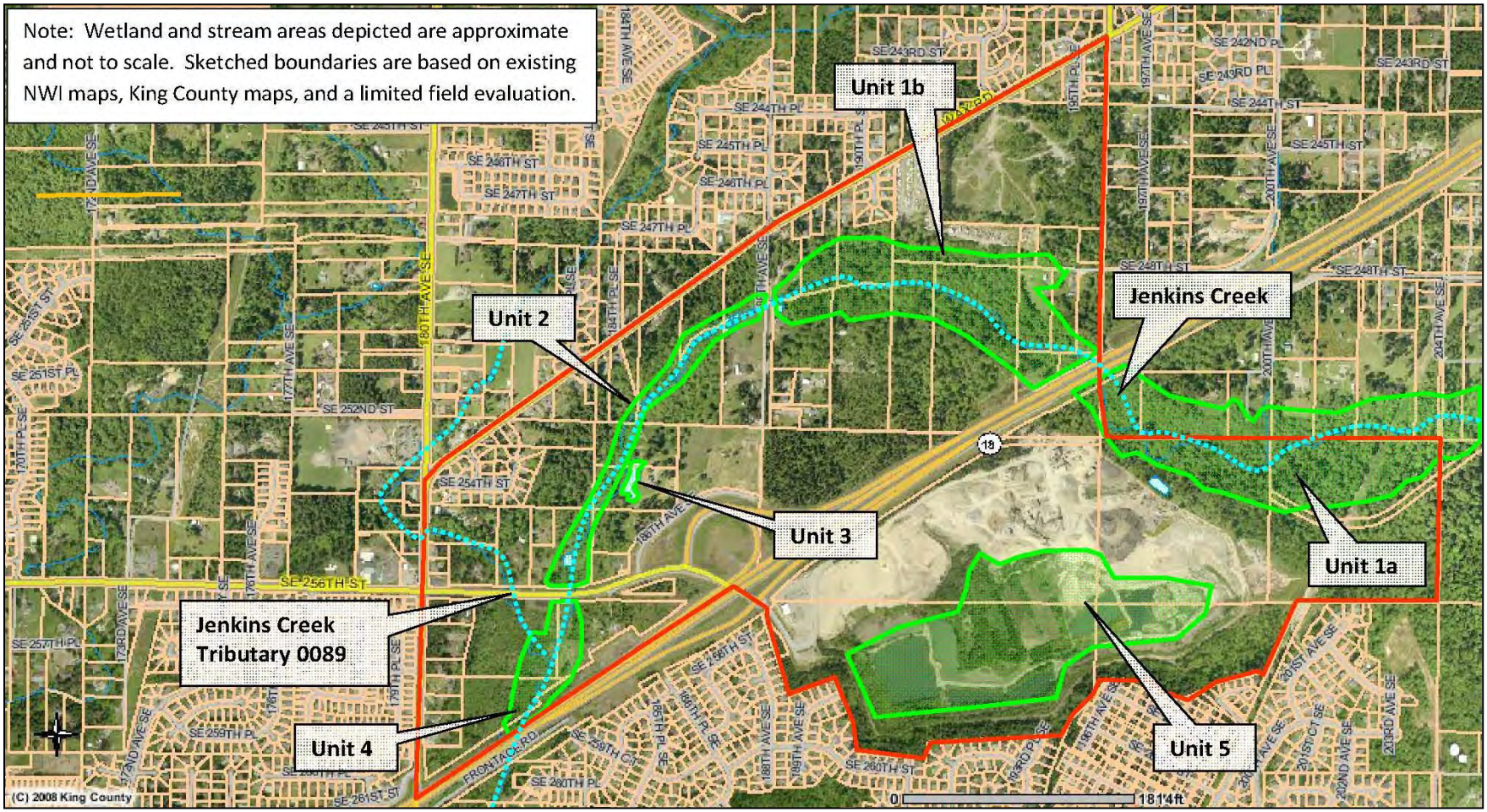
More detailed information about wetland classifications, wetland buffers, streams, steep slopes, and potential modifications can be found in Appendix A.

Exhibit 4 Study Area Critical Areas Map



Source: King County GIS Center 2012; National Wetlands Inventory (NWI) 2012; BERK 2012

Exhibit 5 Wetland and Stream Habitats: Wetland Inventory – Field Sketch and Existing Mapping



Source: The Watershed Company 2012

6.2 Water, Sewer and Storm Drainage systems

The Study Area contains some storm drainage and water facilities, and is identified for future sewer facilities and added water system improvements as described below and in Appendix B. See Exhibit 6.

Storm Drainage

The existing storm drainage system within the Study Area currently consists of private culverts and ditches. Future improvements will be designed per City standards in effect at the time of application, and existing conditions will be modeled as pasture. Existing wetlands, streams, and steep slopes, as well as the associated buffers will reduce the amount of onsite area available for storm drainage water quality treatment and flow control for future development.

Water Supply

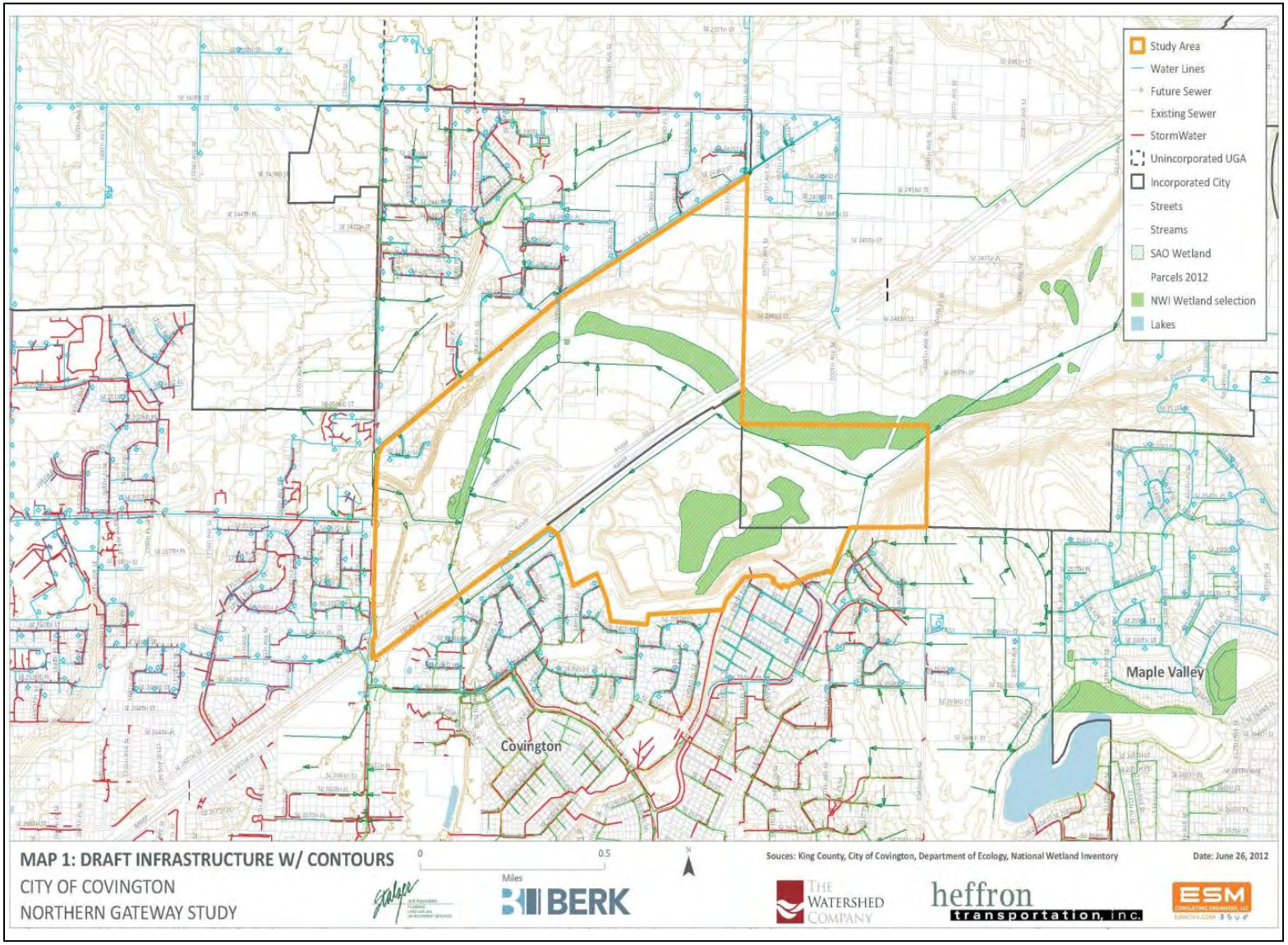
The Covington Water District provides service to the Study Area. Water supply is expected to come from water towers, currently located to the southeast and northwest of the Study Area. The location of the water towers and pressure zones in relation to the Study Area will require separate analyses and designs, depending on where future development takes place within the Study Area. Transitions between pressure zones (such as pressure reducing stations) may be necessary. Based on information received from the District, water mains along 180th Avenue SE (between SR 18 and SE 240th Street) and along 200th Avenue SE (between SR 18 and SE 240th Street) will require upsizing. Furthermore, additional new mains along existing roads also will be required near the Study Area south of SR 18 along SE 248th Street and 208th Avenue SE. There is an existing 24 inch casing constructed under SR 18 which can be utilized for the future development of the distribution system. The above information is not included in the Covington Water District Water System Plan Update of February 2007; however, the Plan is scheduled to be updated in 2014. Upsizing and adding water mains along the existing roadways adjacent to the Study Area will require a substantial investment for future development.

Sanitary Sewer

Sanitary sewer is currently provided in the Study Area by the use of individual septic systems. The southwest and southeast study areas are located within the Soos Creek Water & Sewer District Corporate Sewer Boundary. While the north study area is outside the UGA, it is included in the District's planning process. Based on information provided by the District and based on the 2005 Soos Creek Water and Sewer District Comprehensive Plan, as well as GIS information received from the District, sanitary sewer has been master planned to be able to serve future development in the study area (Exhibit 6). Additionally, the existing sanitary sewer system and the existing sanitary sewer lift station located to the southwest of the study area have adequate capacity for future development. In summary, the District has indicated that it could readily provide sanitary sewer service to the entire Study Area.

A more detailed analysis of water, sewer, and storm drainage existing conditions is contained in Appendix B.

Exhibit 6 Existing and Planned Sanitary Sewer Facilities, and Existing Water and Stormwater Facilities



Source: ESM Consulting Engineers 2012

6.3 Transportation Existing Conditions

Vehicular Access to the Study Area

Regional vehicle access to and from the Study Area is provided directly by SR 18. In addition, SE 240th Street and SE 256th Street provide access to and from areas to the west, 196th Avenue SE provides access to and from areas to the north, and 180th Avenue NE provides access to and from areas to the south. All of these roadways have federal functional classifications of principal or minor arterial, with the exception of SE Wax Road/180th Avenue SE, which is classified as a collector south of SE 256th Street. The roadways' functional classifications are consistent with the access function that they would serve for the Study Area. See Exhibit 7.

There is no direct access between the north study area and the southeast study area. All vehicles must travel between these areas via SE 272nd Street (SR 516) and SE Wax Road. The City will require future development in the southeast and southwest study areas to construct a roadway that will connect the SE 256th Street/SR 18 ramp to 204th Avenue SE. The developer of land within the city limits that abuts the southeast study area is required to improve 204th Ave SE to the north boundary of the current city limits. Potential corridor locations through the southeast study area are limited by the topography of the area; a new roadway would likely be most feasible along the northern and eastern portions of the southeast study area, where grades are less steep and there are fewer wetland constraints.

Several local residential streets terminate at the edge of the southwest study area. Depending on the direction of future studies, it may be possible to extend some existing local access streets into the southwest and southeast study areas.

Levels of Service

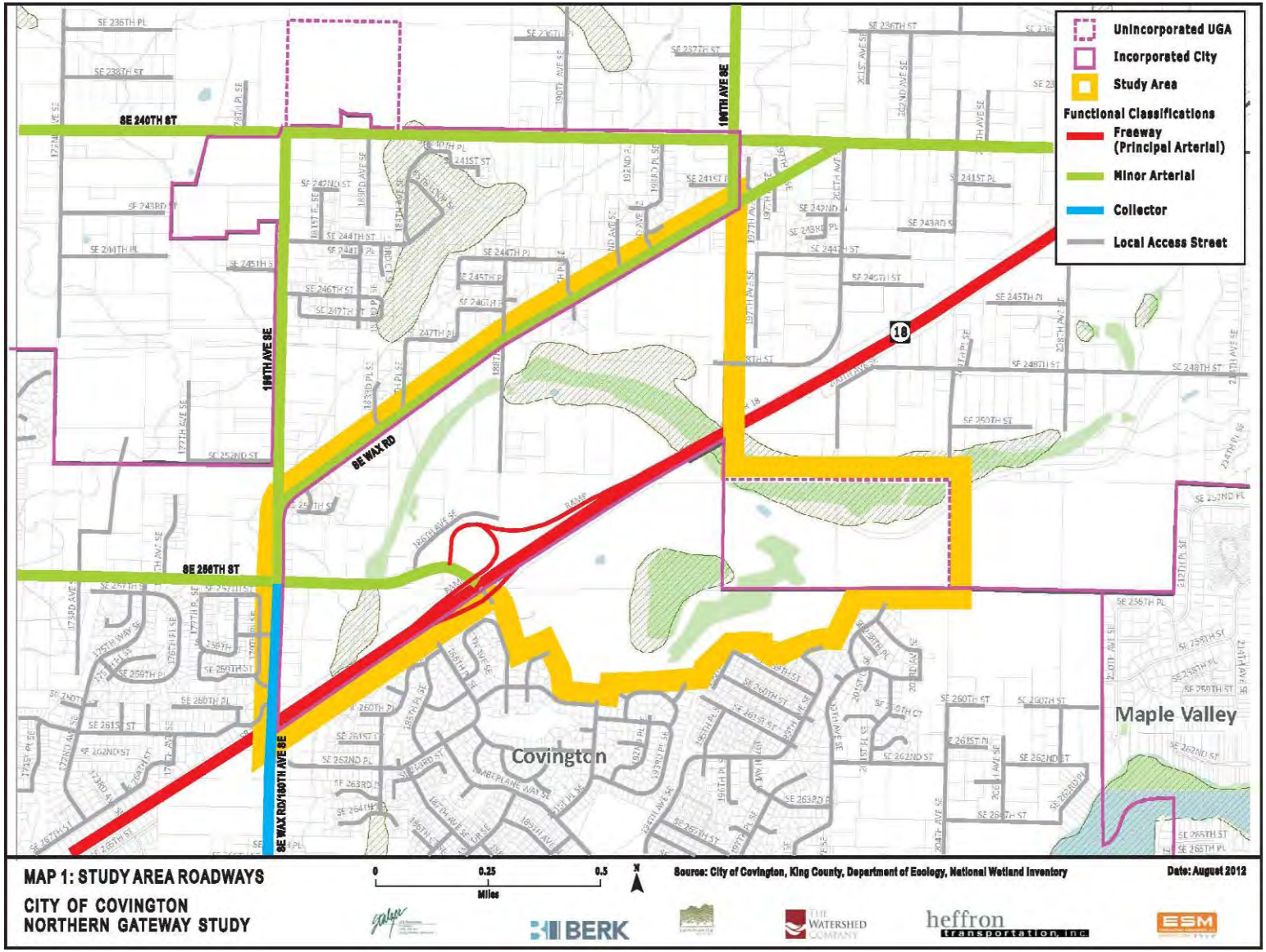
The City commissioned peak hour intersections turning movement counts in spring 2012. In addition, the City projected the additional traffic volumes that would be generated by future development projects that have been permitted but not yet constructed (referred to as "pipeline" projects), and are expected to be complete by 2018.

For this study a level of service (LOS) analysis was performed at the Study Area intersections for the AM and PM peak hours incorporating the City's study data. Level of service is a qualitative measure used to characterize traffic operating conditions. Six letter designations, "A" through "F," are used to define level of service. LOS A and B represent the lowest level of traffic congestion, and LOS C and D represent intermediate traffic flow with some delay. LOS E indicates that traffic conditions are at or approaching congested conditions and LOS F indicates that traffic conditions are at a high level of congestion with unstable traffic flow.

Intersections adjacent to the Study Area are operating at levels that are better than the City's standard of level of service (LOS D). Several intersections located farther from the Study Area are operating at or below LOS D. See Exhibit 8.

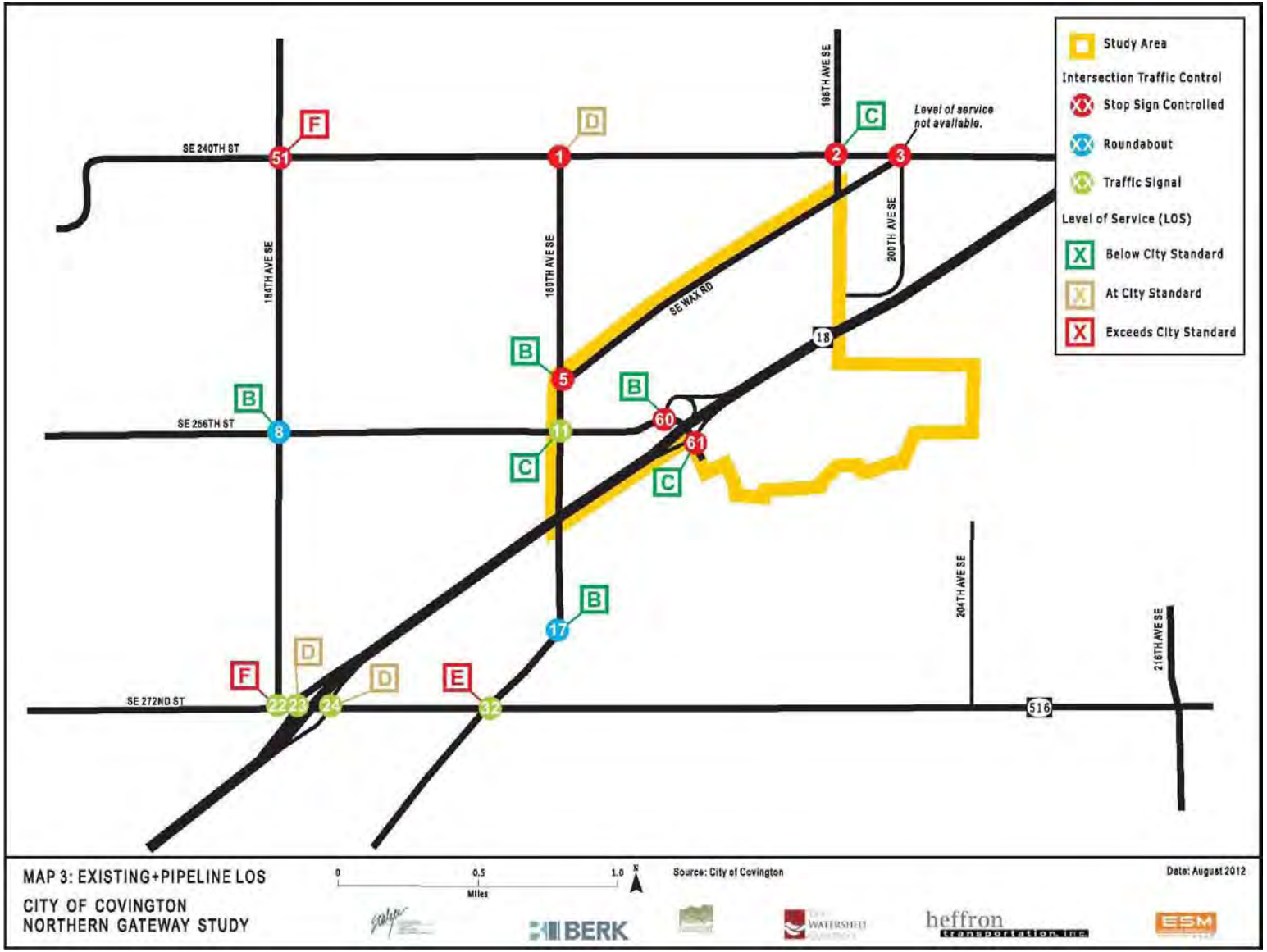
As shown on Exhibit 8, there is generally roadway capacity in the immediate Study Area to accommodate some level of new development; however, high levels of development that generate significant levels of additional traffic may still trigger a need for capacity improvements at some locations. Farther from the site and particularly along SE 272nd Street, far less excess capacity exists. New development that generates substantial vehicle trips through intersections operating at or below standards may need to also contribute toward future capacity improvements at these locations. It is noted that since the SE 256th Street ramps provide direct access between the Study Area and SR 18, vehicle trips generated by new development in the Study Area could potentially have a low impact on the SE 272nd/SR 18 ramp intersections.

Exhibit 7 Study Area Roadways



Source: Heffron Transportation, Inc.

Exhibit 8 Existing and Pipeline Development Level of Service Analysis



Source: Heffron Transportation, Inc.

Transit Service

Transit service in the City of Covington is fairly limited. Existing bus routes do travel in the vicinity, but the nearest stop is about a half mile south of the western edge of the Study Area.

Non-Motorized Facilities

Most of the major roadways do not have continuous sidewalks. This raises potential issues not only for non-motorized traffic generated by potential new development within the Study Area, but also for other non-motorized travelers in the area who could be exposed to higher vehicle volumes generated by the new development. Upgrading the adjacent major roadways to City standards where sufficient right-of-way is available would resolve potential non-motorized issues by providing curbs, gutters and sidewalks, and potentially bicycle lanes.

Roadway Design Standards

It is expected that new internal roadways built as part of future development would adhere to City design standards. SE Wax Road/180th Avenue SE (to the south of SE 256th Street) meets the City's design standards for collector roadways. Only SE 256th Street currently meets the City's design standards for minor arterials, which include curbs, gutters, sidewalks and bicycle lanes along both sides of the roadway. It is anticipated that new local access roads, as well as any future improvements to existing Study Area roadways, would conform to City design standards and would maintain adequate sight distance at intersections. Development of the Study Area as a major activity center would likely accelerate the need to upgrade the surrounding roadways to meet the City's roadway design standards

Pavement Condition

With the exception of SE 256th Street, the roadways have pavement that is aged to the point at which pavement resurfacing and maintenance may be required along these roadways to support increases in truck traffic that could be associated with construction and everyday operations of new development within the Study Area.

Collision Data

Historical collision data indicate that the incidence of collisions has been relatively low, and no unusual safety conditions have been identified. The SE 240th Street/SE Wax Road/200th Avenue SE intersection (located outside of the Study Area and the city limits) has historically experienced a low incidence of collisions. Increased traffic volumes could increase safety issues at this intersection because it has an atypical configuration and traffic control. Depending on future traffic volume levels, this intersection could be a candidate for signalization or reconfiguration to provide more conventional traffic operations.

A more detailed analysis of transportation existing conditions is contained in Appendix C.

6.4 Public Services Existing Conditions

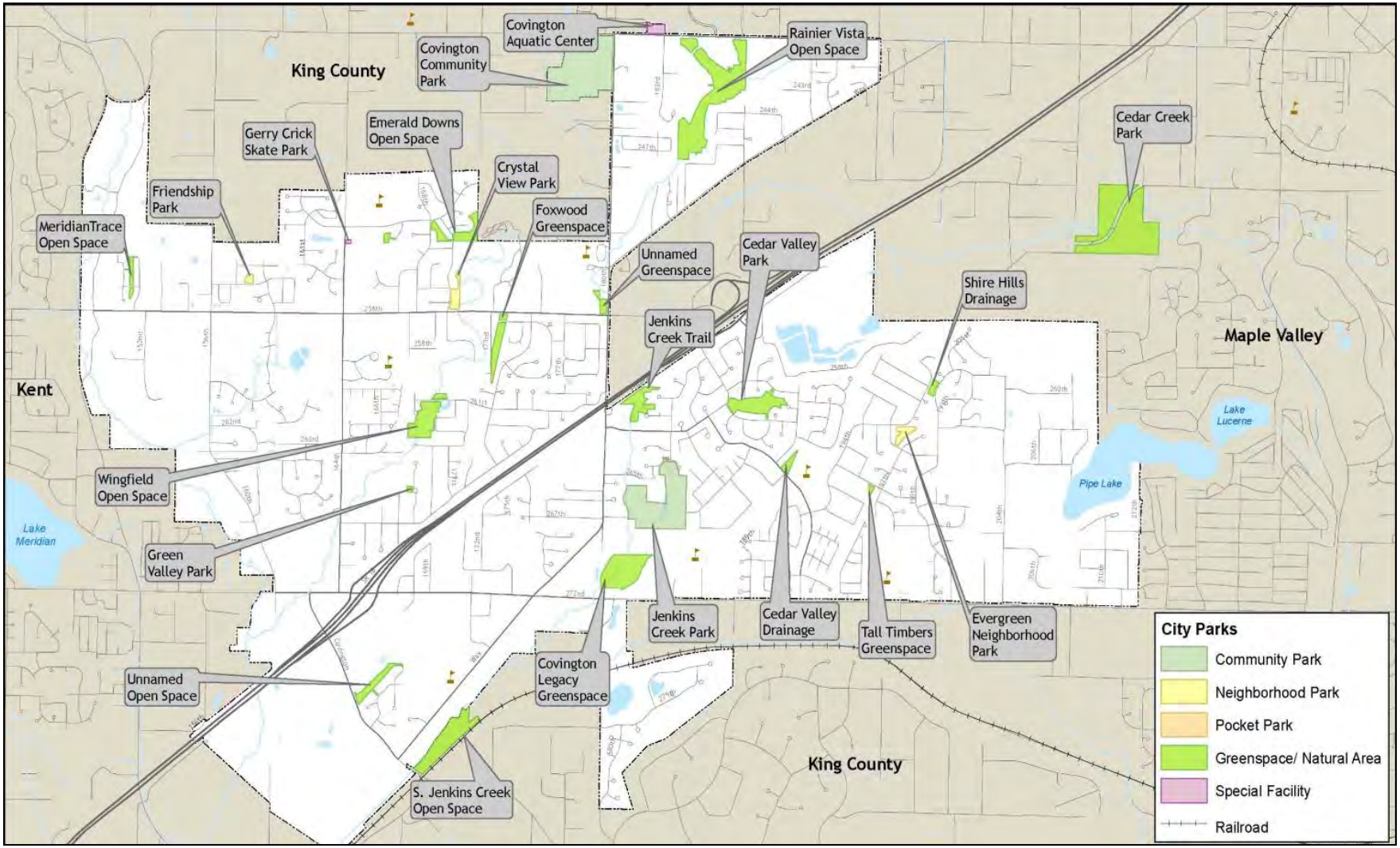
Public services including parks, schools, and fire suppression and emergency services are summarized below and described further in Appendix D.

Parks and Recreation Services

The Study Area contains no formal parks or recreation facilities. A map showing the location of City parks and recreation facilities that are in proximity to the Study Area is contained in Exhibit 9.

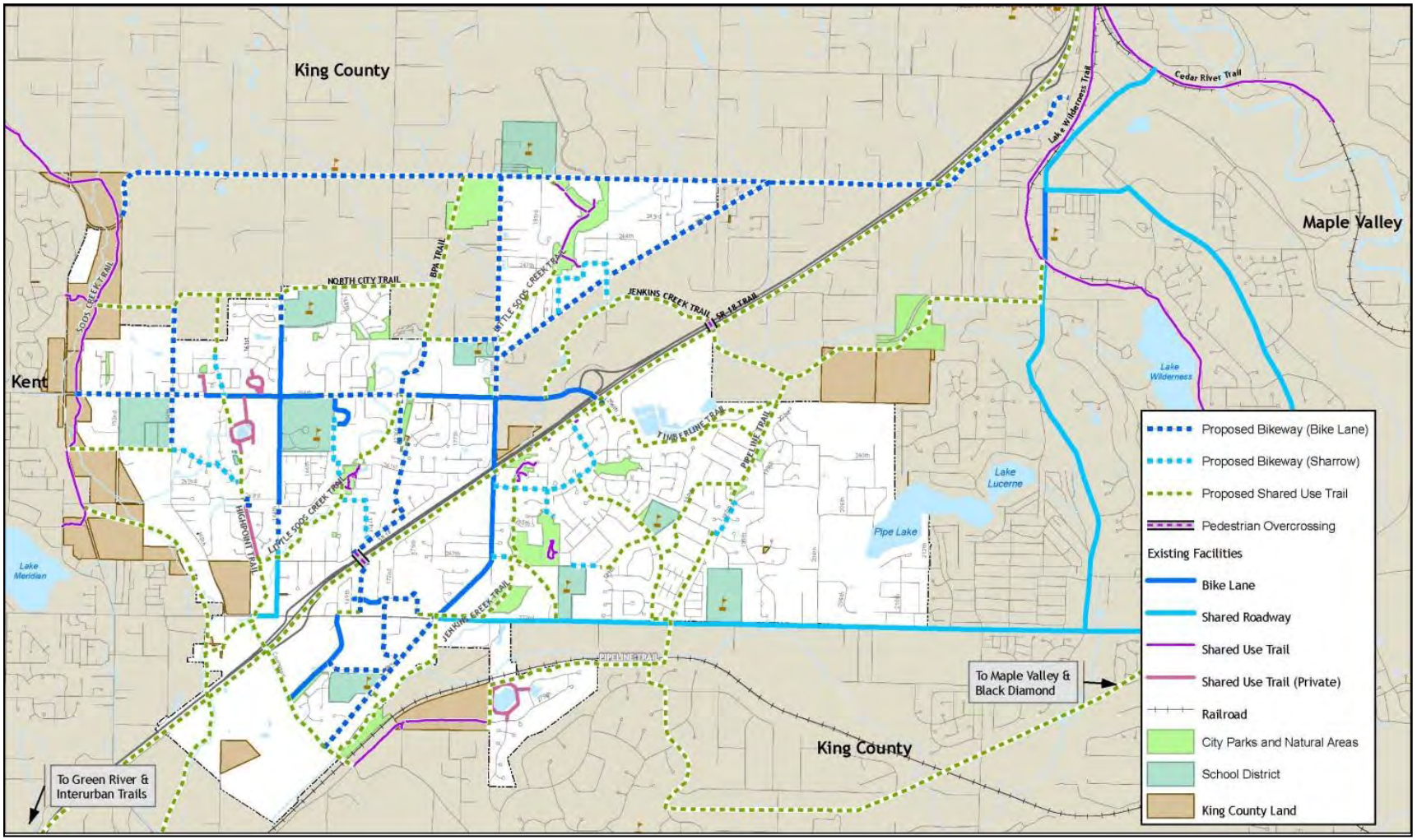
The City has planned trail facilities in the Study Area along Jenkins Creek in the north study area, SR 18 along the southwest and southeast study areas, and in southwest study area as shown in Exhibit 10.

Exhibit 9 Existing City Parks



Source: City of Covington 2010

Exhibit 10 Existing and Planned Trails and Bikeways



Source: City of Covington 2010

Schools

The Kent School District serves all of the Study Area, with the exception of the southeast study area, which is served by the Tahoma School District. There are numerous elementary, junior high, and high schools serving various portions of the Study Area. Tahoma schools have higher enrollments in the elementary and junior high schools than the equivalent schools in the Kent School District. Exhibit 11 provides a map of the general district boundaries.

Fire and Emergency Medical Services (EMS)

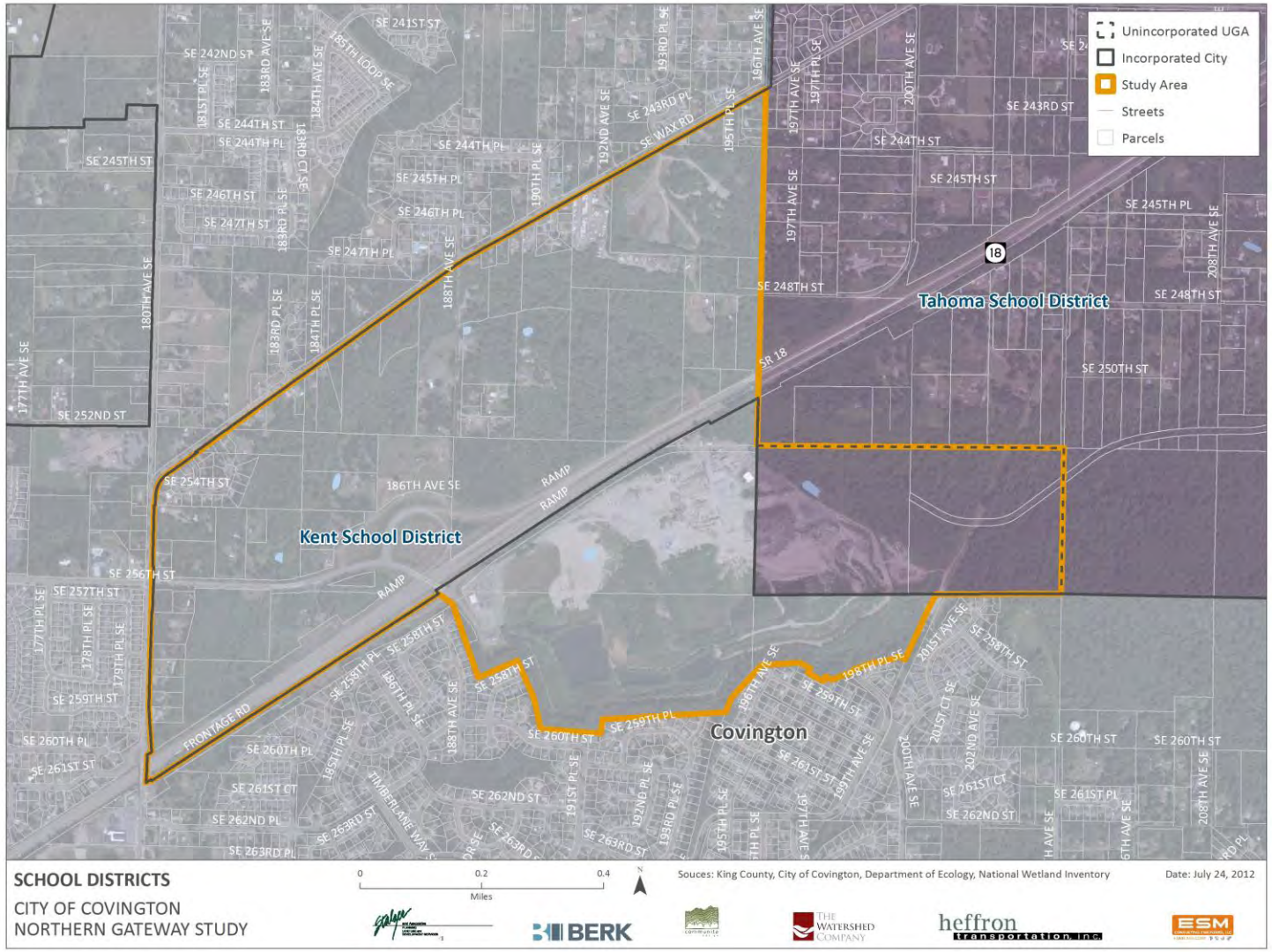
The Study Area is served by two fire districts, the Kent Regional Fire Authority and Fire District 43, Maple Valley Fire and Life Safety. A map of the fire protection service district boundaries is provided in Exhibit 12.

The Kent Regional Fire Authority operates Station 78 located near the western boundary of the Study Area at 17820 SE 256th Street, Covington. Fire District 43 (Maple Valley Fire & Life Safety (MVFLS)) serves the north study area east of 188th Ave SE, as well as the southeast study area from Station 81 located at 22225 SE 231st St, Maple Valley. Station 81 is served by career staff 24 hours per day.

Both service providers indicate there are low call volumes due to the generally low density character of the Study Area. Access has improved due to the installation of the interchange on SR 18. District 43 indicates that a response time from Station 81 is about 6-7 minutes. The Kent Regional Fire Authority notes that during morning and evening peak hour commutes, access can be challenging in the City and Study Area, and effectively mean that a reliable response is not always available. As a result of these challenges in staffing and access, mutual aid is required. Also concurrency and mitigation measures are important to ensure that fires can be delayed until an effective force is in place such as sprinklers, fire walls, intercom systems (e.g. in multifamily or commercial buildings), and other measures.

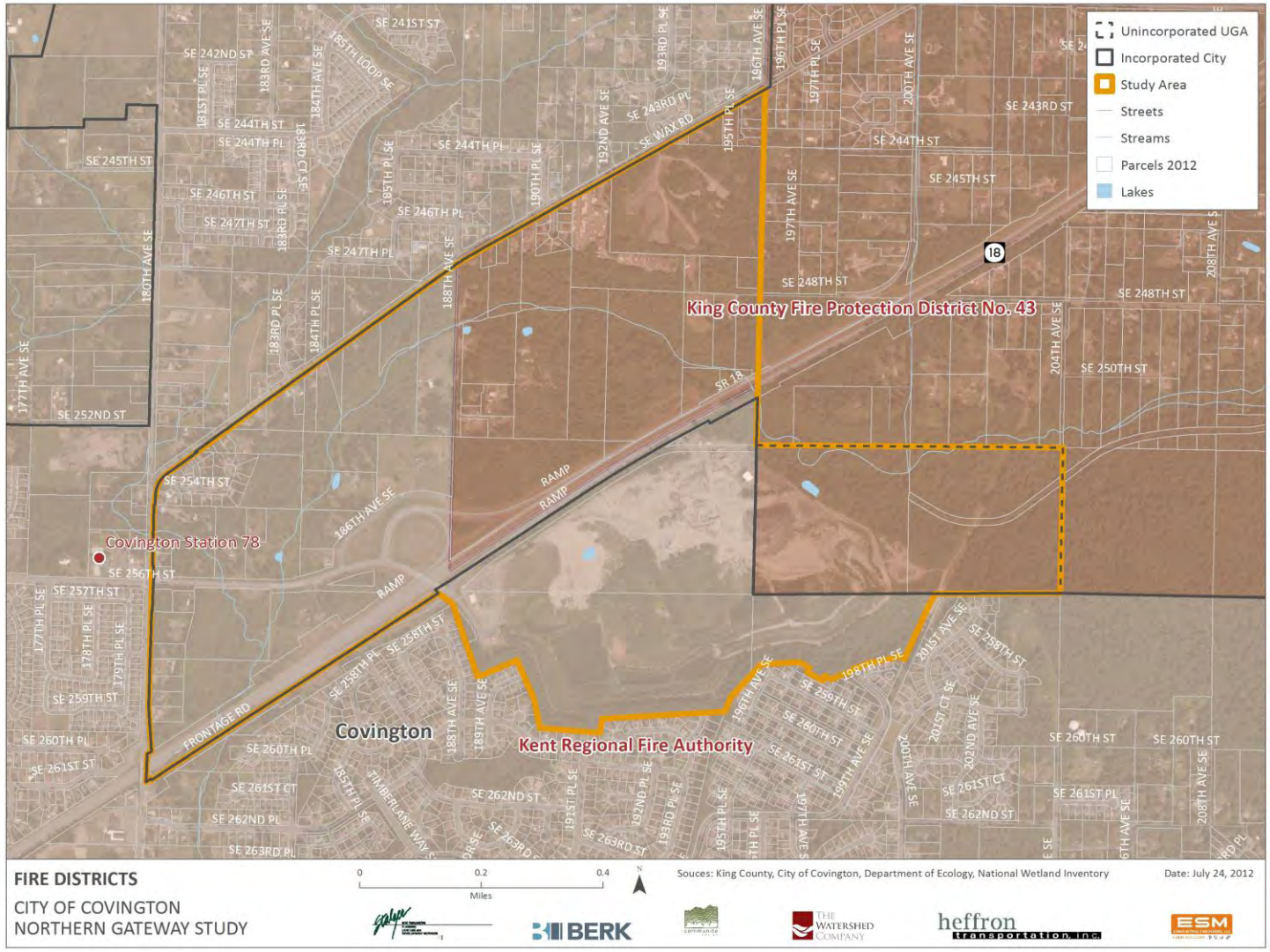
New growth in the city limits and Study Area would increase demand for fire services. Please see Appendix D.

Exhibit 11 School Districts



Source: King County GIS Center 2012; BERK 2012

Exhibit 12 Fire Protection Districts



Source: King County GIS Center 2012; BERK 2012

7.0 GROWTH TARGETS AND BUILDABLE LANDS SUPPLY

The purpose of this analysis is to evaluate the City's ability to meet its 2031 housing and employment targets in light of the amount of buildable land supply in the city limits (which includes the southwest study area), combined with the annexation area (the southeast study area) and the UGA expansion area (north study area).

7.1 Growth Targets

The Washington State Growth Management Act (GMA) requires that counties distribute population growth to cities and to unincorporated UGAs. King County and its cities collaborate on housing growth targets (translation of population to housing units) through the Growth Management Planning Council, and these targets are adopted in the Countywide Planning Policies for King County. Counties and its cities are required to plan for employment uses, but are not required to have employment targets; however, King County and the cities within it have voluntarily included employment targets in the Countywide Planning Policies. The City of Covington's current growth targets are as follows:

- Net New Housing Units Growth Target 2006-2031: 1,470 units
- Net New Jobs Growth Target 2006-2031: 1,320 jobs

Considering the number of building permits issued for residential units and commercial projects, and the number of residential units and commercial projects approved but not yet constructed at the end of 2011, the City has approved the following number of housing units and jobs since 2006 in spite of the economic slowdown:

- Housing Units Added 2006-2011(building permits and pending lot supply): 712 housing units
- Jobs Added 2006-2011(based on permitted and pending commercial site plan building space): 2,773 jobs

Exhibit 13 below summarizes the City's progress toward meeting its 2031 targets since 2006:

Exhibit 13 Progress Towards 2031 Growth Targets

	Housing Units	Jobs
2031 Growth Target	1,470	1,320
Added 2006-2011	712	2,773
Needed 2012- 2031	758	None

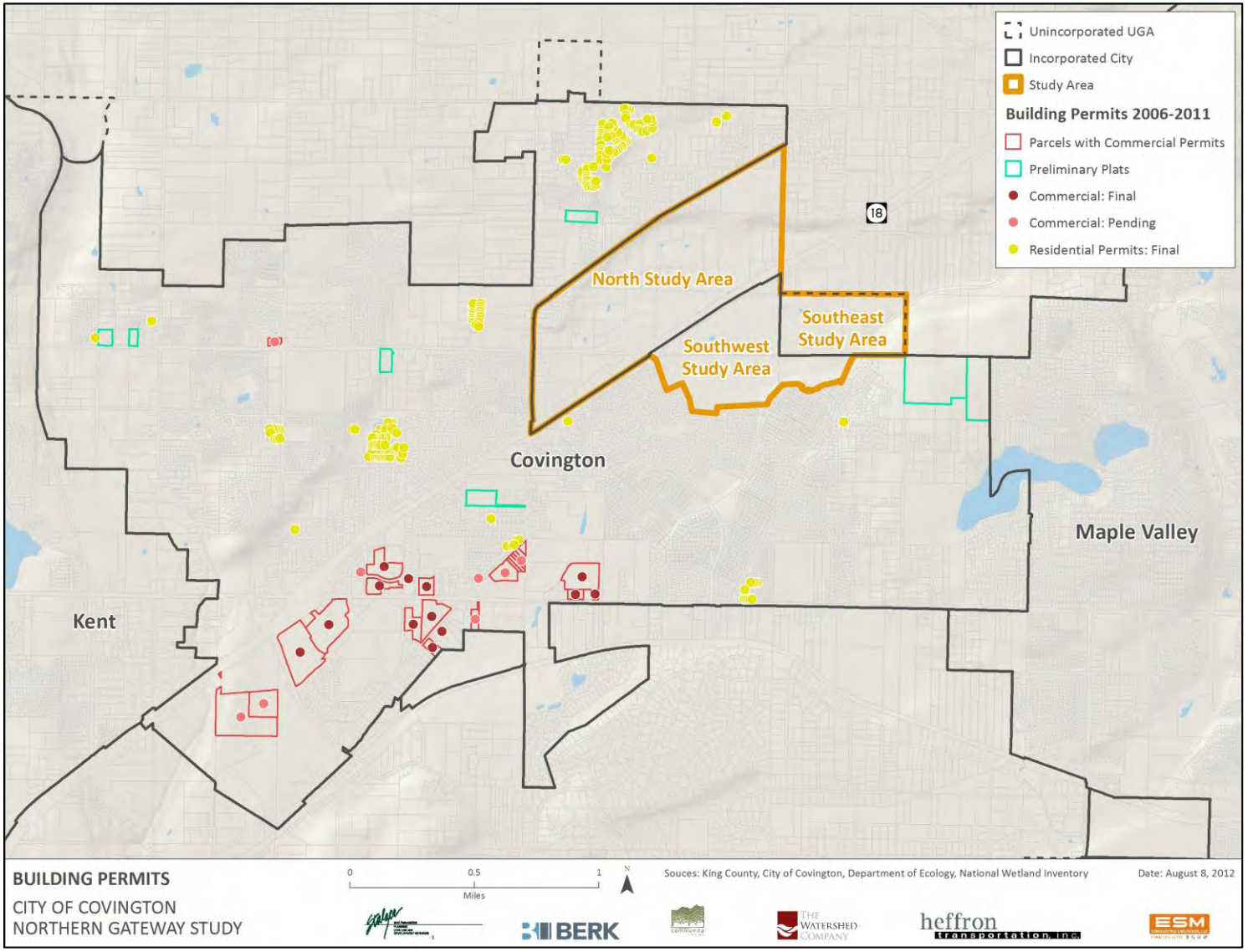
Source: King County 2007 BLR; City of Covington Community Development Department; BERK

Exhibit 14 on the following page contains a map of the locations of the housing units and jobs added since 2006.

This means that in five years the City has made substantial progress meeting its 2006-2031 growth targets. About half of the residential growth target has been met by building permits and the pending lot supply. With both building permits and pending commercial site plan approvals, the City has far exceeded its jobs growth target.

It should be noted that the Puget Sound Regional Council (PSRC) data show covered employment estimates increasing from 3,448 to 4,631 for the City between 2006 and 2010 (1,183 jobs). Considering building permits alone, the City added 1,187 jobs between 2006 and 2011 (90% of its growth target) which is consistent with the PSRC data. With pending approved commercial site plans, the City has more than met its jobs target.

Exhibit 14 Location of Housing Units and Jobs Added 2006-2011



Source: King County Assessor, 2012; King County Buildable Lands Report, 2007; BERK, 2012

7.2 Buildable Lands Supply

The buildable lands supply analysis estimates the land capacity for residential and employment development given land use regulations and physical property conditions. It is the key tool used to determine the capacity for growth in UGAs. This study generally follows the 2007 King County Buildable Lands Report (2007 BLR) methods and assumptions, except where more current information was readily available or developed for the land supply analysis. For the purposes of this study, the southwest and southeast study areas were added to the 2007 BLR land supply analysis whereas they were omitted due to their active gravel extraction use. In addition, the analysis adds the north study area to the analysis as the City wishes to examine the effect of this area on land supply should the area be added to the UGA whereas it too was not included in the 2007 BLR.

Vacant and Redevelopable Lands

The buildable lands analysis identifies vacant land and redevelopable land using 2012 parcel data and the 2007 BLR methods. See Exhibit 15. Vacant land includes parcels with a present use designation of "vacant" and an improvement value less than $5,000 in the King County Assessors records. Redevelopable land is in use for residential or commercial purposes, but can still accommodate additional development based on zoning and land area or the ratio of land value to improvement value.

For a more precise estimate of land capacity, this 2012 analysis removes lots from the land supply that received building permits between 2006 and 2011. Also removed were pending permits such as final plat lots with no permits, preliminary plats, and approved commercial site development permits since they contain more detailed information about potential development within the permit applications (see Exhibit 14). These approved but undeveloped projects are added to the buildable land supply results.

Critical Areas and Buffers

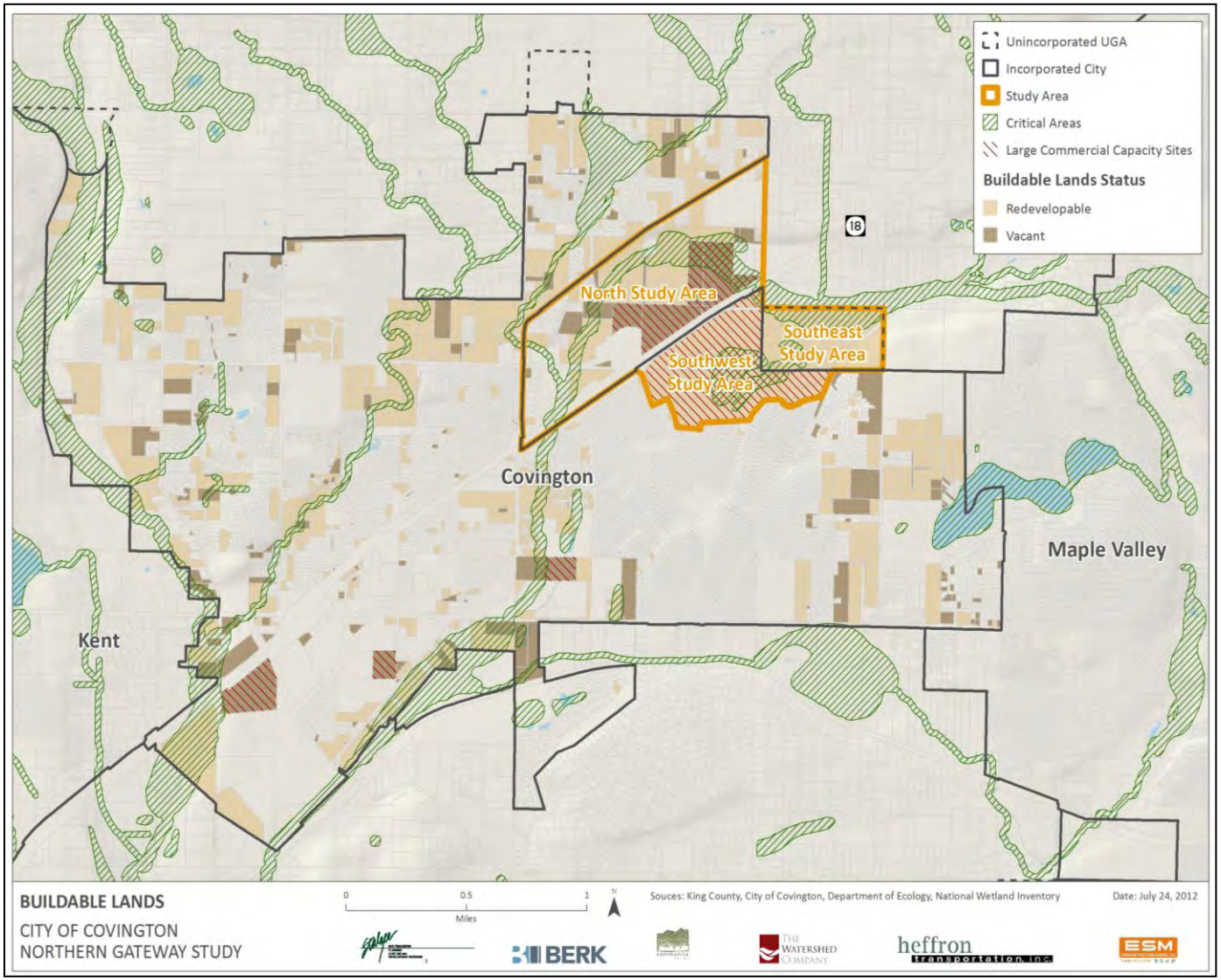
The following critical areas are excluded from the buildable land supply: floodways, wetlands, stream corridors, and steep slopes. It should be noted that the wetland areas for the buildable lands analysis – which is based on mapped records – may be different than what is ultimately established as the jurisdictional boundaries of a wetland, such as once the Department of Natural Resources approved reclamation plan is implemented on the southwest and southeast study areas following the conclusion of gravel extraction activities.

City and King County zoning regulations allow density to be calculated within wetland buffers, stream buffers, and steep slope buffers, so those areas were not fully excluded from the buildable lands supply. However, it should be note that development is not allowed in critical area buffers.

Other Deductions

Other deductions addressed in the buildable lands spreadsheet calculations, include deductions for roads, public purposes, and market factors. Typically 2007 BLR deductions were applied. However, the public purpose deduction was increased from 5% to 10% for a downtown property encumbered by a power line easement.

Exhibit 15 Buildable Lands Map



Source: King County Assessor, 2012; King County Buildable Lands Report, 2007; BERK, 2012

7.3 Total Available Buildable Lands Supply

Exhibit 16 shows the sum of calculated land capacity and pending permits resulting in a total existing buildable land supply capacity for 3,700 housing units and 6,773 jobs. Most of the buildable land supply capacity is located within the city limits under the current zoning. Within the Study Area, both the north study area and the southwest study area have a substantial capacity for employment growth.

Exhibit 16
Total Buildable Land Supply – Housing and Job Capacity

Location	Housing Units	Employment Square Feet	Jobs
City limits, excluding southwest study area	2,234	953,758	2,076
City limits, pending permits	549	713,680	1,586
City limits under current zoning	2,783	1,667,438	3,662
Southwest study area (In the city limits)	332	674,574	1,499
Southeast study area (Annexation Area)	485	0	0
North study area (UGA expansion area)	100	725,613	1,612
Total Capacity	3,700	3,067,625	6,773

Note: Jobs are calculated based on an assumption of 450 square feet per commercial employee and 800 square feet per industrial employee. The jobs calculated in the city limits include both commercial and industrial jobs, while the study areas include only commercial jobs.

Source: City of Covington; BERK 2012

7.4 Ability to Meet Growth Targets

Covington has a substantially greater supply of buildable land than is needed to meet its residential growth target of 1,470 housing units and 1,320 jobs under three scenarios analyzed in the study:

Scenario One: Existing city limits under current zoning (no residential uses on gravel site in Southwest Study Area):

	Housing Units	Jobs
Land Supply Capacity (buildable lands and permits 2006-2031)	2,783	3,662
2031 Growth Target	1,470	1,320
Remaining Land Supply Capacity Available	1,313	2,342

Scenario Two: City limits and the Southwest and Southeast Study Areas are developed:

	Housing Units	Jobs
Land Supply Capacity (buildable lands and permits 2006-2031)	3,600	5,161
2031 Growth Target	1,470	1,320
Remaining Land Supply Capacity Available	2,130	3,841

Scenario Three: City limits and the entire Study Area is developed

	Housing Units	Jobs
Land Supply Capacity (buildable lands and permits 2006-2031)	3,700	6,773
2031 Growth Target	1,470	1,320
Remaining Land Supply Capacity Available	2,230	5,453

Under any scenario, the city has a sufficient supply of buildable lands to meet its 20-year growth targets. However, it should be noted as discussed in the previous section, that in six years, the city has met half of its 25-year residential growth target and far exceeded its 25-year jobs target.

A detailed analysis of buildable lands and growth targets is contained in Appendix E.

8.0 MARKET DEMAND

The market demand analysis provides a 20-year examination of growth in population, employment, and market capture for the broader Covington market area. The analysis estimates the relative magnitude of demand for retail space, office space, and housing in the area. The analysis presents the demand estimates for commercial square feet (retail and office) and residential housing units in a range (from a high estimate to a low estimate) that the region could likely support. These demand estimates are then compared to the 2012 buildable land supply assessment.

8.1 Retail Space Demand

The overall estimated 20-year demand for retail space varies from close to 1.0 million square feet on the high end to about 450,000 square feet on the low end. About half of the demand for new retail space comes from capturing retail leakage (i.e. residents of the Covington market area spending money in locations outside of Covington). Available land is attractive for commercial uses and would likely capture the market demand. Much of Covington's existing commercial capacity is represented by the southwest study area, which is well located and a fairly competitive site. It is located next to the exit/entrance ramps for SR 18, is easily visible from the highway, and has few existing structures on the site.

8.2 Office Space Demand

Much of Covington's office space serves a personal service market – with uses like medical offices, banks, insurance, etc. – geared toward personal and health consumption. Personal service office uses follow population growth, which is different from more general business and professional services oriented office users typically encountered in denser centers and office parks, which are driven by regional employment growth. Most of the office space pending approval (approximately 713,680 square feet) is medical office, which would fall under the personal service category. Over half of that pending office space is related to the proposed Soos Creek Business Center in the southwest part of the city limits.

The estimated office demand range is 713,680 square feet on the high end and 122,000 on the low end. For the market analysis, it is assumed that all of the 713,680 square feet of office space will be built over the next 20 years. For a City like Covington with a small office stock (relative to other, more urban areas), the proposed office developments could signify a shift in Covington's market position for the viability of large scale office development as it increasingly become a regional center for the surrounding area, especially for medical offices and facilities.

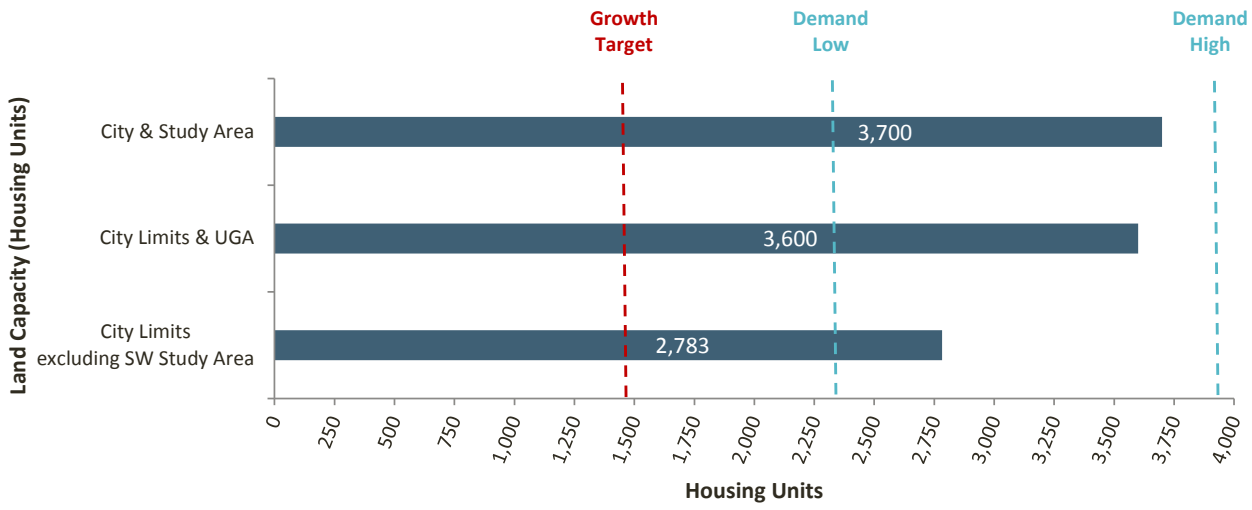
8.3 Residential Dwelling Unit Demand

The residential demand analysis estimates housing unit demand for two different growth scenarios. The high growth scenario assumes that housing unit growth for each housing type grows at the same rate that it did from 2000 to 2010. The slower growth scenario assumes slower growth for single-family housing and more growth in multi-family housing units. The high-end estimate is 3,920 units and the low-end estimate of the 20-year demand for new housing units is 2,290 units.

8.4 Comparison of Market Demand to Buildable Land Supply

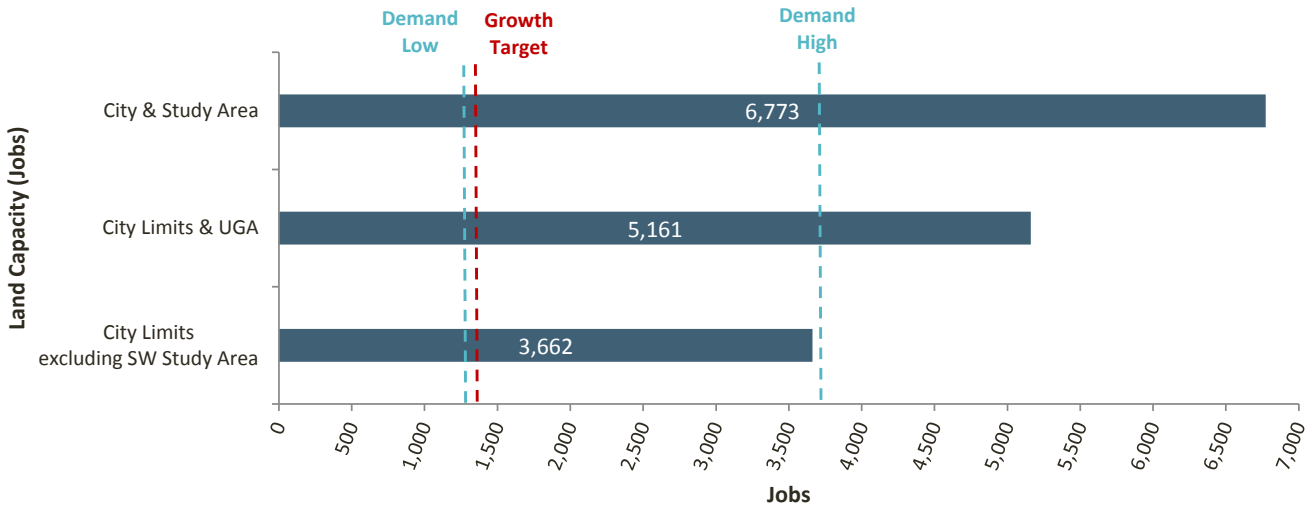
The available supply of land for housing and jobs exceeds the City's assigned growth targets. However, it is clear that the growth targets are below the market demand for both residential and commercial uses. See Exhibit 17, Exhibit 18, and Exhibit 19.

Exhibit 17 Comparison of Market Demand, Land Supply, and Housing Growth Target



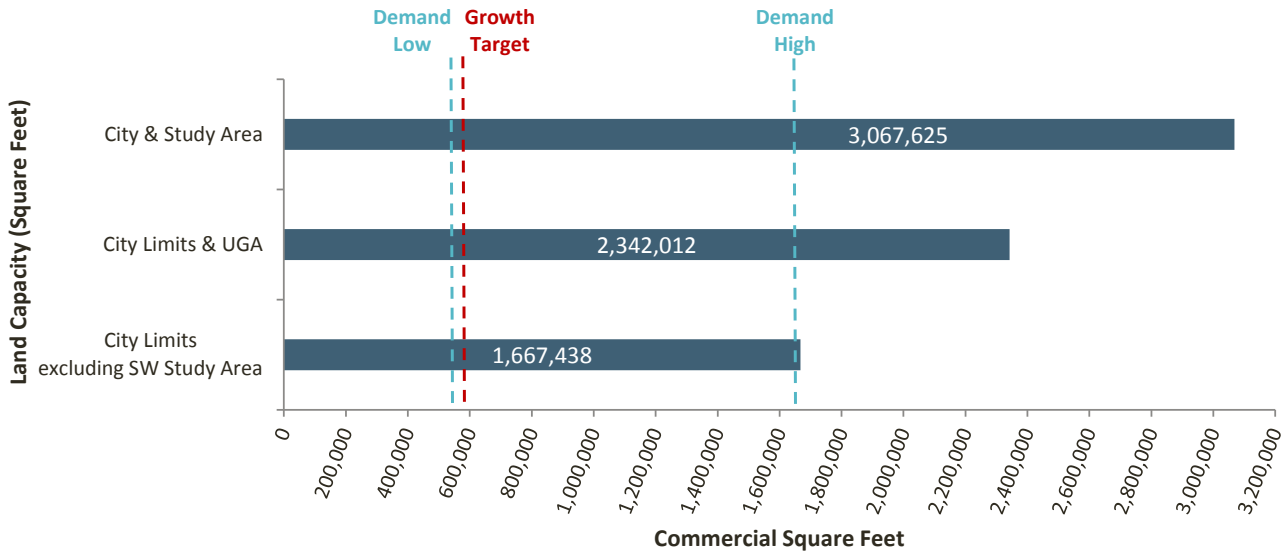
Source: BERK 2012

Exhibit 18 Comparison of Commercial Market Demand in Jobs, Land Capacity, and Jobs Target



Source: BERK 2012

Exhibit 19 Comparison of Market Demand in Commercial Square Feet, Land Capacity, and Jobs Target



Source: BERK 2012

9.0 PRELIMINARY LAND USE CONCEPT PLAN

For the purposes of providing guidance for a preliminary fiscal analysis, a preliminary land use concept plan was prepared and is shown in Exhibit 20. It illustrates a potential scenario of land use patterns, uses, intensity, and constraints given the current state of knowledge about the study area. Generally commercial and low density residential uses are shown in the north study area and a broader range of urban uses are shown in the southwest and southeast study areas.

If the City moves forward with a subarea planning process, a new preliminary land use concept would be prepared through a public involvement process. An 11x17 full version of the Preliminary Land Use Concept Plan is included in Appendix F.

Exhibit 20 Preliminary Land Use Concept Plan

Source: Communita 2012

10.0 PRELIMINARY FISCAL ANALYSIS OF ANNEXATION

The goal of this analysis is to provide the City with a preliminary understanding of the fiscal implications of annexing the southeast study area (currently in the UGA but outside of the city limits) and the north study area (currently outside of the UGA). It evaluates the incremental fiscal impact of annexing each area separately and of annexing both over a 10-year period following an assumed annexation in 2014. It assumes a level of development for the study area consistent with the buildable lands supply analysis, the market demand analysis, and the Preliminary Land Use Concept Plan. However, the projections are based on rates of growth the City has historically been able to achieve. Appendix G provides more detailed analysis summarized below.

10.1 Planning Tool

This analysis is a planning-level tool and not a budget development exercise. It provides a comprehensive look at the potential incremental impacts of annexation of the southeast and north study areas on the City's financial picture built on the premise that key factors in the land base (such as population, employment, and commercial activity) drive both demand for services and changes in the City's tax base. It isolates the components of the City's budget that are funded through general tax and fee revenues, including functions and departments funded by the City's General, Street, and Parks funds, but it does not provide a full accounting of the City's projected sources and uses of funds.

Exhibit 21 summarizes the impacts of the development assumptions on the two areas and citywide (i.e. the total land area within the city limits which includes the southwest study area). The table shows the total population, housing units, land area, taxable assessed value, and taxable retail sales at the beginning of the study period (2012) and the end (2023) by area, and assumes that annexation of both areas occurs in 2014. It should be noted that the City has identified in its Comprehensive Plan the north study area as Potential Annexation Area 4 (PAA 4) and the southeast study area as PAA 1. These subtitles are shown on Exhibit 1.

Exhibit 21
Current and Estimated Future Demographics by Geographic Area (2012-2023)

	PAA1 (mine)		PAA4 (notch)		Current City Boundaries	
	2012	2023	2012	2023	2012*	2023
Total Population	0	135	210	294	17,640	21,402
Total Housing Units	0	45	72	100	6,006	7,348
Total Land Area (sq miles)	0.1	0.1	0.9	0.9	5.9	5.9
Total Taxable Assessed Value	$2,500,000	$18,200,000	$29,900,000	$68,100,000	$1,678,700,000	$2,945,900,000
Total Taxable Retail Sales	$0	$2,500,000	$0	$31,800,000	$339,900,000	$604,200,000

** Current City population is from the Washington Office of Financial Management's April 1, 2011 Cities and Towns population estimate. Current City housing units and land area are from 2012 King County parcel data. Current city taxable AV is from 2012 King County parcel data. Current city TRS is from the Department of Revenue's 2011 annual TRS estimate.*

Note: The southwest study area (currently in the city limits) would have a share of development attributed to the current city limits.

Source: Washington State Office of Financial Management, 2011; King County Assessor's Data, 2012; Washington State Department of Revenue, 2011; and BERK, 2012.

10.2 Preliminary Fiscal Analysis: Operating Revenue

Tax and fee revenues are estimated based on the changes in the components of the City's tax base resulting from growth. Components of growth that could influence revenues include population, employment, land use changes, or base inflation in certain components of the tax base. Each of the City's tax and fee revenue sources is separately estimated by assessing changes in the tax base and applying the assumed future tax and fee structure to generate

revenue projections. The analysis assumes annexation occurs in 2014; 2012 numbers are current City budget estimates.

Primary Revenue Sources

As with many cities in Washington State, the three largest revenues sources for the City of Covington are Sales Tax, Property Tax, and Utility Taxes, making up about 75% of the City's General, Street, and Parks Fund revenues.

Retail Sales Taxes. One of the key revenue sources that cities rely on is Retail Sales Tax. This tax is levied not only on businesses in the area, but also on construction activity and some transactions that are related to housing, such as certain online purchases.

Property Taxes. Because of the method for calculating the City's property tax levy (equal to the previous year's levy plus new construction), the amount of new construction is important to the City's ability to limit the erosion of its millage rate over time. For both the current City and the southeast and north study areas, construction rates are based on development assumptions for parcels that are vacant, redevelopable, or already planned or permitted by King County.

Utility Taxes. The City of Covington imposes utility taxes on telephone services, electricity, natural gas, cable, and solid waste, and collects franchise fees for cable. Because these taxes are paid by both residences and businesses, revenues are projected based upon a per capita number for population and employment.

Other Revenue Sources

Gas Tax. A portion of the state-collected gas tax is shared directly with municipalities, which bear a substantial portion of the overall costs of road maintenance and construction. Cities are allowed to use this funding for maintenance or capital, and Covington uses its gas tax revenues for street maintenance.

Criminal Justice Sales Tax. King County levies a dedicated sales tax to support criminal justice expenditures. This sales tax is collected by the State Department of Revenue, and is distributed to King County and to cities within the county on a per capita basis.

Other Miscellaneous. The City receives some small revenues that have been categorized as "Other Miscellaneous" for this analysis. Included in this category are, among others, interest on investments, the technology surcharge, small cost recoupments, and other miscellaneous revenues.

Liquor Board Profits and Excise Tax. According to State law, a share of the state profits from liquor sales and state collected excise tax on liquor is distributed directly to cities on a per capita basis. Given the recent passing of Initiative 1183, which changed the state's liquor distribution and sales system from public to private operation, the City will see a decrease in liquor revenues from this budgeted number.

Recreation Charges. Given that existing residents of the study area already use the City's recreation facilities, only new residents are assumed to increase recreation revenues.

Fines and Forfeits. This group of revenues includes parking infraction penalties, DUI fines, other criminal traffic and non-traffic fines, criminal conviction fees, and false alarm fees that provide revenue to the General Fund.

Cable Franchise Fee. The City of Covington charges Comcast a franchise fee for providing service within the City boundaries. This revenue source is assumed to increase with inflation and extend to the southeast and north study areas upon annexation.

Internal Charges for Service. The City provides central services, such as Information Services, to all of its departments through a General Fund funded position and contracts. Other departments make operating transfers to the General Fund to cover their relative portion of these services. This revenue source does not include the transfers from the Parks and Street Funds, as the central services revenues and expenditures associated with those funds were netted out to avoid double counting.

Grants and Other Intergovernmental. This group of revenues includes grants and intergovernmental revenues for operational expenditures that are not already addressed above. It does not include grants for capital projects. It is important to note that it is difficult to estimate this source of revenue as grants tend to fluctuate widely from year to year.

10.3 Preliminary Fiscal Analysis: Operating Costs

The fiscal analysis estimates the changes in the cost of services based on relationships between direct services, such as maintenance workers or planners, and underlying demographic and community changes such as increases in population, housing units, commercial activity, and land area.

General Assumptions

Currently, assuming that the City's policies remain unchanged, annual growth rates for major cost drivers include: 1) salaries at 4%; 2) benefits at 7.5%; 3) non-Police contract costs at 3.5%; and 4) Police contract costs at 5.0%, all of which does not include increases in City staff.

City Staffing

Staffing costs reflect **only those positions funded through the General, Street, and Parks Funds**. They do not include increases in positions (or portions of positions) funded by Utility Funds or other Special Revenue Funds. Many positions in the City are partially funded from the General Fund and Development Services Fund or Stormwater Fund, based on the functions performed. The cost analysis does not include those funds, as they are supported through building permitting and stormwater fee revenues, respectively.

Street and Parks Maintenance Staff. Street and parks maintenance is conducted by the Public Works Department, which is funded by a combination of revenue from the Street Fund, Parks Fund, and Stormwater Fund. The demand for street maintenance and parks maintenance was analyzed separately in order to understand what drives the need for each type of service.

Streets. The foundational driver for increasing street maintenance staffing is the relationship between current staffing and lane miles, applied to the lane miles that will become part of the City upon annexation. Increases in staffing needs are based on current estimated lane miles in the annexation areas. At this stage in the planning process that are no development plans for those areas that would allow a determination of how many more miles will be added and whether they will be public or private roads.

Parks. The foundational driver for increasing parks maintenance staffing is the amount of park and open space acres. Currently there are slightly more than seven acres of open space that would be taken over by the City if it were to annex the north study area (PAA 4). Given that there are no planned parks for the annexation areas in the City's parks plan at this time, it is difficult at this stage of the planning process to determine exact maintenance needs.

Other Impacts by Department/Division

This section provides a narrative of non-staff annexation cost impacts by affected department:

Police. The City currently contracts with the King County Sheriff's Office (KCSO) for public safety services. The City is currently at capacity with regard to its police services, and future population and commercial activity growth within both the current City boundaries and within the annexation areas would require the need for a small expansion of police services.

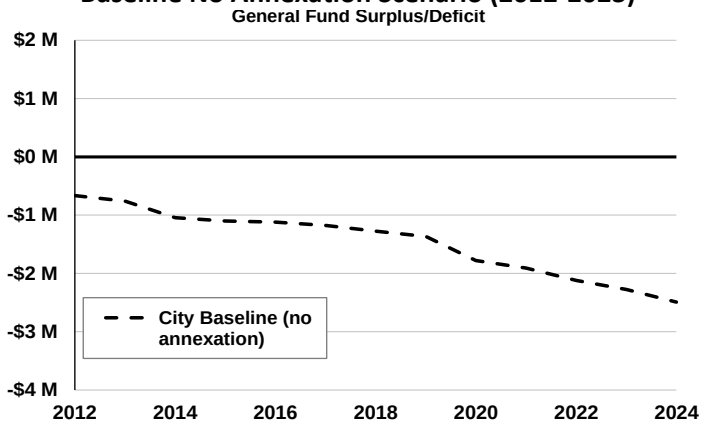
Public Works (Street and Parks Maintenance). In addition to the staffing costs described above for street and park maintenance workers, there will be additional non-labor costs to maintain the added streets, sidewalks, parks, and public right-of-ways that are currently maintained by King County. For the purposes of this study, it is assumed that the City will take over maintenance of these assets upon annexation.

Contract Costs. The city contracts for many services, including public defense, prosecuting attorneys, municipal court costs, animal control, jail beds, and fire investigative services. The projected cost of these services is included in the analysis.

10.4 Baseline Condition for the City

The purpose of presenting the baseline condition is to understand the structural relationship between operating costs and revenues, showing *in any given year* what the difference will be between costs and revenues. If current trends were to continue, the City of Covington would see costs increasing at approximately 4.6% per year and revenues increasing at about 4.0% per year, leading to an increasing deficit over time. Exhibit 22 shows the City's estimated fiscal baseline (the difference between estimated costs and revenues) from 2012 to 2023. Note that this fiscal picture only includes the General, Street, and Parks funds.

Exhibit 22
Estimated Net Fiscal Deficit/Surplus for City of Covington
Baseline No Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,815,000
Net Revenues	**(664,000)**	**(2,275,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Note: Although Exhibit 22 *shows a deficit in 2012, the City has balanced its 2012 adopted budget through the use of fund balances.*

Source: City of Covington, 2012; and BERK, 2012.

Cities in Washington are legally required to have balanced budgets. As with all cities, the City will continue to make policy choices to balance the budget each budget cycle. The result is that large projected budget deficits do not materialize.

It is important to put this ongoing funding shortfall into an appropriate planning context. While this analysis provides a comprehensive look at the potential incremental impacts on the City's financial picture, it does not provide a full accounting of the City's projected sources and uses of funds. In particular, the analysis does not include any reserve funds the City may have. As a result, the deficits projected in the baseline condition should be viewed as an indication of the structural imbalance between new and ongoing revenues and expenditures assuming continuation of existing tax policies and levels-of-service and not as an estimate of the near term cash flow situation for the City. **Note that this fiscal picture only includes the General, Street, and Parks funds**; **and does not include any fund reserves**.

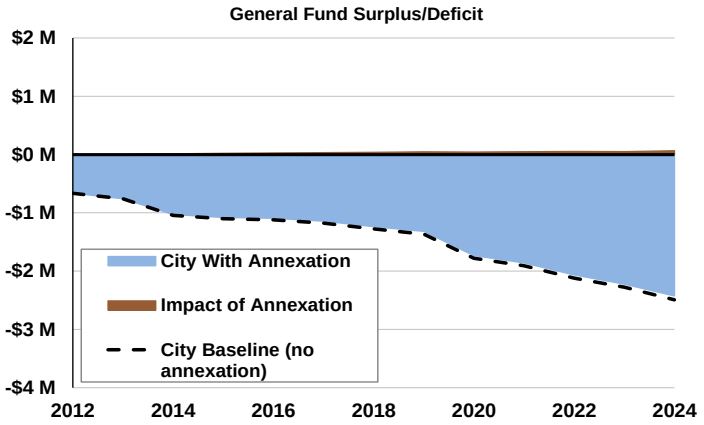
10.5 Fiscal Impact of Annexation

The fiscal analysis looks at the impacts of each annexation area separately and then combined to understand how the distinct characteristics of each area will likely impact the City's fiscal outlook. (See Appendix G for more information.) It should be noted that the fiscal impact of the assumptions about development of the southwest study area are included in the "Current City" expenditures and revenues, as that area currently is located within the city limits.

Annexation of the Southeast Study Area (portion of the study area inside the UGA but outside of the city limits)

Annexation of the southeast study area would have little impact on the City's future fiscal outlook over the 10-year period following annexation, as development assumptions result in only a minimal amount of housing and commercial uses during that period based on past growth trends of Covington.

Exhibit 23
Estimated Net Fiscal Deficit/Surplus for
Southeast study area (PAA 1) Annexation (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,816,000
Net Revenues	**(664,000)**	**(2,274,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	32,000
Core Revenues	0	82,000
Net Revenues	**0**	**50,000**
Deficit/Surplus as % of Expenditures	**0%**	**156%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,122,000
Core Revenues	9,687,000	14,898,000
Net Revenues	**(664,000)**	**(2,224,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**
Marginal Impact of Annexation	**0%**	**2%**

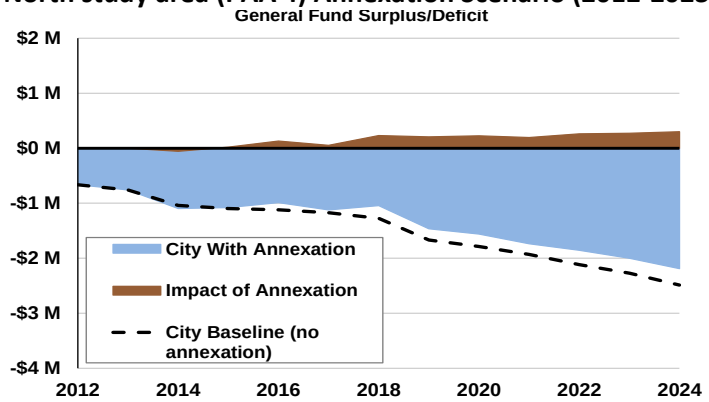
Source: BERK, 2012

As shown in Exhibit 13, the area would provide minimal additional revenue to the City, but also would not generate a need for significant costs related to providing services. **Note that this fiscal picture only includes the General, Street, and Parks funds**; **and does not include any fund reserves**.

Annexation of the North Study Area (Outside the UGA)

Annexation of the north study area ("the notch") would provide a net fiscal benefit to the City over the 10-year period following annexation, as development assumptions would result in a substantial amount of commercial uses and a minimal amount of housing during that period. The existing population, projected development activity, and lane miles would result in the need for some additional street and parks maintenance costs and police services, as well as new revenues from sales tax, utility taxes, and property taxes.

Exhibit 24
Estimated Net Fiscal Deficit/Surplus for
North study area (PAA 4) Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,818,000
Net Revenues	**(664,000)**	**(2,272,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	168,000
Core Revenues	0	439,000
Net Revenues	**0**	**271,000**
Deficit/Surplus as % of Expenditures	**0%**	**161%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,258,000
Core Revenues	9,687,000	15,257,000
Net Revenues	**(664,000)**	**(2,001,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-12%**
Marginal Impact of Annexation	**0%**	**13%**

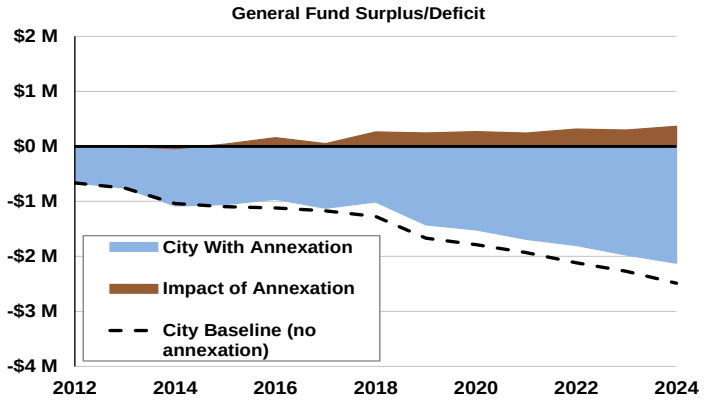
Source: BERK, 2012

As shown in Exhibit 24, the tax revenues generated by its commercial areas and new population exceed the incremental cost of providing public services to the area. **Note that this fiscal picture only includes the General, Street, and Parks funds**; **and does not include any fund reserves**.

Annexation of Both the Southeast and North Study Areas

Exhibit 25 shows the combined impact of annexing both areas. It's important to note this situation is not equivalent to simply adding together the incremental impacts of annexing each annexation area separately, as annexation changes the way taxes are collected, primarily by marginally changing the property tax levy rate throughout the entire city. Property brought into the city through annexation is considered "new construction" in the calculation of the allowed property tax, thereby increasing the property tax limit (and the corresponding levy rate somewhat) for the City as a whole in the year of annexation, and the years following

Exhibit 25
Estimated Net Fiscal Deficit/Surplus for Combined Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,818,000
Net Revenues	**(664,000)**	**(2,272,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	224,000
Core Revenues	0	521,000
Net Revenues	**0**	**297,000**
Deficit/Surplus as % of Expenditures	**0%**	**133%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,314,000
Core Revenues	9,687,000	15,339,000
Net Revenues	**(664,000)**	**(1,975,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-11%**
Marginal Impact of Annexation	**0%**	**14%**

Source: BERK, 2012.

The existing population, development activity, and lane miles in the areas will result in the need for some additional street and parks maintenance costs and police services initially, as well as some new revenues from sales tax, utility taxes, and property taxes. Initially, costs will outweigh revenues. Ten years after annexation, the analysis anticipates the area will provide a net fiscal benefit to the City. The net impact is still relatively small compared to the City's overall costs and revenues; however the benefit will grow over time as additional commercial space is added.

10.6 Additional Annexation Considerations

Transition Period. Although this planning-level analysis makes the simplifying assumptions of full staffing and full revenues received by the City on the first day of annexation, in reality there would be a transition period. The timing of the effective date of annexation has a large effect on revenues in the first few years of annexation. Many of the revenue sources are not time sensitive and would begin immediately upon annexation. Other revenue sources such as sales taxes, property taxes, and state-shared revenues have certain lag times associated with distribution of the revenue. Similarly, some costs would be incurred immediately but most would be incurred over time: the Study Area is primarily vacant today, so costs, like revenues, would increase as development of the Study Area takes place.

Capital Costs. The principal focus of this study is on the fiscal impacts associated with day-to-day operation. However, there will be some additional costs to the City from new capital expenditures that will need to occur in the annexed areas. Capital impacts will mostly fall under the purview of Public Works and include Stormwater, Streets and Parks. This analysis also estimated the real estate excise tax (REET) revenues that would be available for capital expenditures after annexation.

11.0 POLICY ANALYSIS FOR EXPANSION OF THE UGA

There are several key policy issues that determine whether or not the City's UGA can be expanded to include the north study area– consistency with State and King County requirements, the character of urban and rural growth, the capacity for growth targets, presence of urban services, absence of resource lands, and adequate protection of critical areas. Each topic is summarized below. A detailed policy analysis has been conducted and documented in Appendix H.

Urban Growth and Growth Targets: The State Growth Management Act (GMA), Countywide Planning Policies (CPPs), and King County policies promote UGAs characterized by urban growth or adjacent to lands characterized by urban growth. These policies also promote a countywide UGA that is sized to meet the 20-year growth targets for individual cities and for unincorporated King County. The north study area contains a mix of urban and rural densities and is adjacent to areas characterized by urban growth. While the existing land supply can meet the City's 20-year housing and jobs growth targets, the pace of permitted lots and new jobs together with a market study show there is demand for more growth, and growth targets should be revisited. With the adoption of the Downtown Plan in 2009, the City has accomplished reasonable measures to increase its development capacity in advance of considering the expansion of its UGA to include the north study area.

Urban Services: GMA, CPPs, and King County policies promote UGA territory that is served or can be served with urban services. A full range of urban services and utilities exist or can be made available to the north study area. A service that is particularly identified with urban growth is sewers, and the Soos Creek Water and Sewer District Comprehensive Plan includes sewer extensions to the area. (See "Water, Sewer, and Storm Drainage" section above.)

Resource Lands: GMA limits how resource lands of long term commercial significance for agriculture, forestry or mineral may be de-designated for inclusion in a UGA. The north study area does not meet the criteria for designated resource lands.

Environmental Conditions: CPP and King County policies prefer to avoid inclusion of territory that is highly environmentally sensitive or would result in expansion across natural watershed boundaries. The north study area is in the same watershed as the City of Covington – the Soos Creek Basin. The topography of the north study area includes steep slopes along the north side, similar to the city limits to the north along SE Wax Road. The north study area contains wetlands and streams. The City has critical area regulations to protect the functions and values of these habitats. By requiring buffers on streams and wetlands and protective stormwater standards, the City standards ensure that development in the north study area is clustered away from critical areas.

12.0 SEPA OPTIONS

The State Environmental Policy Act (SEPA) requires proposed actions such as specific projects or plans be subject to environmental review. An environmental document provides information on current study area conditions, potential alternatives, natural and built environment impacts, and mitigation measures. The following types of SEPA alternatives are reviewed in Appendix I:

- Determination of Non-Significance and Expanded SEPA Checklist
- Non-project Environmental Impact Statement (EIS) (WAC 197-11-442)

- Integrated Plan/EIS (WAC 197-11-210 to 235)
- Infill exemption with Non-Project EIS or Integrated Plan/EIS (RCW 43.21C.229)
- Planned Action EIS (Section 303 of SB 6406; WAC 197-11-164 to 172)

The City will make a threshold determination on the type and level of SEPA review (determination of non-significance or determination of significance) and the appropriate level of documentation based on the proposal and information about likely impacts or mitigation measures (WAC 197-11-330).

In addition to considering the appropriate threshold determination, the City may voluntarily decide that it would like to use an EIS tool intended to facilitate public understanding at the planning stage and to facilitate future permitting consistent with the review, for example, a planned action EIS and ordinance, or a programmatic EIS leading to infill exemptions. The upfront environmental review in a planned action or programmatic/infill EIS could serve to attract investment in the study area and reduce permitting costs for future development while still meeting City mitigation and code requirements intended to implement the community's vision.

Appendix A:
Covington Northern Gateway Study – Wetland & Stream Reconnaissance Summary
The Watershed Company, August 6, 2012

August 6, 2012

Lisa Grueter, AICP
BERK Consulting
2025 First Avenue, Suite 800
Seattle, WA 98121

Re: Covington Northern Gateway Study – Wetland & Stream Reconnaissance Summary
The Watershed Company Reference Number: 120121

Dear Lisa:

On May 31, 2012 I completed a brief field reconnaissance of wetlands and streams in the study area. As you know, the study area is comprised of approximately 210-acres south of SR 18 within the City's Urban Growth Area (UGA),referred to here as the southeast and southwest study areas , and 275-acres north of SR 18 that is currently outside the City's UGA, referred to here as the notch. Differences among wetland maps, specifically the National Wetland Inventory (NWI) and King County's GIS maps, were compared on a gross-scale. The intent of this reconnaissance was to identify and rate wetland and stream areas so critical area regulations under King County and Covington can be compared. Limited property access was obtained for this assessment. Wetlands were reviewed in the field where access was available. Property access and viewpoint locations were limited for this broad-scale inventory, and as a result, some wetlands could not be conclusively categorized.

Wetlands

Wetland mapping

Presence of known wetlands in the study area is based on NWI and King County mapping as shown on Map 1. A gross-scale review of that mapping was conducted. The attached sketch (Map 2) roughly depicts five wetland units in six areas and two streams, which were identified in the study area.

Differences between the two map sources were assessed. Based on this reconnaissance, ground conditions where mapping inconsistencies occur are as follows. The actual wetland boundary of units 1a and 1 b appears to be somewhere between the NWI and King County iMAP lines. Units 2 and 3 are shown relatively accurately on NWI, but omitted from iMAP. Likewise, wetland unit 4 is shown relatively accurately on iMAP, but not captured by NWI. Accuracy of NWI mapping appears to be better than iMAP

with respect to wetland unit 5, but it's likely neither map reflects current conditions at this highly disturbed gravel mine. Looking at aerial photos, it is my assumption that Wetland unit 5 is comprised of a series of open water ponds. The status of these ponds needs to be evaluated in future studies, as a Department of Natural Resources reclamation permit has been approved for the gravel extraction site.

Wetland Classifications

Both King County and City of Covington use the *Western Washington Wetland Rating System* (Ecology, Aug 2004, version 2) to classify jurisdictional wetlands. As noted above, property access and viewpoint locations were limited for this broad-scale inventory. As a result, some wetlands could not be conclusively categorized. Where conditions could not be field verified, a split score total was tallied. This applies to wetland units 1a, 3, and 5. Although I did not visit wetland unit 3, readily available King County records do include a sensitive areas map under permit B97R2379. This information was used to rate wetland unit 3. The split scoring totals for wetland unit 3 were both in the range of a category III rating. However, wetland unit 1a and 5 may be one of two categories as listed in Table 1 below. Table 1 is a summary of the wetland ratings resulting from the May 31, 2012 field reconnaissance and a review of public-domain sources.

Table 1. Wetland rating summary

Wetland	Category	Habitat Score
Unit 1a*	I / II	24 / 23
Unit 1b	I	26
Unit 2	II	24
Unit 3	III	16
Unit 4	II	22
Unit 5*	III / IV	10 / 5

*Split ratings are reported due to lack of field verification.

Wetland Buffers

Regulatory wetland buffer widths for these units under current King County Code and City of Covington Code are reported in Table 2 below. King County takes both habitat score and adjacent land use into account when assigning buffers for each wetland category. Land use is characterized as high, moderate or low. For example, rural residential is deemed a moderate impact land use. Buffer widths in the City of Covington are based on the wetland category and habitat score. In general, buffers for category I and II wetlands are slightly larger under King County's moderate land use designation. However, category III and IV wetlands receive slightly more protection (larger buffers) under City of Covington Code.

Additionally, King County standard buffer width determinations are also subject to special circumstances, which may include the presence of a priority species or a steep slope hazard. For example, wetland units 1b and 2 are near or partially within steep slopes. King County Code KCC 21A.24.325.D.2 states, "*For a wetland buffer that includes a steep slope hazard area or a landslide hazard area, the buffer width is the greater of the buffer width required by the wetland's category in this section or the top of the hazard area.*" Covington does not include special circumstance considerations. However, as a critical area, steep slope hazards are managed and buffered in both jurisdictions.

Both King County and City of Covington allow the wetland buffer to end at a legally establish roadway when it can be shown that this does not impact buffer functions.

Table 2. Jurisdictional comparison of standard wetland buffer width requirements.

Wetland	Category	Habitat Score	King County buffer (ft) High/Moderate/Low	City of Covington buffer (ft)
Unit 1a*	I	24	210 / 156 / 105	150
	II	23	195 / 144.5 / 97.5	125
Unit 1b	I	26	240 / 179 / 120	150
Unit 2	II	24	210 / 156 / 105	125
Unit 3	III	16	80 / 60 / 40	75
Unit 4	II	22	180 / 133 / 90	125
Unit 5*	III	10	80 / 60 / 40	75
	IV	5	50 / 40 / 25	50

* Split scoring and ratings were used when key wetland features could not be field verified. This resulted in two potentially different classifications for wetland unit 1a and wetland unit 5. However, it should be noted that wetland unit 5 needs to be evaluated in future studies, as a Department of Natural Resources reclamation permit has been approved for the gravel extraction site.

Each jurisdiction has options for buffer modification. King County and City of Covington allow for modification of the standard buffer width on a case-by-case basis, when it can be demonstrated that buffer functions and values are retained.

Streams

Jenkins Creek and the Jenkins Creek Tributary (#0089) are both documented as salmonid-bearing streams (see Map 2 for locations). While the entire reach of Tributary 0089 may not be fish bearing, the segment within the study area is presumed to be fish accessible. Both King County and City of Covington classify streams using the DNR water typing system. These streams are Type F. However, they are not designated shorelines of the state as they do not have a flow of 20 cubic feet per second or greater (see RCW 90.58). Buffers for Type F streams under both jurisdictions are as follows (Table 3).

Table 3. Stream classification and buffer summary.

Stream	Classification	King County buffer (ft)	City of Covington buffer (ft)
Jenkins Creek	Type F	165	115
Tributary 0089	Type F	165	115

When a stream buffer includes a steep slope or landslide hazards area, both King County and City of Covington increase the standard buffer width to include that area and any associated buffer.

Each jurisdiction has options for buffer modification. King County and City of Covington allow for modification of the standard buffer width on a case-by-case basis, when it can be demonstrated that buffer functions and values are retained. Neither jurisdiction allows buffer reduction within a steep slope or landslide hazard areas.

Both King County and City of Covington allow the stream buffer to end at a legally establish roadway when it can be shown that this does not impact buffer functions.

Steep Slopes & Landslide Hazards

Topography indicates that steep slopes and/or landslide hazard areas are present in the notch in an arc that generally parallels Jenkins Creek. King County and City of Covington require buffers from the edge of these features. Both jurisdictions require a standard 50 foot buffer. Buffer modification may be allowed when a geologist or geotechnical engineer can demonstrate that the alteration would not reduce slope stability.

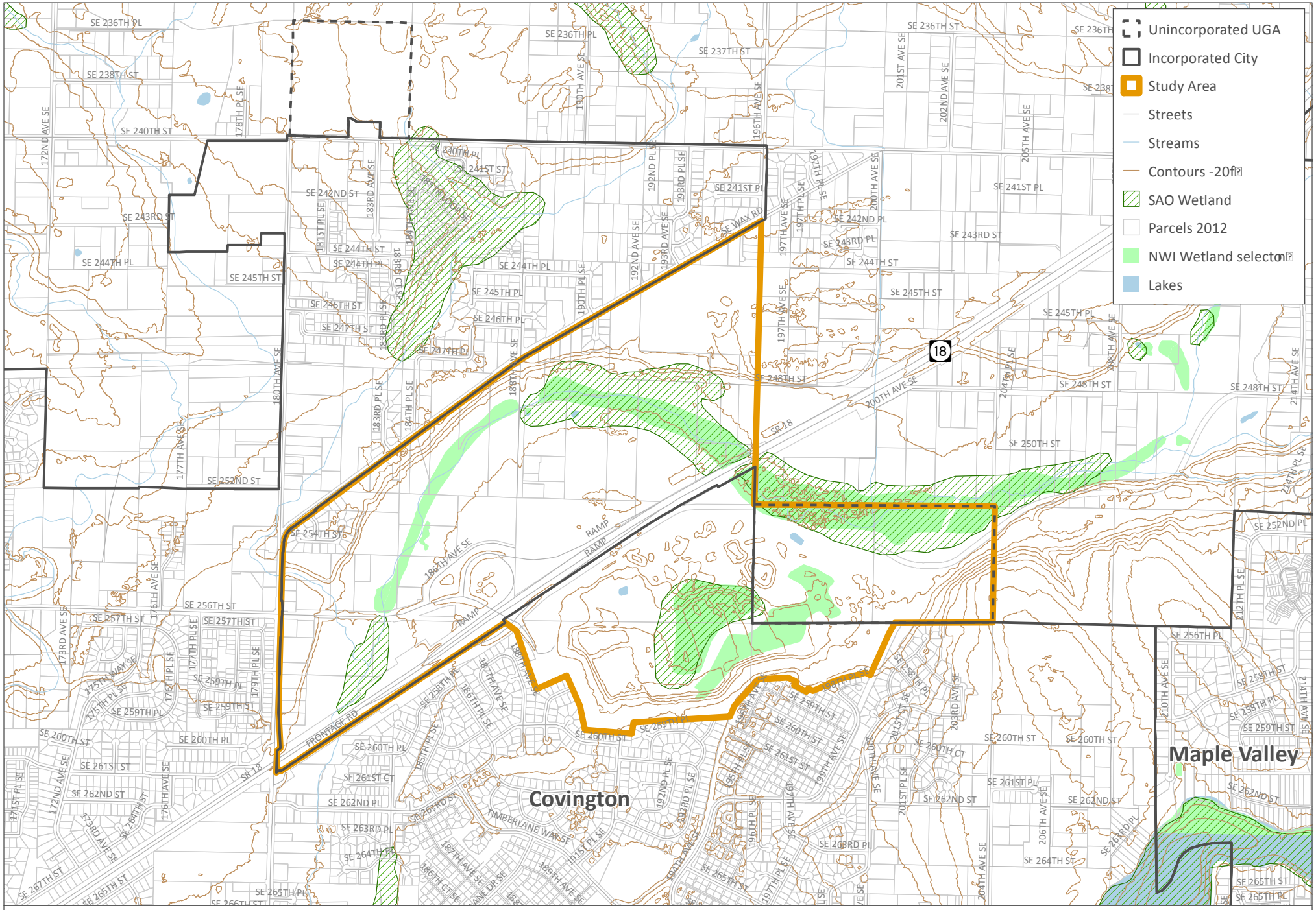
Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Nell Lund, PWS
Ecologist

Enclosures

Cc: Bill Stalzer

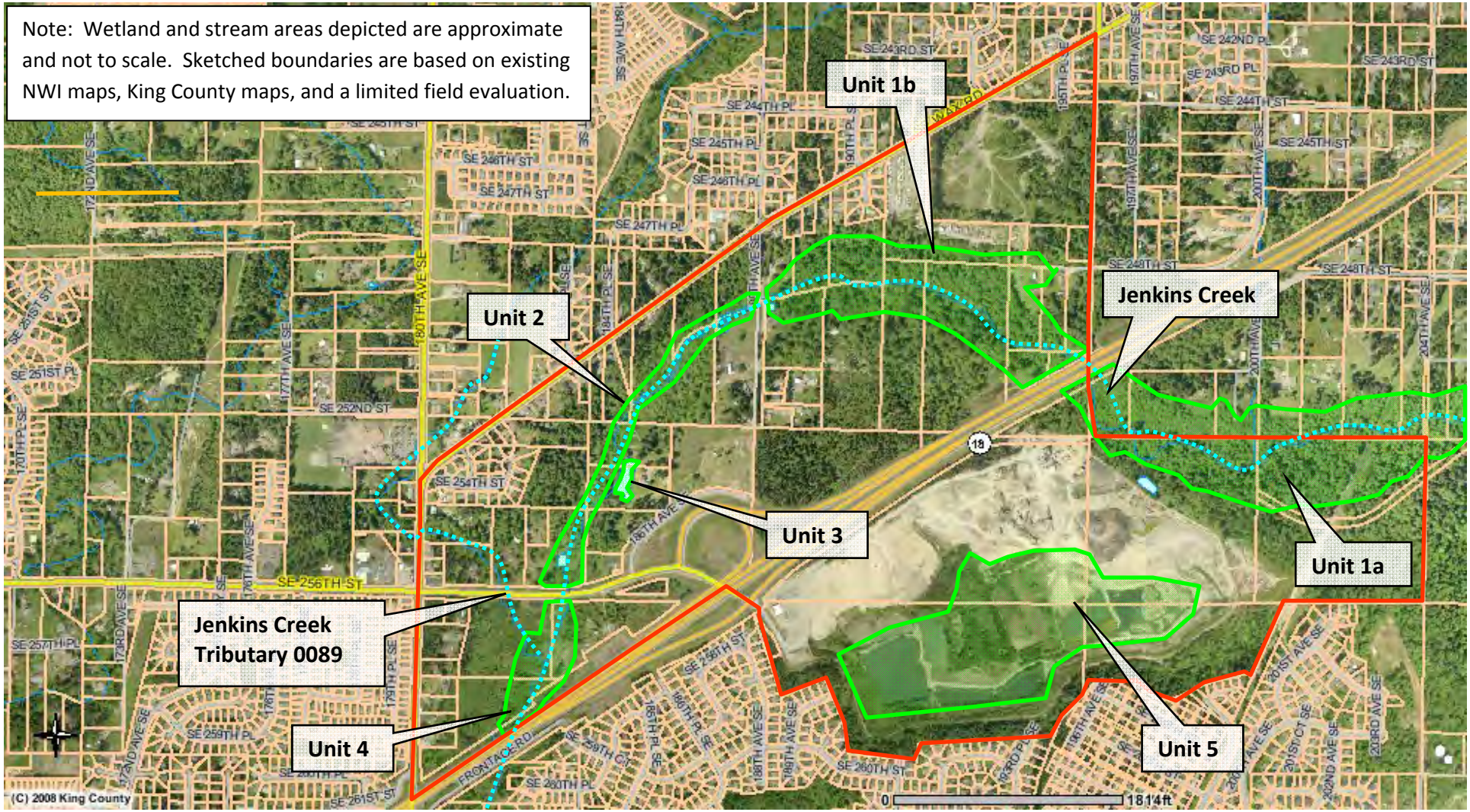


MAP 1: TITLE

CITY OF COVINGTON
NORTHERN GATEWAY STUDY

Souces: King County, City of Covington, Department of Ecology, National Wetland Inventory

Date: June XX, 2012



Map 2. Wetland Inventory – Field Sketch and Existing mapping
Covington Northern Gateway Study
June 2012

THE WATERSHED COMPANY
750 Sixth Street South | Kirkland | WA 98033
p 425.822.5242 f 425.827.8136
watershedco.com

Wetland name or number __1a____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 1a (south of Hwy 18) Northern Gateway, Covington/King County Date of site visit: 5/31/2012*

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

*Wetland unit 1a was only viewed from Hwy 18. Conditions presumed similar to wetland unit 1b, located north of Hwy 18.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☐

Split scoring was done due to limited field verification.

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	24 / 20
Score for Hydrologic Functions	26 / 22
Score for Habitat Functions	24 / 23
TOTAL score for functions	**74 / 65**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above) **I / II**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	**X**
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	**X**

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	X[1]	
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	X[2]	
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	X[3]	
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

[1] Mapped presence of Chinook salmon and Steelhead trout, both federally listed as Threatened.
[2] Mapped presence of Coho salmon, state listed as a Species of Concern
[3] WDFW lists Coho, Chinook, Steelhead and Cutthroat as priority species/habitat; all are mapped in Jenkins Creek. Elk are also mapped by WDFW in the general locality.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __1a____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

Some slope wetland areas are presumed present based on wetland mapping and topography. However, the entire unit is not a Slope HGM class.

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☐ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☐ NO - go to 6 ☐ **YES** – The wetland class is **Riverine**

Riverine HGM wetland class characterizes most, but not the entire wetland unit.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	**Riverine**
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __1a____

R	Riverine and Freshwater Tidal Fringe Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
R	**R 1. Does the wetland have the potential to improve water quality?**	***(see p. 52)***
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland ..... points = 8 Depressions cover > 1/2 area of wetland ..... points = 4 Depressions present but cover < 1/2 area of wetland ..... points = 2 No depressions present ..... points = 0	Figure __ 4 / 2
R	R 1.2 Characteristics of the vegetation in the wetland (areas with > 90% cover at person height): Forest or shrub > 2/3 the area of the wetland ..... points = 8 Forest or shrub > 1/3 area of the wetland ..... points = 6 Ungrazed, emergent plants > 2/3 area of wetland ..... points = 6 Ungrazed emergent plants > 1/3 area of wetland ..... points = 3 Forest, shrub, and ungrazed emergent < 1/3 area of wetland ..... points = 0	Figure __ 8
R	**Total for R 1** *Add the points in the boxes above*	12 / 10
R	**R 2. Does the wetland have the opportunity to improve water quality?** ***(see p. 53)*** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☒ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality ☐ Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	multiplier _2_
R	**TOTAL - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	**24 / 20**

Comments

Wilderness Lake (approximately 1.5 miles upstream of the subject area) is on the 303d list for invasive exotic species, fecal coliform and total phosphorus.

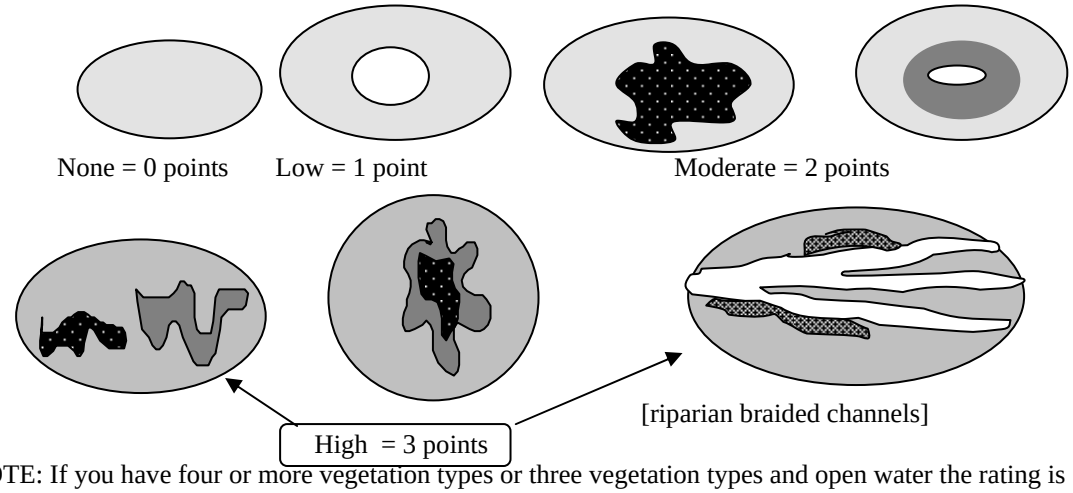
Wetland name or number __1a____

R	Riverine and Freshwater Tidal Fringe Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	
	R 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 54)***
R	R 3.1 Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (width of wetland)/(width of stream).* If the ratio is more than 20 ..... points = 9 If the ratio is between 10 – 20 ..... points = 6 If the ratio is 5- <10 ..... points = 4 If the ratio is 1- <5 ..... points = 2 If the ratio is < 1 ..... points = 1	Figure __ 6 / 4
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes) Forest or shrub for >1/3 area OR Emergent plants > 2/3 area ..... points = 7 Forest or shrub for > 1/10 area OR Emergent plants > 1/3 area ..... points = 4 Vegetation does not meet above criteria ..... points = 0	Figure __ 7
R	**Total for R 3** *Add the points in the boxes above*	13 / 11
R	**R 4. Does the wetland have the opportunity to reduce flooding and erosion?** ***(see p. 57)*** Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* ☒ There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. ☒ There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding ☐ Other_____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* **YES** multiplier is **2** **NO** multiplier is **1**	(see p. 57) multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	**26 / 22**

Wetland name or number __1a____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☐ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☒ Forested (areas where trees have >30% cover) ☒ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 2
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☐ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☒ Seasonally flooded or inundated — 3 types present..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☒ Saturated only — 1 types present……points = 0 ☒ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 2
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species..... points = 2 *List species below if you want to:* 5 - 19 species..... points = 1 < 5 species ..... points = 0	2 / 1

Wetland name or number __1a____

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  None = 0 points Low = 1 point Moderate = 2 points [riparian braided channels] High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 3
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	3
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	12 / 11

Wetland name or number __1a____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☒ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 3
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Wetland name or number __1a____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☒ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	4

Note: Based on aerial images, forested land southeast of wetland unit 1a appears to contain mature trees. This was not field verified.

Wetland name or number __1a____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	12
TOTAL for H1 from page 14	12 / 11
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	24 / 23

Wetland name or number __1a____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☐ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	Note: Per NRCS soil maps, the wetland unit contains Seattle Muck (Sk). However, vegetation conditions were not field verified. Absent further data/observations conditions are presumed to be similar to those seen in wetland unit 1b. **Cat. I**

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☒ not a forested wetland with special characteristics	Wetland conditions not field verified. **Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**Not Applicable**

Wetland name or number __1b____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 1b (north of Hwy 18) Northern Gateway, Covington/King County Date of site visit: 5/31/2012*

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

* Wetland assessment limited by property access.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☒ II ☐ III ☐ IV ☐

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	24
Score for Hydrologic Functions	22
Score for Habitat Functions	26
TOTAL score for functions	**72**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☒ II ☐ Does not Apply ☐

Final Category (choose the "highest" category from above) **I**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	**X**
Bog		**Lake-fringe**	
Mature Forest	**X**	**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above		Check if unit has multiple HGM classes present	**X**

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	X[1]	
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	X[2]	
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	X[3]	
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

[1] Mapped presence of Chinook salmon and Steelhead trout, both federally listed as Threatened.
[2] Mapped presence of Coho salmon, state listed as a Species of Concern
[3] WDFW lists Coho, Chinook, Steelhead and Cutthroat as priority species/habitat; all are mapped in Jenkins Creek. Elk are also mapped by WDFW in the general locality.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __1b____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

Slope wetland areas were observed north of Jenkins Creek. However, the entire unit is not a Slope HGM class.

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☐ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☐ NO - go to 6 ☐ **YES** – The wetland class is **Riverine**

Riverine HGM wetland class characterizes most, but not the entire wetland unit.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	**Riverine**
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __1b____

R	Riverine and Freshwater Tidal Fringe Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
R	**R 1. Does the wetland have the potential to improve water quality?**	*(see p. 52)*
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland ..... points = 8 Depressions cover > 1/2 area of wetland ..... points = 4 Depressions present but cover < 1/2 area of wetland ..... points = 2 No depressions present ..... points = 0	Figure __ 4
R	R 1.2 Characteristics of the vegetation in the wetland (areas with > 90% cover at person height): Forest or shrub > 2/3 the area of the wetland ..... points = 8 Forest or shrub > 1/3 area of the wetland ..... points = 6 Ungrazed, emergent plants > 2/3 area of wetland ..... points = 6 Ungrazed emergent plants > 1/3 area of wetland ..... points = 3 Forest, shrub, and ungrazed emergent < 1/3 area of wetland ..... points = 0	Figure __ 8
R	**Total for R 1** *Add the points in the boxes above*	12
R	**R 2. Does the wetland have the opportunity to improve water quality?** ***(see p. 53)*** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☒ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality ☐ Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	multiplier _2_
R	**TOTAL - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	**24**

Comments

Wilderness Lake (approximately 2 miles upstream of the subject area) is on the 303d list for invasive exotic species, fecal coliform and total phosphorus.

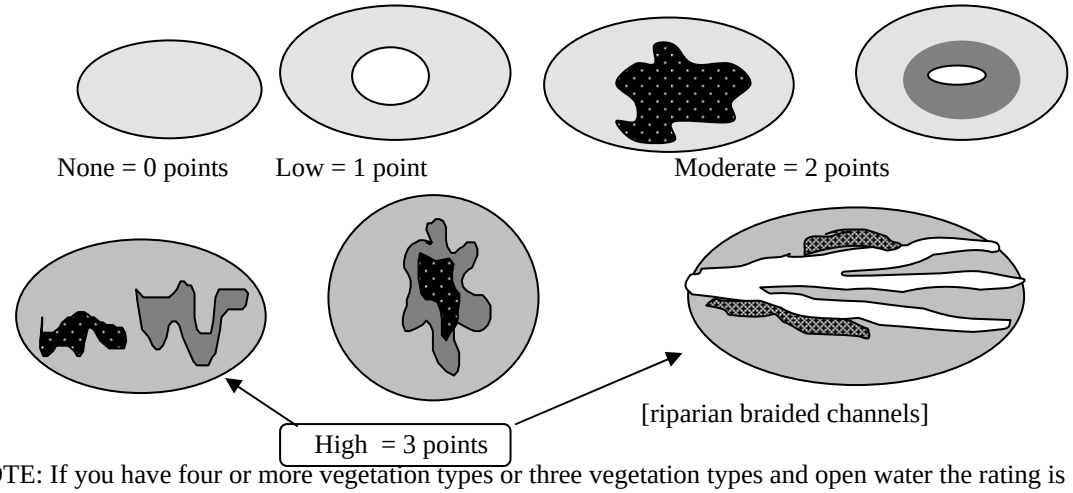
Wetland name or number __1b____

R	Riverine and Freshwater Tidal Fringe Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	
	R 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 54)***
R	R 3.1 Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (width of wetland)/(width of stream).* If the ratio is more than 20 ..... points = 9 If the ratio is between 10 – 20 ..... points = 6 If the ratio is 5- <10 ..... points = 4 If the ratio is 1- <5 ..... points = 2 If the ratio is < 1 ..... points = 1	Figure __ 4
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes) Forest or shrub for >1/3 area OR Emergent plants > 2/3 area ..... points = 7 Forest or shrub for > 1/10 area OR Emergent plants > 1/3 area ..... points = 4 Vegetation does not meet above criteria ..... points = 0	Figure __ 7
R	**Total for R 3** *Add the points in the boxes above*	11
R	**R 4. Does the wetland have the opportunity to reduce flooding and erosion?** ***(see p. 57)*** Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* ☒ There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. ☒ There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding ☐ Other_____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* **YES** multiplier is **2** **NO** multiplier is **1**	(see p. 57) multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	**22**

Wetland name or number __1b____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☐ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☒ Forested (areas where trees have >30% cover) ☒ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 2
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☐ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☒ Seasonally flooded or inundated — 3 types present..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☒ Saturated only — 1 types present……points = 0 ☒ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 2
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species ..... points = 2 *List species below if you want to:* 5 - 19 species ..... points = 1 < 5 species ..... points = 0	2

Wetland name or number __1b____

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 3
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☒ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	5
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	14

Note: An active red-tailed hawks nest was observed on the south side of Jenkins Creek, in the southeast quadrant of the wetland buffer area.

Wetland name or number __1b____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☒ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 3
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Wetland name or number __1b____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☒ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	4

Wetland name or number __1b____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	12
TOTAL for H1 from page 14	14
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	26

Wetland name or number __1b____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 * NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☐ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	**Cat. I**

- Per NRCS soil maps, wetland unit 1b contains Seattle Muck (Sk).

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☒ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☐ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1* . If you answered NO for all types enter "Not Applicable" on p.1.	**I**

Note: Based on limited field access, mature forest comprises approximately 5-acres of wetland unit 1b, in the area north of Jenkins Creek.

Wetland name or number __2____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 2 Northern Gateway, Covington/King County Date of site visit: 5/31/2012*

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

* Wetland assessment limited by property access.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☒ III ☐ IV ☐

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	24
Score for Hydrologic Functions	18
Score for Habitat Functions	24
TOTAL score for functions	**66**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above) **II**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	**X**
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	☐

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	X[1]	
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	X[2]	
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	X[3]	
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

[1] Mapped presence of Chinook salmon and Steelhead trout, both federally listed as Threatened.
[2] Mapped presence of Coho salmon, state listed as a Species of Concern
[3] WDFW lists Coho, Chinook, Steelhead and Cutthroat as priority species/habitat; all are mapped in Jenkins Creek. Elk are also mapped by WDFW in the general locality.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __2____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☒ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☐ NO - go to 6 ☒ **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __2____

R	Riverine and Freshwater Tidal Fringe Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
R	**R 1. Does the wetland have the <u>potential</u> to improve water quality?**	***(see p. 52)***
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland ..... points = 8 Depressions cover > 1/2 area of wetland ..... points = 4 Depressions present but cover < 1/2 area of wetland ..... points = 2 No depressions present ..... points = 0	Figure __ 4
R	R 1.2 Characteristics of the vegetation in the wetland (areas with > 90% cover at person height): Forest or shrub > 2/3 the area of the wetland ..... points = 8 Forest or shrub > 1/3 area of the wetland ..... points = 6 Ungrazed, emergent plants > 2/3 area of wetland ..... points = 6 Ungrazed emergent plants > 1/3 area of wetland ..... points = 3 Forest, shrub, and ungrazed emergent < 1/3 area of wetland ..... points = 0	Figure __ 8
R	**Total for R 1** *Add the points in the boxes above*	12
R	**R 2. Does the wetland have the <u>opportunity</u> to improve water quality?** ***(see p. 53)*** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☒ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality ☐ Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	multiplier _2_
R	**<u>TOTAL</u> - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	**24**

Comments

Wilderness Lake (approximately 2 miles upstream of the subject area) is on the 303d list for invasive exotic species, fecal coliform and total phosphorus.

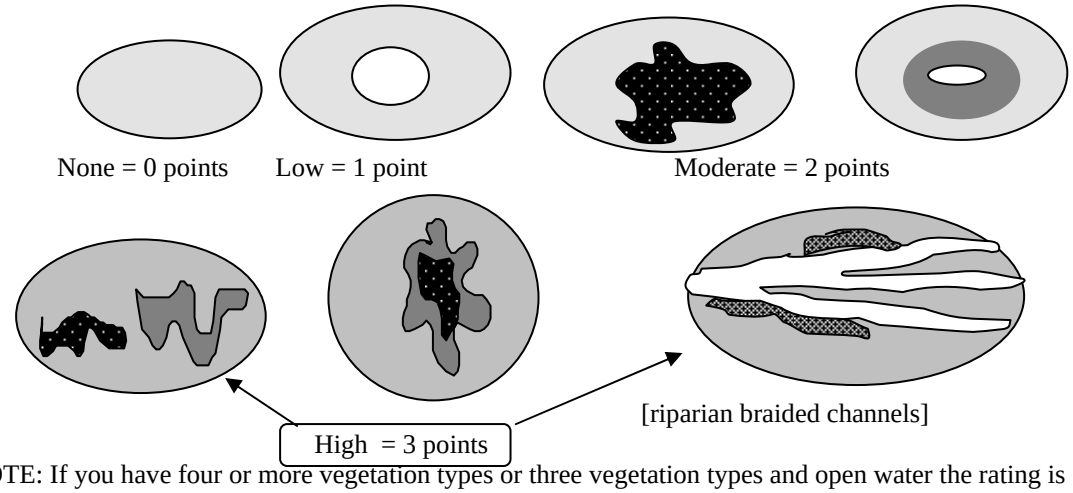
Wetland name or number __2____

R	Riverine and Freshwater Tidal Fringe Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	
	R 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 54)***
R	R 3.1 Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (width of wetland)/(width of stream).* If the ratio is more than 20 ..... points = 9 If the ratio is between 10 – 20 ..... points = 6 If the ratio is 5- <10 ..... points = 4 If the ratio is 1- <5 ..... points = 2 If the ratio is < 1 ..... points = 1	Figure __ 2
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes) Forest or shrub for >1/3 area OR Emergent plants > 2/3 area ..... points = 7 Forest or shrub for > 1/10 area OR Emergent plants > 1/3 area ..... points = 4 Vegetation does not meet above criteria ..... points = 0	Figure __ 7
R	**Total for R 3** *Add the points in the boxes above*	9
R	**R 4. Does the wetland have the opportunity to reduce flooding and erosion?** ***(see p. 57)*** Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* ☒ There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. ☒ There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding ☐ Other_____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* **YES** multiplier is **2** **NO** multiplier is **1**	(see p. 57) multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	**18**

Wetland name or number __2____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☒ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☒ Forested (areas where trees have >30% cover) ☒ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 4
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☐ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☒ Seasonally flooded or inundated — 3 types present ..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☐ Saturated only — 1 types present……points = 0 ☒ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 1
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species ..... points = 2 *List species below if you want to:* 5 - 19 species ..... points = 1 < 5 species ..... points = 0	1

Wetland name or number __2____

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 3
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	3
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	12

Note: An active red-tailed hawks nest was observed on the south side of Jenkins Creek, in the southeast quadrant of the wetland buffer area.

Wetland name or number __2____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☒ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 3
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Wetland name or number __2____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	4

Wetland name or number __2____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	12
TOTAL for H1 from page 14	12
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**24**

Wetland name or number __2____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☒ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	**Cat. I**

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☒ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**Not Applicable**

Wetland name or number __3____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 3 Northern Gateway, Covington/King County Date of site visit: n/a * office review

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

* This rating is based on aerials and the King County sensitive area notice on title only. No site visit was conducted. Conditions not field verified.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Split scoring was done due to lack of field verification.

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	6 / 4
Score for Hydrologic Functions	20 / 16
Score for Habitat Functions	16
TOTAL score for functions	**42 / 36**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above) **III**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	**X**
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	☐

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __3____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☐ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☒ NO - go to 6 ☐ **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __3____

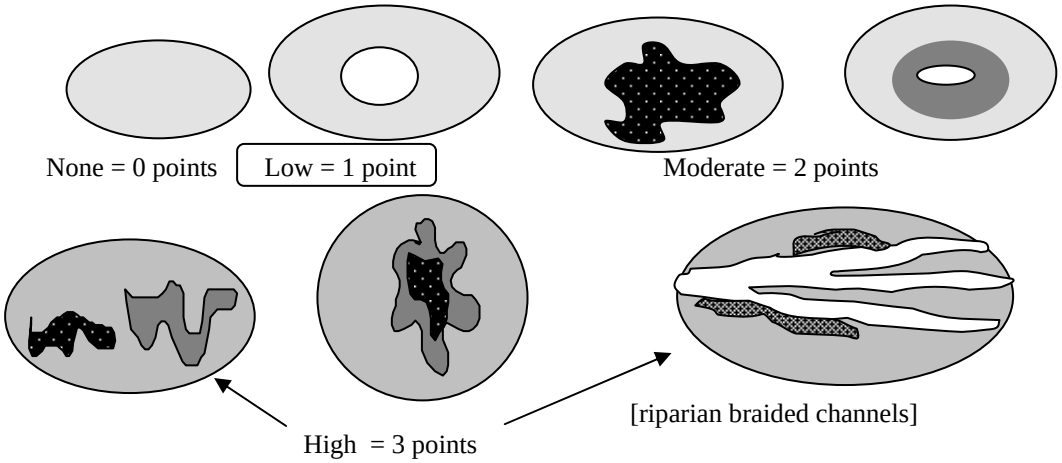
D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	**D 1. Does the wetland have the <u>potential</u> to improve water quality?**	***(see p. 38)***
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing"*)	Figure __ 3 / 2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*). YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area ..... points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area ..... points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area..... points = 0	Figure __ 0
D	D1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland..... points = 4 Area seasonally ponded is > ¼ total area of wetland..... points = 2 Area seasonally ponded is < ¼ total area of wetland..... points = 0 NOTE: *See text for indicators of seasonal and permanent inundation.*	Figure __ 0
D	**Total for D 1** *Add the points in the boxes above*	3 / 2
D	**D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface <u>water coming into the wetland</u> that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other_____ **YES** multiply score in D 1. **by 2** **NO** multiply score in D 1. **by 1**	***(see p. 44)*** multiplier <u>2</u>
D	**<u>TOTAL</u> - Water Quality Functions** Multiply the score from D1 by D2 ***Add score to table on p. 1***	**6 / 4**

Wetland name or number __3____

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	***(see p. 46)***
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")* Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*). points = 0	4 / 2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).* Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7 The wetland is a "headwater" wetland" ..... points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet ..... points = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water ..... points = 1 Marks of ponding less than 0.5 ft..... points = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit ..... points = 5 The area of the basin is 10 to 100 times the area of the unit ..... points = 3 The area of the basin is more than 100 times the area of the unit ..... points = 0 Entire unit is in the FLATS class ..... points = 5	3
D	**Total for D 3** *Add the points in the boxes above*	10 / 8
D	**D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following conditions apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☒ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p. 49)* multiplier <u>2</u>
D	**TOTAL - Hydrologic Functions** Multiply the score from D 3 by D 4 ***Add score to table on p. 1***	**20 / 16**

Wetland name or number __3____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☒ Emergent plants ☐ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 0
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☒ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☐ Seasonally flooded or inundated — 3 types present..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☐ Saturated only — 1 types present……points = 0 ☒ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 1
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species..... points = 2 *List species below if you want to:* 5 - 19 species..... points = 1 < 5 species ..... points = 0	0

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 1
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	1
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	3

Note: An active red-tailed hawks nest was observed on the south side of Jenkins Creek, in the southeast quadrant of the wetland buffer area.

Wetland name or number __3____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☒ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☒ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 4
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Wetland name or number __3____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	4

Wetland name or number __3____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	13
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**16**

Wetland name or number __3____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☐ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	**Cat. I**

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☒ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**Not Applicable**

Wetland name or number __4____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 4 Northern Gateway, Covington/King County Date of site visit: 5/31/2012*

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

* Wetland assessment limited by property access.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☒ III ☐ IV ☐

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	24
Score for Hydrologic Functions	22
Score for Habitat Functions	22
TOTAL score for functions	**68**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above) **II**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	**X**
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	☐

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	X[1]	
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	X[2]	
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	X[3]	
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

[1] Mapped presence of Chinook salmon and Steelhead trout, both federally listed as Threatened.
[2] Mapped presence of Coho salmon, state listed as a Species of Concern
[3] WDFW lists Coho, Chinook, Steelhead and Cutthroat as priority species/habitat; all are mapped in Jenkins Creek. Elk are also mapped by WDFW in the general locality.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __4____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☒ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☐ NO - go to 6 ☒ **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __4____

R	Riverine and Freshwater Tidal Fringe Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
R	**R 1. Does the wetland have the <u>potential</u> to improve water quality?**	***(see p. 52)***
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland ..... points = 8 Depressions cover > 1/2 area of wetland ..... points = 4 Depressions present but cover < 1/2 area of wetland ..... points = 2 No depressions present ..... points = 0	Figure __ 4
R	R 1.2 Characteristics of the vegetation in the wetland (areas with > 90% cover at person height): Forest or shrub > 2/3 the area of the wetland ..... points = 8 Forest or shrub > 1/3 area of the wetland ..... points = 6 Ungrazed, emergent plants > 2/3 area of wetland ..... points = 6 Ungrazed emergent plants > 1/3 area of wetland ..... points = 3 Forest, shrub, and ungrazed emergent < 1/3 area of wetland ..... points = 0	Figure __ 8
R	**Total for R 1** *Add the points in the boxes above*	12
R	**R 2. Does the wetland have the <u>opportunity</u> to improve water quality?** ***(see p. 53)*** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☒ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality ☐ Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	multiplier _2_
R	**<u>TOTAL</u> - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	**24**

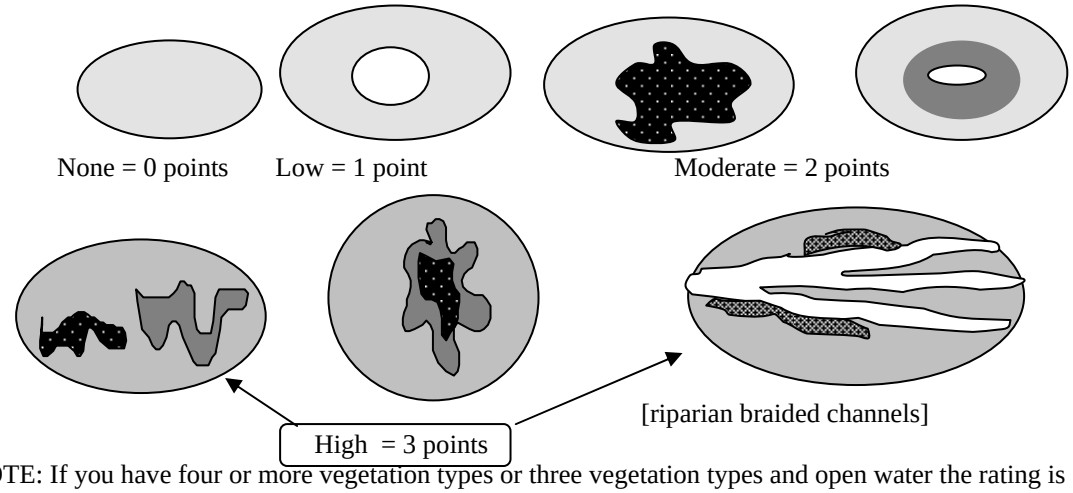
Comments

Wetland name or number __4____

R	Riverine and Freshwater Tidal Fringe Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	
	R 3. Does the wetland have the potential to reduce flooding and erosion?	***(see p. 54)***
R	R 3.1 Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (width of wetland)/(width of stream).* If the ratio is more than 20 ..... points = 9 If the ratio is between 10 – 20 ..... points = 6 If the ratio is 5- <10 ..... points = 4 If the ratio is 1- <5 ..... points = 2 If the ratio is < 1 ..... points = 1	Figure __ 4
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes) Forest or shrub for >1/3 area OR Emergent plants > 2/3 area .. .. points = 7 Forest or shrub for > 1/10 area OR Emergent plants > 1/3 area ..... points = 4 Vegetation does not meet above criteria ..... points = 0	Figure __ 7
R	**Total for R 3** *Add the points in the boxes above*	11
R	**R 4. Does the wetland have the opportunity to reduce flooding and erosion?** ***(see p. 57)*** Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* ☒ There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. ☒ There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding ☐ Other_____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* **YES** multiplier is **2** **NO** multiplier is **1**	(see p. 57) multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	**22**

Wetland name or number __4____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☒ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☒ Forested (areas where trees have >30% cover) ☒ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 4
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☐ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☒ Seasonally flooded or inundated — 3 types present ..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☒ Saturated only — 1 types present……points = 0 ☒ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 2
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species ..... points = 2 *List species below if you want to:* 5 - 19 species ..... points = 1 < 5 species ..... points = 0	1

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 3
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland ☒ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	3
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	13

Note: An active red-tailed hawks nest was observed on the south side of Jenkins Creek, in the southeast quadrant of the wetland buffer area.

Wetland name or number __4____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☒ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☒ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 2
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	0

Wetland name or number __4____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	4

Wetland name or number __4____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	9
TOTAL for H1 from page 14	13
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**22**

Wetland name or number __4____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☐ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	**Cat. I**

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☒ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**Not Applicable**

Wetland name or number __5____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland 5 Northern Gateway, Covington/King County Date of site visit: n/a * office review

Rated by: N. Lund PWS #2203 Trained by Ecology? Yes ☒ No ☐ Date of Training 10/2008

SEC: 19 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes ☐ No ☒

* This rating is based on aerials and the King County sensitive area mapping only. No site visit was conducted. Conditions not field verified.

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☐

Split scoring was done due to lack of field verification.

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	6 / 4
Score for Hydrologic Functions	28 / 16
Score for Habitat Functions	10 / 5
TOTAL score for functions	**44 / 25**

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above) **III / IV**

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		**Depressional**	**X**
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	**X**	Check if unit has multiple HGM classes present	☐

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal*** *or* ***plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web http://wdfw.wa.gov/mapping/phs/.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number __5____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.

☐ The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☒ NO - go to 6 ☐ **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES –** The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES –** The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number __5____

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	**D 1. Does the wetland have the <u>potential</u> to improve water quality?**	***(see p. 38)***
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)..... points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing"*)	Figure __ 3 / 2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*). YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area ..... points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area ..... points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area..... points = 0	Figure __ 0
D	D1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland..... points = 4 Area seasonally ponded is > ¼ total area of wetland..... points = 2 Area seasonally ponded is < ¼ total area of wetland..... points = 0 NOTE: *See text for indicators of seasonal and permanent inundation.*	Figure __ 0
D	**Total for D 1** *Add the points in the boxes above*	3 / 2
D	**D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface <u>water coming into the wetland</u> that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☒ Other__gravel mining site_____ **YES** multiply score in D 1. **by 2** **NO** multiply score in D 1. **by 1**	***(see p. 44)*** multiplier <u>2</u>
D	**<u>TOTAL</u> - Water Quality Functions** Multiply the score from D1 by D2 ***Add score to table on p. 1***	**6 / 4**

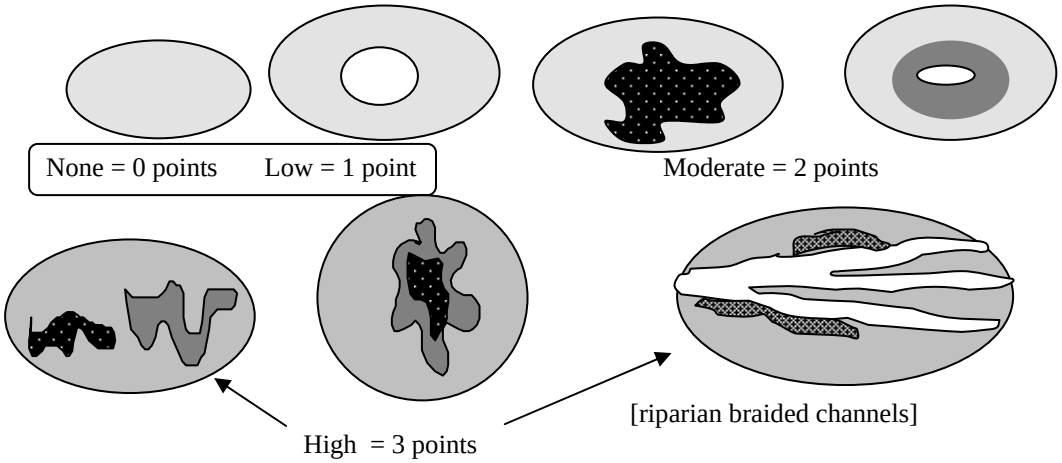
Wetland name or number __5____

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	***(see p. 46)***
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)..... points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2 Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)*. points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet**, and/or outlet is a man-made ditch ..... points = 1 (*If ditch is not permanently flowing treat unit as "intermittently flowing")* Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*). points = 0	4 / 2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).* Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7 The wetland is a "headwater" wetland" ..... points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet ..... points = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water ..... points = 1 Marks of ponding less than 0.5 ft..... points = 0	7 / 3
D	D 3.3 Contribution of wetland unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit ..... points = 5 The area of the basin is 10 to 100 times the area of the unit ..... points = 3 The area of the basin is more than 100 times the area of the unit ..... points = 0 Entire unit is in the FLATS class ..... points = 5	3
D	**Total for D 3** *Add the points in the boxes above*	14 / 8
D	**D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following conditions apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☒ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p. 49)* multiplier <u>2</u>
D	**TOTAL - Hydrologic Functions** Multiply the score from D 3 by D 4 ***Add score to table on p. 1***	**28 / 16**

Wetland name or number __5____

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat**	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.* ☐ Aquatic bed ☒ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* 4 structures or more ..... points = 4 3 structures ..... points = 2 2 structures ..... points = 1 1 structure ..... points = 0	Figure __ 1 / 0
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☒ Permanently flooded or inundated — 4 or more types present ..... points = 3 ☐ Seasonally flooded or inundated — 3 types present..... points = 2 ☐ Occasionally flooded or inundated — 2 types present ..... points = 1 ☒ Saturated only — 1 types present.……points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points**	Figure __ 1 / 0
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle* If you counted: > 19 species..... points = 2 *List species below if you want to:* 5 - 19 species..... points = 1 < 5 species ..... points = 0	1 / 0

Wetland name or number __5____

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	Figure __ 1 / 0
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants *Note: The 20% stated in early printings of the manual on page 78 is an error.*	1 / 0
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	5 / 0

Note: An active red-tailed hawks nest was observed on the south side of Jenkins Creek, in the southeast quadrant of the wetland buffer area.

Wetland name or number __5____

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) ..... Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4 ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3 ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3 **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☒ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2 ☐ Heavy grazing in buffer. ..... Points = 1 ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland ..... Points = 0 ☐ Buffer does not meet any of the criteria above……...Points = 1	Figure __ 2
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) **NO** = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) **NO** = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	0

Wetland name or number __5____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland? *(NOTE: the connections do not have to be relatively undisturbed)* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres). ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full description in WDFW PHS report p. 152*) ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158.)* ☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*) ☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = **0 points** *Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.*	0

Wetland name or number __5____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. ..... points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile ..... points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed ..... points = 3 The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile ..... points = 3 There is at least 1 wetland within ½ mile. ..... points = 2 There are no wetlands within ½ mile. ..... points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4*	5 / 5
TOTAL for H1 from page 14	5 / 0
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**10 / 5**

Wetland name or number __5____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands (*see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ☒	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐YES = Category I ☐NO = go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐YES = Category I ☐NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ☐ or accessed from WNHP/DNR web site ☐ YES☐ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ☒ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ☐ Not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.* 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ☐ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 *NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.* 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (*>30% coverage of the total shrub/herbaceous* cover)? YES = Category I NO ☒ is not a bog for purpose of rating	**Cat. I**

SC 4.0 Forested Wetlands *(see p. 90)* Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* ☐ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. *Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.* ☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth YES = Category 1 NO ☒ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐The wetalnd is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO ☒ not an interdunal wetland for rating *If you answer yes you will still need to rate the wetland based on its functions.* In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categorie, and record on p. 1 .* If you answered NO for all types enter "Not Applicable" on p.1.	**Not Applicable**

Appendix B:
Northern Gateway Area Study Evaluation of Existing Infrastructure
ESM Consulting Engineers, LLC, August 3, 2012

ESM CONSULTING ENGINEERS LLC
181 S 333rd St Bldg C, Ste 210
Federal Way, WA 98003

MEMORANDUM

TO: LISA GRUETER, BERK CONSULTING

FROM: FRED BROWN, P.E.

SUBJECT: NORTHERN GATEWAY STUDY
EVALUATION OF EXISTING INFRASTRUCTURE

JOB NO: 1743-001-012

DATE: AUGUST 3, 2012

The Northern Gateway Study, herein after referred to as the Study Area, is a comprehensive multi-phased study of a 485-acre area located on the north side of the City of Covington. Approximately 210 acres are currently located within the City's Urban Growth Area (UGA), and the other 275 acres, north of SR 18 are outside of the city's UGA. The City's goal is to consider the impacts of future urban development within the Study Area.

To assist with this goal, the purpose of this memorandum and the associated exhibit is to evaluate the existing infrastructure, determine if sufficient capacity is available for urban uses, and identify potential challenges for future urban development.

Access

Evaluation of the existing roadways is discussed in the Technical Memorandum completed by Heffron Transportation, Inc.

The existing trail network is described and depicted on Map 6 of the Covington Parks, Recreation & Open Space (PROS) Plan, dated May 2010. The Study Area will require extensions to existing pedestrian and bike trail systems, including Jenkins Creek Trail, Timberline Trail, and Pipeline Trail, as conceptually depicted on Map 9 of the PROS Plan. King County is in a conceptual planning process for the Tri-City Trail and the project may require review of the alignment of other trails.

As discussed in the Wetland & Stream Reconnaissance Summary completed by The Watershed Group, existing wetlands, streams, and steep slopes, as well as the associated buffers will result in limited access to future development in the Study Area.

Storm Drainage

The existing storm drainage system within the Study Area currently consists of private culverts and ditches. As discussed with the City of Covington, in the meeting held on

April 26, 2012, future improvements will be designed per City standards in effect at the time of application, and existing conditions will be modeled as pasture.

Similar to the access component, existing wetlands, streams, and steep slopes, as well as the associated buffers will reduced onsite area available for storm drainage water quality treatment and flow control for future development.

Water Supply

The Covington Water District provides service to the Study Area. Water supply is expected to come from water towers, currently located to the southeast (Tanks 2A and 2B, 6MG, 660 zone) and northwest (Tank 3, 2 MG, 600 zone). The location of the water towers and pressure zones in relation to the Study Area will require separate analyses and designs, depending on where future development takes place within the Study Area. Furthermore, transitions between pressure zones (such as pressure reducing stations) may be necessary.

Based on information received from the Covington Water District, in the meeting held by the City of Covington on April 26, 2012, water mains within existing roadways adjacent to the Study Area will require upsizing (from approximately 8" to 12" diameter, with an estimated length of 2.5 miles). Specifically, the water mains along 180th Avenue SE (between SR 18 and SE 240th Street) and along 200th Avenue SE (between SR 18 and SE 240th Street) will require upsizing.

Furthermore, additional new mains along existing roads will also be required near the Study Area, south of SR 18, along SE 248th Street, and 208th Avenue SE (8" to 12" diameter, with an estimated length of 1.5 miles).

There is an existing 24 inch casing constructed under SR 18 which can be utilized for the future development of the distribution system.

This information is not shown on the Covington Water District Water System Plan Update dated February 2007; however we understand that this document is scheduled to be updated in 2014.

Upsizing and adding water mains along the existing roadways adjacent to the Study Area will require a substantial investment for future development.

Sanitary Sewer

Sanitary sewer is currently addressed in the Study Area by the use of individual septic systems. A portion of the Study Area is located within the Soos Creek Water & Sewer District Corporate Sewer Boundary and inside the Urban Growth Area (i.e. the southwest and southeast study areas). There is an area, however, that is outside the Urban Growth Area and included in the District's planning process (i.e. the north study area). Based on coordination and information provided by the Soos Creek Water and Sewer District in the meeting held by the City of Covington on April 26, 2012, and based on the 2005 Soos Creek Water and Sewer District Comprehensive Plan Figure 7-15, as well as based on GIS information received from the District, sanitary sewer has been master planned to be able to be gravity fed to the future development in the Study Area.

See attached conceptual map from the Soos Creek Water and Sewer District. Once the portion of the Study Area that is designated Rural (the north study area) has been designated as part of the Urban Growth Area by King County, the District indicates it can readily provide sewer service.

Furthermore, the existing sanitary sewer system and the existing sanitary sewer Lift Station 11B (located to the southwest of the Study Area) have adequate capacity for future development.

Summary

In summary, we believe that the existing infrastructure within and near the Study Area is generally adequate to accommodate future development. Upsizing and adding water mains along existing roadways will present a substantial investment for future development.

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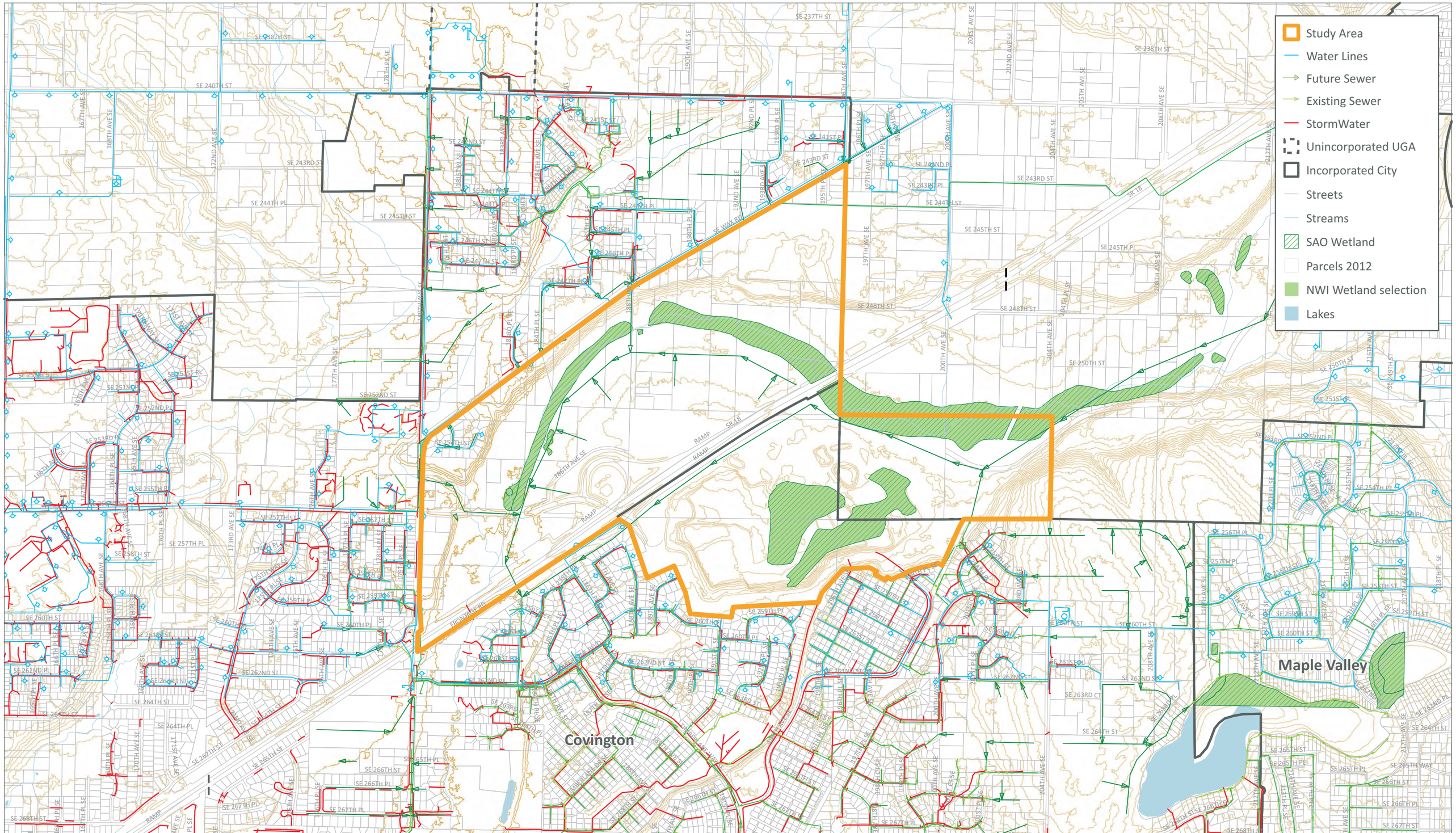


MAP 1: DRAFT INFRASTRUCTURE W/ CONTOURS

CITY OF COVINGTON
NORTHERN GATEWAY STUDY

0 0.5 Miles

N

Souces: King County, City of Covington, Department of Ecology, National Wetland Inventory

Date: June 26, 2012

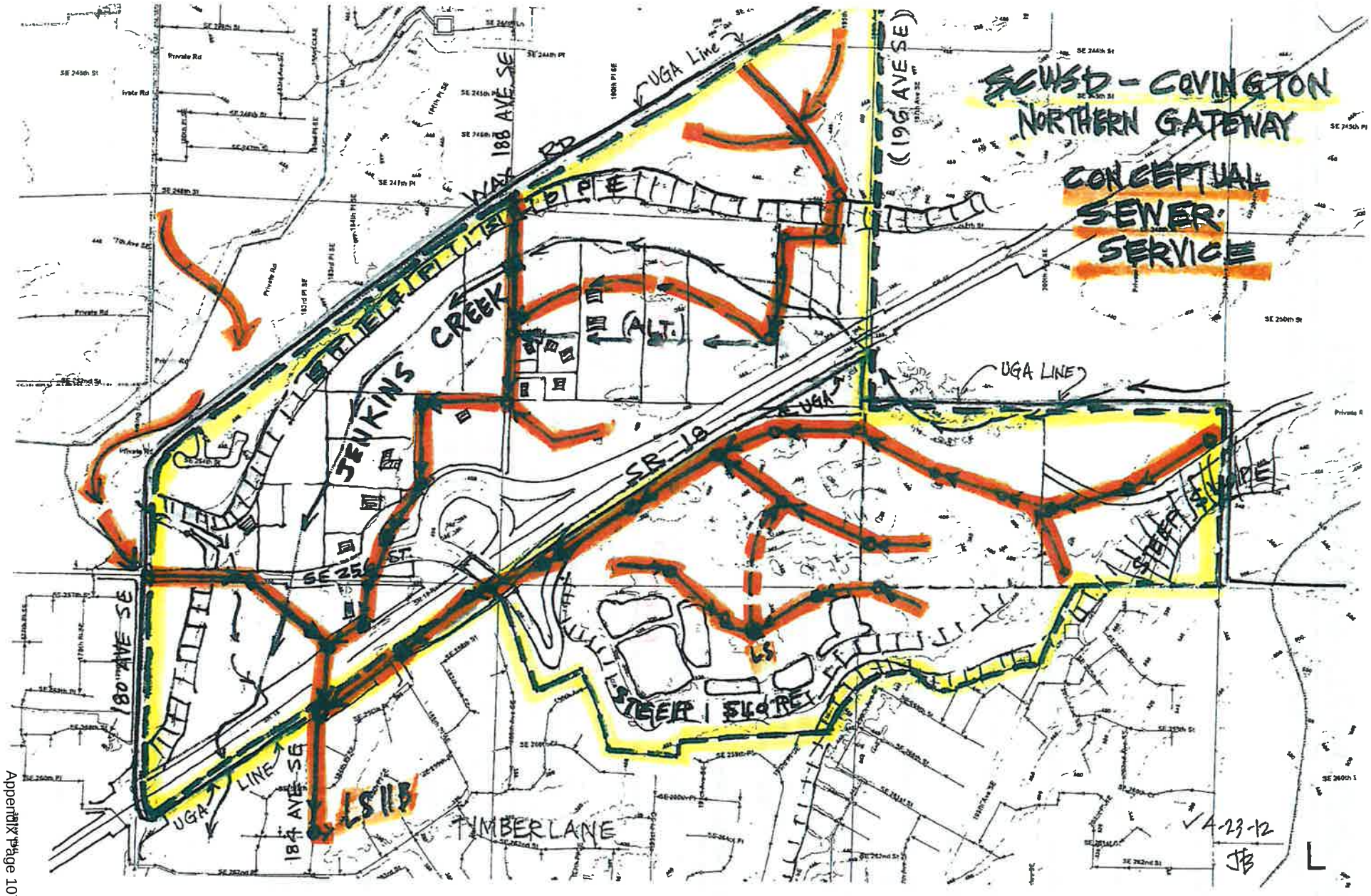
Stalzer and Associates PLANNING LAND USE and DEVELOPMENT SERVICES

BERK

THE WATERSHED COMPANY

heffron transportation, inc.

ESM CONSULTING ENGINEERS, LLC


SCWSD - COVINGTON
NORTHERN GATEWAY
CONCEPTUAL
SEWER
SERVICE
UGA Line
188 AVE SE
WAX RD
(196 AVE SE)
SE 244th St
SE 250th St
SE 256th ST
SR 18
UGA
UGA LINE
JENKINS CREEK
(ALT.)
STEEP SLOPE
LS
LS115
180 AVE SE
184 AVE SE
TIMBERLANE
✓4-23-12
JB
L

Appendix C:
Analysis of Existing Conditions: Transportation
Heffron Transportation, Inc., August 6, 2012

heffron transportation, inc.

TECHNICAL MEMORANDUM

Project: Covington Northern Gateway Study

Subject: **Analysis of Existing Conditions: Transportation**

Date: August 6, 2012

Author: Jennifer Barnes, P.E. JAB
Tod McBryan, P.E.

The purpose of this memorandum is to present the existing transportation conditions for the Covington Northern Gateway study area, and an assessment of transportation opportunities and constraints that exist for potential future development in the area. The 485-acre study area is transected by State Route (SR) 18, with about 275 acres located to the north of SR 18 and about 210 acres located to the south.

The following sections describe the existing roadway network, traffic volumes, roadway operations, non-motorized characteristics, safety conditions, pavement conditions, and vehicle access to the area. These sections are followed by a summary of planned improvements as well as opportunities and constraints within the study area.

1. Roadway Characteristics

The City of Covington (City) designates streets according to functional classifications that define the street's function in the roadway network. The classifications are summarized in Table 1.

Table 1. City of Covington Roadway Functional Classifications

Classification	Primary Function
Principal Arterial	Provides for movement across and between large subareas of an urban region and serves predominantly "through traffic" with minimum direct service to abutting land uses. This category includes the freeways and major highways (SR 18 and SR 516) under the jurisdiction of the Washington State Department of Transportation (WSDOT).
Minor Arterial	Provides for movement within the larger subareas bound by principal arterials. A minor arterial may also serve "through traffic" but provides more direct access to abutting land uses than does a principal arterial.
Collector	Provides for movement within smaller areas which are often definable neighborhoods, and which may be bound by arterials with higher classifications. Collectors serve very little "through traffic" and serve a high proportion of local traffic requiring direct access to abutting properties. Collector arterials provide the link between local neighborhood streets (i.e. non-arterials) and larger arterials.
Local Access	Provides access to the roadway network for abutting residential and commercial development. All roadways not designated as principal arterials, minor arterials, or collectors are local access streets.

Source: City of Covington Comprehensive Plan, Transportation Element, updated December 2009.

Map 1 shows the federal functional classifications of the study area roadways as defined in the City's *Comprehensive Plan*.[1] For roadways located outside the city limits, functional classifications are designated by King County (County).[2] As shown, very few local access streets currently exist within the Northern Gateway area. The study area roadways classified as collector or higher are described as follows.

SR 18 is a limited access freeway that connects the study area to the regional freeway system. It has a general northeast-southwest orientation, and connects to Interstate-90 (I-90), SR 169, SR 167 and I-5, with direct connections between Covington and the cities of Auburn and Federal Way to the southwest. The City's *Comprehensive Plan* states that SR 18 is also considered a principal arterial. SR 18 has an existing full access interchange within the Northern Gateway area, located at SE 256th Street. The other SR 18 interchange within Covington is located at SE 272nd Street (SR 516), about one and a half miles to the southwest. Through Covington, SR 18 has two general purpose travel lanes in each direction. SR 18 is designated as a Highway of Statewide Significance, which is codified in the Revised Code of Washington (RCW) 47.06.140. Highways of Statewide Significance are those highways and other transportation facilities needed to promote and maintain significant statewide travel and economic linkages in Washington State; the legislation emphasizes that these significant facilities should be planned from a statewide perspective. Standards for Highways of Statewide Significance are defined by the Washington State Department of Transportation (WSDOT).[3]

SE 240th Street is an east-west minor arterial located to the north of the study area, connecting north Covington to the City of Kent, located to the west. It has one travel lane in each direction and 2- to 5-foot paved shoulders. It has a speed limit of 35 mph to the west of 180th Avenue SE, and 40 mph to the east. There is a school speed limit of 20 mph (when children are present) in the vicinity of Tahoma High School. Sidewalks exist at the SE 240th Street/180th Avenue SE intersection. A sidewalk also exists along the south side of the roadway to the east of 183rd Avenue SE, for a length of about 700 feet adjacent to an existing subdivision; no sidewalk is provided along any other portion of the roadway. The SE 240th Street/196th Avenue SE intersection is all-way-stop controlled; SE 240th Street is also stop-controlled on its eastbound approach at SE Wax Road/200th Avenue SE. All other intersections with SE 240th Street in the study area vicinity are stop-controlled on the north-south approaches.

SE Wax Road is divided into two segments that connect at 180th Avenue SE. The northern section, which represents the north boundary of the Northern Gateway area, is a minor arterial with a northeast-southwest orientation (parallel to SR 18), located between 180th Avenue SE and SE 240th Street. This segment has 2- to 4-foot wide paved shoulders and no sidewalks; it has a speed limit of 35 mph. Between the SE Wax Road/180th Avenue SE intersection and SE 272nd Street, the roadway is a collector with a north-south orientation. This segment is designated as both SE Wax Road and 180th Avenue SE and has a speed limit of 35 mph. North of SE 256th Street, there is one travel lane in each direction with 3- to 5-foot wide paved shoulders. Sidewalks are intermittent, primarily located along the frontage of Crestwood Elementary and newer developments. To the south of SE 256th Street, there is one travel lane in each direction, with landscaped center median and left-turn pockets at intersections. Sidewalks and bicycle lanes are present on both sides of the street. There is a traffic signal at the SE 256th Street/SE Wax Road (180th Avenue SE) intersection. The SE Wax Road/180th Avenue SE intersection is all-way stop-controlled, and SE Wax Road is stop-controlled at its intersection with SE 240th Street/200th Avenue SE. All other intersections with SE Wax Road in the study area are stop-controlled on the intersecting approaches.

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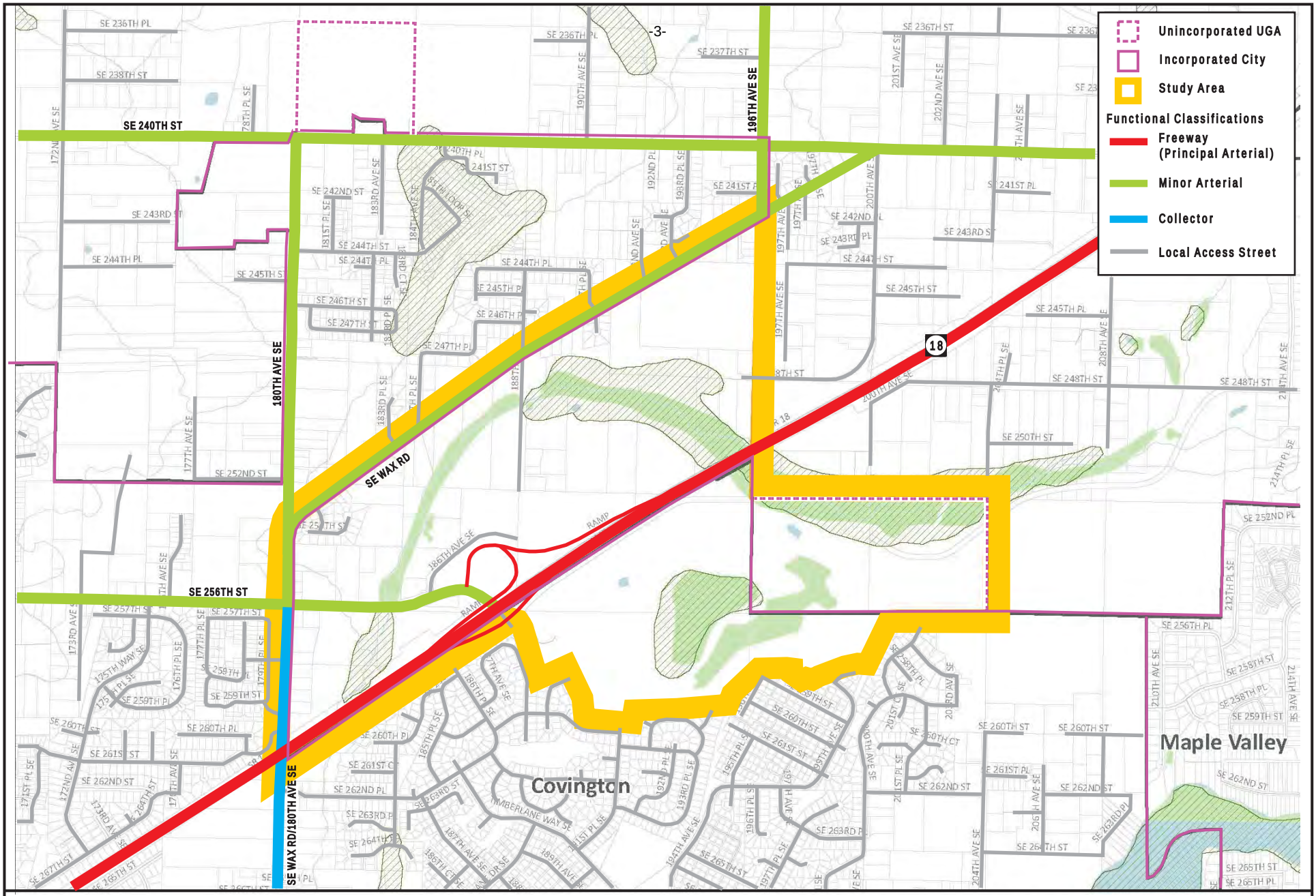
[1] City of Covington, Comprehensive Plan–Transportation Element, Updated December 2009.
[2] King County, 2012 Arterial Functional Class – Unincorporated King County.
[3] Washington State Department of Transportation, Washington State Highway System Plan: 2007 – 2026. Olympia, WA. Prepared by the WSDOT Planning Office. December 2007.



MAP 1: STUDY AREA ROADWAYS

CITY OF COVINGTON
NORTHERN GATEWAY STUDY

0 0.25 0.5 Miles

N

Source: City of Covington, King County, Department of Ecology, National Wetland Inventory

Date: August 2012

SE 256th Street is an east-west minor arterial. Its eastern terminus is the SR 18 interchange within the Northern Gateway study area; to the west it connects to the City of Kent. It has one travel lane in each direction, and a speed limit of 40 mph. In the study area, there are sidewalks and bicycle lanes on both sides of the roadway. The SE 256th Street/180th Avenue SE intersection is signalized; all other intersections with SE 256th Street in the study area, including the SR 18 ramp intersections, are stop-controlled on the north-south approaches.

180th Avenue SE is a north-south roadway that connects SE 240 Street to SE 272nd Street. It is a minor arterial to the north of SE 256th Street, and a collector to the south. As described above, SE Wax Road and 180th Avenue SE share the same roadway along the section between the SE Wax Road/180th Avenue SE intersection and SE 272nd Street (SR 516). North of SE Wax Road, 180th Avenue NE has one travel lane in each direction with 4- to 8-foot wide paved shoulders on both sides and a speed limit of 35 mph. Sidewalks are provided intermittently along the frontages of newer developments, primarily toward the north end and south end of this segment. The characteristics of the roadway to the south of SE Wax Road are discussed in the *SE Wax Road* description presented above.

196th Street SE is a north-south minor arterial that connects SE 240th Street and SE Wax Road. To the north of SE 240th Street (in unincorporated King County), it extends north and connects with SR 169. In the study area between SE 240th Street and SE Wax Road, it has one travel lane in each direction and 2- to 5-foot wide unpaved shoulders. No sidewalks are provided and no speed limit is posted. This roadway is stop-controlled at both SE 240th Street and SE Wax Road.

The functional classifications shown on Map 1and described above reflect federal functional classifications. The Federal-Aid Highway Act of 1973 requires the use of functional highway classification to update and modify the Federal-aid highway systems. Thus, the Federal Highway Administration (FHWA) and WSDOT have adopted a federal functional classification system for city roadways. Allocation of funds, as well as application of local agency design standards, is based on the federal classification. Federal funds may only be spent on federally classified routes.

It is noted that the City's *Comprehensive Plan* also presents City classifications for its roadways, some of which are different than the federal classifications. The City classifications also include a "neighborhood collector" designation. In the project study area, 180th Avenue SE, 196th Avenue SE, and SE Wax Road are designated as collectors instead of minor arterials under the City classifications. No City-designated neighborhood collectors are present within the Northern Gateway study area. The City's roadway design standards (included as Attachment A) are consistent with the City classifications. Typical sections for both minor arterials and collectors include sidewalks, planter strips, curbs, gutters, and bicycle lanes on both sides of the roadway. SE 256th Street is the only roadway in the study area that continuously includes these features (except planter strips).

3. Traffic Volumes

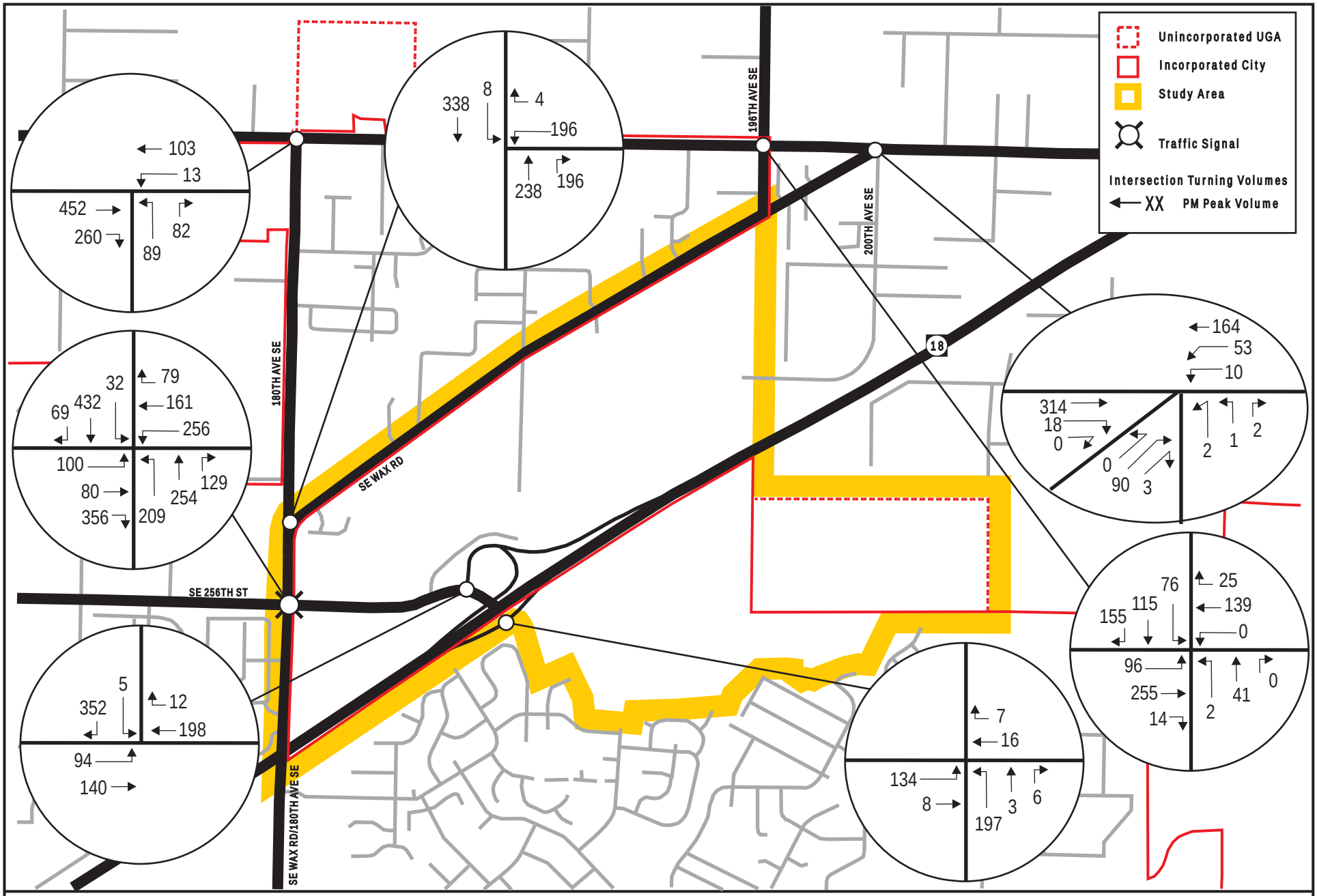
The City commissioned AM and PM peak hour intersections turning movement counts in spring 2012. In addition, the City projected the additional traffic volumes that would be generated by future development projects that have been permitted but not yet constructed (referred to as "pipeline" projects), and are expected to be complete by 2018. These pipeline projects are summarized in Table 2.

Table 2. Pipeline Projects Included in City Traffic Volume Projections*

Blyth Schneider (office)	Platt Short Plat (single family houses)
Burlea (single family houses)	Rainier Vista (single family houses)
Cornerstone ((single family houses)	Solid Rock Community Church
Covington Plan (single family houses)	Soos Creek Business Center (mixed use commercial)
Hay-Lee Glen (single family houses)	Valley Medical (Urgent Care)
Kentwood Plaza (office)	Wingfield (single family houses)
Maple Hills (single family houses)	Wingfield North (single family houses)
Nop Plat (single family houses)	Woodbridge (single family houses)
Parke Meadows South II (single family houses)	

** Multicare Hospital (162,000 square feet) is not included in the listed pipeline projects as information has not yet been transmitted for concurrency testing to the City's consultant. Future model runs will include this project.*
Source: David Evans and Associates, June 2012.

Map 2 shows the PM peak hour traffic volumes for existing plus pipeline conditions.



MAP 2: EXISTING+PIPELINE VOLUMES

CITY OF COVINGTON
NORTHERN GATEWAY STUDY

0 0.25 0.5 Miles

N

Source: City of Covington

Date: August 2012

4. Existing Roadway Operations

4.1. Intersection Operations

Level of service (LOS) analysis was performed at the study area intersections for the AM and PM peak hours. Level of service is a qualitative measure used to characterize traffic operating conditions. Six letter designations, "A" through "F," are used to define level of service. LOS A and B represent the lowest level of traffic congestion, and LOS C and D represent intermediate traffic flow with some delay. LOS E indicates that traffic conditions are at or approaching congested conditions and LOS F indicates that traffic conditions are at a high level of congestion with unstable traffic flow. Levels of service for the study area intersections were analyzed using methodologies presented in the *Highway Capacity Manual*.[4]

Level of service for intersections is defined in terms of the average delay per vehicle in seconds. For a signalized or all-way stop-controlled intersection, level of service is based upon average delay for all vehicles traveling through the intersection. The level of service for a one-way or two-way stop-controlled intersection is determined by the average delay for each minor (stop-controlled) movement. Delay is related to the availability of gaps in the main street's traffic flow, and the ability of a driver to enter or pass through those gaps. Table 3 shows the level of service criteria for signalized and unsignalized intersections, as defined in the *Highway Capacity Manual*. Stop-controlled intersections have different level of service threshold values than signalized intersections, primarily because drivers expect different levels of performance from different types of transportation facilities. In general, stop-controlled intersections are expected to carry lower volumes of traffic than signalized intersections. Therefore, for the same LOS, a smaller amount of delay is acceptable at stop-controlled intersections than for signalized intersections.

Table 3. Level of Service Criteria

Level of Service	Average Delay Per Vehicle		General Description
	Signalized	Unsignalized	
A	≤ 10.0 seconds	≤ 10.0 seconds	Free flow
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds	Stable flow (slight delays)
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds	Stable flow (acceptable delays)
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds	Approaching unstable flow (tolerable delay)
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds	Unstable flow (approaching intolerable delay)
F	> 80.0 seconds	> 50.0 seconds	Forced flow (jammed)

Source: Transportation Research Board, Highway Capacity Manual, 2010.

To evaluate the potential transportation impacts of new developments according to the State Environmental Policy Act (SEPA), the City has adopted an intersection standard of LOS D. Levels of service for traffic movements from unsignalized non-arterial side streets may be allowed to operate at LOS E or F, if the City Engineer determines that no significant operations or safety hazard will result.[5]

Map 3 shows the intersections at which level of service was assessed for this project. In addition to the study area intersections, intersection level of service is considered for major intersections primarily

[4] Transportation Research Board. Highway Capacity Manual. Special Report 209. Washington, DC, 2010.
[5] City of Covington, Comprehensive Plan–Transportation Element, Updated December 2009.

located to the west and south of the study area, because new vehicle trips generated by Northern Gateway development are also likely to occur along these major city roadways.

Table 4 summarizes PM peak hour intersection levels of service for existing plus pipeline conditions (as described under *Section 2 – Traffic Volumes*). The level of service is also shown on Map 3. As shown, intersections adjacent to the study area are operating at levels that are better than the City's standard of LOS D. Several intersections located farther from the study area are operating at or below LOS D. This indicates that there is generally roadway capacity in the immediate study area to accommodate some level of new development; however, high levels of development that generate significant levels of additional traffic may still trigger a need for capacity improvements at some locations. Farther from the site and particularly along SE 272nd Street, far less excess capacity exists. New development that generates vehicle trips through intersections operating at or below standards may need to also contribute toward future capacity improvements at these locations. It is noted that since the SE 256th Street ramps provide direct access between the study area and SR 18, it is likely that a lower proportion of vehicle trips generated by new development in the Northern Gateway area would potentially use the SE 272nd Street/SR 18 ramps.

4.2. Roadway Segment Operations

The City of Covington has adopted King County's standards for transportation concurrency, which applies Transportation Adequacy Measures (TAMs).[6] The TAM process is very complex and involves use of a detailed traffic-forecasting model to evaluate the impacts of project-generated trips.

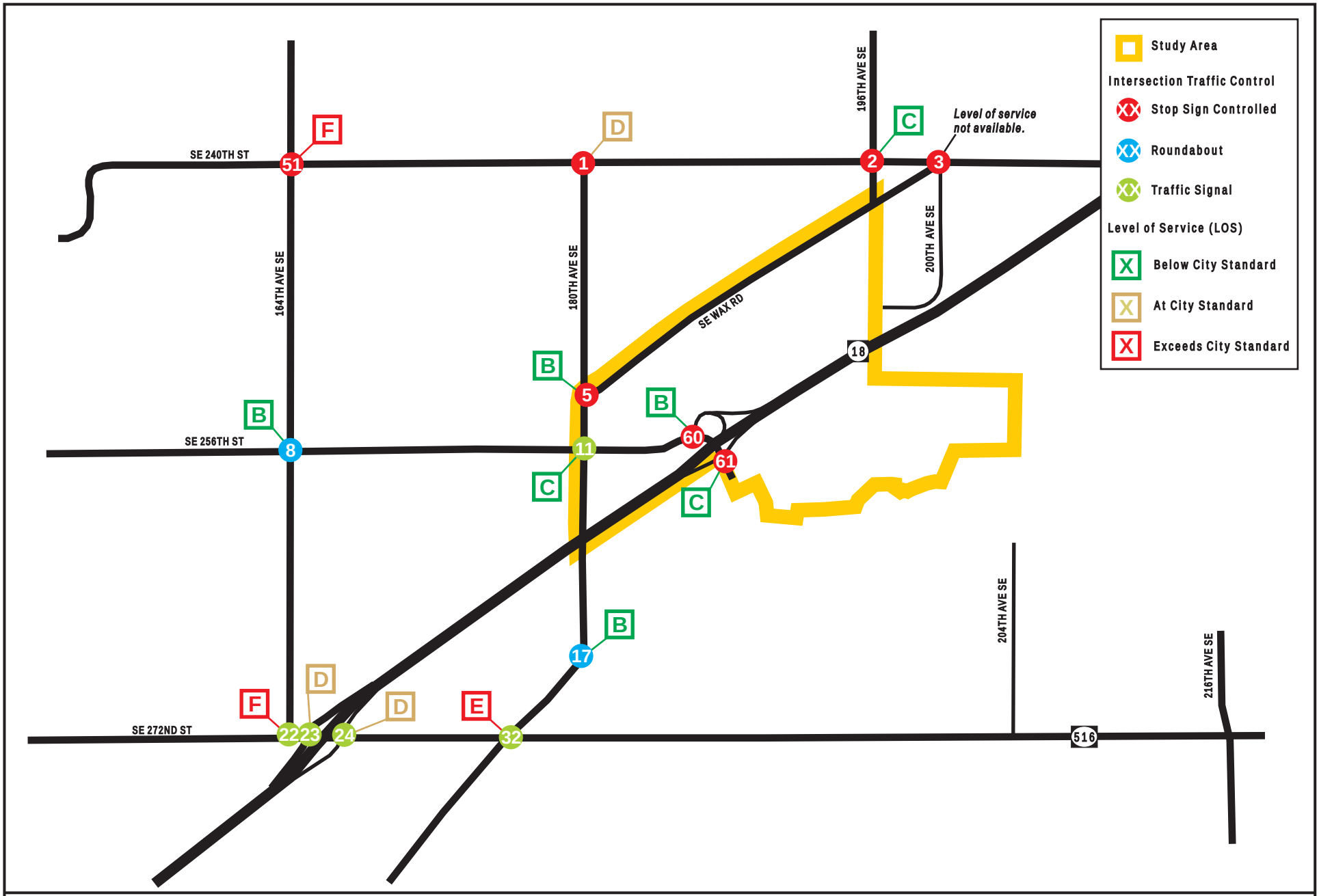
This process establishes an area-wide average volume-to-capacity ratio (v/c) of 0.89 which relates to LOS D or better. This standard applies to most new developments within the city, although the County system does provide for some exemptions.

The TAM process also involves evaluation of possible Unfunded Critical Links (UCLs). The list of UCLs consists of arterial corridors that the County has identified as being important for countywide mobility, forecasted to have a high traffic congestion level, and having unfunded improvements within the 6-year time frame of the most recent Capital Improvement Program (CIP). These links are monitored and used in the level of service analysis of the TAM for testing concurrency. If links exceed the critical link threshold with a volume- to capacity (v/c) of 1.10 or greater and the link is impacted by 50 percent of a development's peak hour traffic then the development must be denied concurrency.

The unfunded critical link test applies within the City of Covington since SR 516 (from 104th Avenue SE to SR 169) is included on the county's list of links to be monitored. The City applies the unfunded critical link test only to the section of SR 516 within the city limits.

In order for new development in the Northern Gateway area to receive a concurrency certificate and permit approval, both the TAM area-wide average v/c ratio and unfunded critical link test standard would need to be met.

[6] City of Covington, Comprehensive Plan–Transportation Element, Updated December 2009.



MAP 3: EXISTING+PIPELINE LOS

CITY OF COVINGTON
NORTHERN GATEWAY STUDY

0 0.5 1.0 Miles

N

Source: City of Covington

Date: August 2012

Table 4. Level of Service – Existing Volumes plus Pipeline Traffic – PM Peak Hour

ID [1]	Intersection	PM Peak Hour LOS	PM Peak Hour Delay
Signalized Intersections			
11	SE 256th Street/SE Wax Road/SE 180th Street	C	34.1
22	SE 272nd Street (SR 516)/164th Avenue SE	F	288.9
23	SE 272nd Street (SR 516)/Southbound SR 18 Ramps	D	35.6
24	SE 272nd Street (SR 516)/Northbound SR 18 Ramps	D	41.4
32	SE 272nd Street (SR 516)/SE Wax Road (180th Ave SE)	E	60.9
Roundabout Intersections			
8	SE 256th Street/164th Avenue SE	B	14.9
17	SE 267th Place/SE Wax Road (180th Avenue SE)	B	11.5
All-Way Stop-Controlled Intersection			
2	SE 240th Street/196th Avenue SE	C	15.3
5	SE Wax Road/SE 180th Street	B	14.9
51	SE 240th Street/164th Avenue SE	F	100.2
One or Two-Way Stop-Controlled Intersections			
1	SE 240th Street/180th Avenue SE		
	Northbound movement	D	27.2
3	SE 240th Street/SE Wax Road/200th Avenue SE	(4)	(4)
60	SE 256th Street/Southbound SR 18 Ramps		
	Southbound movement	B (5)	13.7 (5)
61	SE 256th Street/Northbound SR 18 Ramps		
	Northbound movement	C (5)	17.8 (5)

Source: David Evans and Associates, June 2012.

1. *City intersection identification numbers.*
2. *Level of service.*
3. *Average seconds of delay per vehicle.*
4. *Level of service was not reported for this intersection; the atypical configuration could not be analyzed using typical Highway Capacity Manual methods.*
5. *Level of service for the SE 256th Street/SR 18 ramp intersections was not included in the City's database; it was calculated by Heffron Transportation based upon traffic counts conducted in May 2012. Analyzed volumes do not include additional traffic from expected pipeline development.*

5. Safety Conditions

Collision data obtained from WSDOT for the site vicinity were assessed to determine the existing traffic safety conditions in the area. Table 5 summarizes the most recent data available, recorded from January 1, 2006 through August 31, 2011 (over 5½ years).

Table 5. Historical Collision Summary in Project Study Area (1/1/2006 – 8/31/2011)

Intersection	Collision Type								Total for 5.7 Years	Avg/ Year	Rate per MEV [1]
	Head-On	Rear-End	Side-Swipe	Right Turn	Left Turn	Right Angle	Ped/ Cycle	Other			
SE 240th St/ 180th Ave SE	0	0	0	0	2	0	0	3	5	0.9	0.2
SE 240th St/ 196th Ave SE	0	0	0	0	0	1	0	1	2	0.4	0.1
SE 240th St/ Wax Rd/200th Ave SE	0	0	0	0	1	0	0	0	1	0.2	0.1
SE Wax Rd/ 180th Avenue SE	0	0	0	0	0	0	0	0	0	0.0	0.0
SE 256th St/SE Wax Rd (180th Ave SE)	0	4	0	1	12	4	1	0	22	3.9	0.5
SE 256th St/ SR 18 SB Ramp	0	0	0	0	0	0	0	0	0	0.0	0.0
SE 256th St/ SR 18 NB Ramp	0	0	0	0	0	0	0	0	0	0.0	0.0
Roadway Segment	Collision Type								Total for 5.7 Years	Avg/ Year	Rate per MVM [2]
	Head-On	Rear-End	Side-Swipe	Right Turn	Left Turn	Right Angle	Ped/ Cycle	Other			
SE 240th St, 180th Ave SE – 196th Ave SE	0	23	0	0	12	1	1	6	43	7.5	2.9
SE 240th St, 196th Ave SE – 200th Ave SE	0	0	0	0	0	0	0	0	0	0.0	0.0
SE 240th St, 200th Ave SE – SR 18	0	0	0	0	0	0	0	0	0	0.0	0.0
SE Wax Rd, 180th Ave SE – 200th Ave SE	0	2	0	0	1	1	0	7	11	1.9	1.2
SE 256th St, SE Wax Rd (180th Ave SE) – SR 18	0	0	0	0	0	0	0	0	0	0.0	0.0
180th Ave SE, SE 240th St – SE Wax Rd	1	3	0	0	0	0	0	8	12	2.1	1.2
180th Ave SE, SE Wax Rd – SE 256th St	0	1	0	0	0	0	0	1	2	0.4	0.5

Source: Washington State Department of Transportation, May 2012; compiled by Heffron Transportation, June 2012.

1. *MEV = million entering vehicles, calculated at study area intersections where collisions have been reported.*
2. *MVM = million vehicle miles traveled.*

As shown, average collision rates have been low at most of the intersections and roadway segments located near the study area. The highest number of intersection collisions, 22 total for an average 3.9 collisions per year, was reported at the signalized SE 256th Street/SE Wax Road (180th Avenue SE) intersection. The data indicate that over half of the recorded collisions at this location were related to left turns. The collision rate at this intersection is approximately 0.5 collisions per million entering vehicles (MEV). Typically, collision rates higher than 1.0 MEV indicate potential safety issues; therefore, the historical collision data do not indicate unusual safety conditions at study area intersections.

The SE 240th Street/SE Wax Road/200th Avenue SE intersection has an atypical configuration in which three of the four approaches are stop-controlled, and two of the stop-controlled minor approaches (SE Wax Road and 200th Avenue SE) converge at SE 240th Street at two different angles from the south. Vehicle volumes on the stop-controlled approaches are relatively low and only one collision has been recorded at this intersection within the past 5½ years.

For the roadway segments, the collision rates are shown in terms of million vehicle miles (MVM) traveled. The highest rate occurred on SE 240th Street between 180th Avenue SE and 196th Avenue SE. According to the WSDOT's *2010 Washington State Collision Data Summary*,[7] minor arterials in the Northwest Region (state routes) had average collision rates of 1.07 in rural areas and 2.98 in urban area. The rate for the segment of SE 240th Street is comparable to the average rate for urban areas. The collisions recorded along this roadway primarily occurred at intersections with driveways or local access streets at subdivisions. The collisions were spread out along the corridor, which is about 1 mile in length, and are typical of the types of collisions that occur at intersections with driveways and local access street intersections. All other roadway segments had lower rates comparable to the rates found on state routes in rural areas. Therefore, the historical collision data do not indicate unusual safety conditions along study area roadway segments.

6. Pavement Condition

A windshield survey of pavement condition was conducted for the study area roadways. Table 6 describes the types of pavement defects that were observed. Pavement conditions for the major roadways in the study area are generally described below.

SE 240th Street (from 180th Avenue SE to SR 18) was observed to have low to medium severity raveling and aging, as well as medium to high severity longitudinal cracking, and some transverse cracking, some of which has been sealed or patched. It appears that block cracking may have possibly occurred in the past, which has been patched.

SE Wax Road (from 180th Avenue SE to SE 240th Street) was observed to have low to medium severity raveling and aging that deteriorates to a higher severity toward SE 240th Street. Medium to high severity longitudinal cracking, which degrades to medium to high alligator cracking toward SE 240th Street, was also observed.

SE 256th Street (from 180th Avenue SE to SR 18) was observed to have pavement in generally good condition.

180th Avenue SE (from SE 240th Street to SE 256th Street) was observed to have low to medium severity raveling and aging. Medium to high severity longitudinal cracking, which degrades to medium to high alligator cracking north of SE Wax Road, was also observed. Patching/sealing was observed north of SE Wax Road.

196th Avenue SE (from SE 240th Street to SE Wax Road) was observed to have low severity raveling and aging, but was otherwise in generally good condition.

[7] Washington State Department of Transportation, 2010 Washington Stat Collision Data Summary, 2011.

Table 6. Pavement Defect Types

Pavement Defect Type / Description	Range of Severity
Raveling and Aging Raveling and aging are pavement surface deterioration that occurs when aggregate particles are dislodged (raveling) or oxidation causes loss of the asphalt binder (aging). Pavement loses its smooth surface and begins to appear open and rough.	**Low** — The aggregate and/or binder has started to wear away but has not progressed significantly. The pavement only appears slightly aged and slightly rough. **Medium** — The aggregate and/or binder has worn away and the surface texture is moderately rough and pitted. Loose particles may be present, and fine aggregate is partially missing from the surface. **High** — The aggregate and/or binder have worn away significantly, and the surface texture is deeply pitted and very rough. Fine aggregate is essentially missing from the surface, and pitting extends to a depth approaching one half the coarse aggregate size.
Alligator Cracking Alligator fatigue cracking is associated with loads and is usually limited to areas of repeated traffic loading. The cracks surface initially as a series of parallel longitudinal cracks within the wheel path that progress with time and loads to a more branched pattern that begins to interconnect. The stage at which several discontinuous longitudinal cracks begin to interconnect, is defined as alligator cracking. Eventually the cracks interconnect sufficiently to form many pieces, resembling the pattern of an alligator.	**Low** — Branched, longitudinal, discontinuous thin cracks are beginning to interconnect and form the typical alligator pattern with no spalling.[1] **Medium** — Cracking is completely interconnected and has fully developed an alligator pattern. Some spalling may appear at the edges of cracks. The cracks may be greater than 1/4-inch wide, but the pavement pieces are still in place. **High** — The pattern of cracking is well developed. Spalling is very apparent at the crack. Individual pieces may be loosened and may rock under traffic. Pieces may be missing. Pumping of fines up through the cracks may be evident.
Longitudinal Cracking Longitudinal cracks run roughly parallel to the roadway center line. Longitudinal cracks associated with the beginning of alligator cracking are generally discontinuous, broken, and occur in the wheel path.	**Low** — The cracks have very little or no spalling along the edges and are less than 1/4-inch in width. If the cracks are sealed and the width of the crack prior to sealing is invisible, they should be classified as Low Severity. **Medium** — The cracks have little or no spalling but they are greater than 1/4-inch in width. There may be a few randomly spaced low severity connecting cracks near the main crack or at the corners of intersecting cracks. **High** — Cracks are spalled and there may be several randomly spaced cracks near the main crack or at the corners of intersecting cracks. Pieces are visibly missing along the crack. At some point, this longitudinal cracking becomes alligator cracking.

Table 6. Pavement Defect Types

Pavement Defect Type / Description	Range of Severity
Transverse Cracking Transverse cracks run roughly perpendicular to the roadway center line. They may be caused by surface shrinkage due to low temperatures, hardening of the asphalt, or cracks in underlying pavement layers such as PCCP slabs. They may extend partially or fully across the roadway. Consider only those transverse cracks that are a minimum of two feet in length.	**Low** — The cracks have very little or no spalling along the edges and are less than 1/4-inch in width. If the cracks are sealed and the width of the crack prior to sealing is invisible, they should be classified as Low Severity. **Medium** — The cracks have little or no spalling but they are greater than 1/4-inch in width. There may be a few randomly spaced low severity connecting cracks near the main crack or at the corners of intersecting cracks. **High** — Cracks are spalled and there may be several randomly spaced cracks near the main crack or at the corners of intersecting cracks. Pieces are visibly missing along the crack.
Patching A patch is an area of pavement which has been replaced with new material to repair the existing pavement or access the utility. A patch is considered a defect no matter how well it is performing (a patched area or adjacent area usually does not perform as well as an original pavement section). Generally, some roughness is associated with this distress. In general, a patch is less than a typical rehabilitation in size and scope. They are less than full roadway width and/or are less than project length.	**Low** — Patch has at most low severity distress of any type. **Medium** — Patch has medium severity distress of any type. **High** — Patch has high severity distress of any type.
Block Cracking Block cracks divide the pavement surface into nearly rectangular pieces with cracks that intersect at about 90 degrees. This type of distress differs from alligator cracking in that alligator cracks form smaller, irregular shaped pieces with sharp angles. Also, alligator cracks are caused by repeated traffic loadings and are, therefore, generally located in traffic areas (i.e., the wheel paths). Block cracking is caused principally by shrinkage of the asphalt concrete and daily temperature cycling. It is not load-associated, although load can increase the severity of individual cracks. The occurrence of block cracking usually indicates that the asphalt has hardened significantly through aging. Block cracking normally occurs over a large portion of the pavement area including non-traffic areas.	The severity of block cracking is defined by the average size of the blocks and the average width of the cracks that separate them. Block Size: **Low** — 9 x 9 feet or greater. **Medium** — 5 x 5 feet to 8 x 8 feet blocks. **High** — 4 x 4 feet blocks or less. Crack Size: **Low** — Less than 1/4 inch. **Medium** — Over 1/4 inch. **High** — Spalled.

Source: Northwest Pavement Management Association, Pavement Surface Condition Field Rating Manual for Asphalt Pavements, April 1999.

1. *Spalling is the deterioration of the sharp edge formed at the pavement surface along each side of a crack or joint. With severe spalling, pieces of the pavement break away, causing the visual size of the crack on the pavement surface to be greater than the crack width below the surface.*

7. Vehicle Access to Study Area

As described earlier and shown on Map 3, regional vehicle access to and from the Northern Gateway study area is provided directly by SR 18. In addition, SE 240th Street and SE 256th Street provide access to and from areas to the west, 196th Avenue SE provides access to and from areas to the north, and 180th Avenue NE provides access to and from areas to the south. All of these roadways have federal functional classifications of principal or minor arterial, with the exception of SE Wax Road/180th Avenue SE, which is classified as a collector south of SE 256th Street. The roadways' functional classifications are consistent with the access function that they would serve for the Northern Gateway area; however, only SE 256th Street meets the City's design standards for collector and arterials roadways.

There is no direct access between the Northern Gateway study area and the area to the southeast. All vehicles must travel between these areas via SE 272nd Street (SR 516) and SE Wax Road. The City will require future development in the southeast and southwest study area to construct a roadway that will connect the SE 256th Street/SR 18 ramp to 204th Avenue SE. The developer of land within the city limits that abuts the southeast study area is required to improve 204th Ave SE to the north boundary of the current city limits. Potential corridor locations through the southeast study area are limited by the topography of the area; a new roadway would likely be most feasible along the northern and eastern portions of the southeast study area, where grades are less steep and there are fewer wetland constraints.

As shown previously on Map 1, several local residential streets terminate at the south edge of the Study Area. While potential roadway connections along the south edge would be constrained by steep slopes that exist in that area, it may be possible to extend some existing local access streets into the southern portions of the Study Area.

8. Transit Characteristics

Bus service in Covington is provided by King County Metro (Metro) Routes 159, 168 and 912.

Metro Route 159 provides weekday commuter service from Covington to Kent and downtown Seattle in the morning and to back to Covington from downtown Seattle and Kent in the evening. The bus stop nearest the Northern Gateway site served by this route is located at the SE 261st Street/SE Wax Road (SE 180th Street) intersection, about one-half mile south of the western edge of the study area.

Metro Route 168 provides daily local bus service between Covington and Kent. The bus stop nearest the Northern Gateway site served by this route is located at the SE 261st Street/SE Wax Road (SE 180th Street) intersection, about one-half mile to the south of the western edge of the study area. This route stops at the Kent Transit Center, where riders can transfer to buses that serve other regional destinations.

Metro Route 912 provides limited weekday service between Covington, Black Diamond, and Enumclaw. The bus stop nearest the Northern Gateway site served by this route is located at SE 272st Street, more than a mile to the south.

9. Non-motorized Characteristics

As described previously, SE 256th Street is the only major roadway within the study area that has continuous sidewalks and bicycle lanes. SE Wax Road (180th Avenue SE) has sidewalks and bicycle lanes to the south of SE 256th Street, but not inside the study area. No other bicycle lanes are present within the study area. Sidewalks are provided intermittently, primarily where they have been built as frontage

improvements for newer developments, but the majority of study area roadways do not have sidewalks. Most roadways do have paved or unpaved shoulders of varying widths that are used by pedestrians. The following non-motorized traffic generators are located within the vicinity of the Northern Gateway site:

- **Tahoma High School** is located to the north of the SE 240th Street/180th Avenue SE intersection, northwest of the study area.
- **Covington Aquatic Center** is located directly east of Tahoma High School.
- **Covington Community Park** is located to the southwest of the SE 240th Street/180th Avenue SE intersection, northwest of the study area.
- **Rainier Vista Open Space** is located to the southeast of the SE 240th Street/183rd Avenue SE intersection, north of the study area. This area includes a shared use path.
- **Crestwood Elementary School** is located at the 180th Avenue SE/SE Wax Road intersection, west of the study area. There is also an **unnamed green space** located between the school and SE 256th Street.
- **Jenkins Creek Trail** is located south of SR 18 and east of SE Wax Road (180th Avenue SE), directly south of the study area.

While these facilities do not typically generate non-motorized traffic within the Northern Gateway area, they do generate pedestrian and bicycle traffic along the major roadways that provide access to the area.

The King County bicycle map identifies portions of study area roadways as part of the regional bicycle network. In addition to the bicycle lanes on SR 256th Street and SE Wax Road (180th Avenue SE), 180th Avenue SE (north of SE Wax Road), 196th Avenue SE (north of SE 240th Street) and SE 240th Street (west of 180th Avenue SE and east of 196th Avenue SE) are identified as shared roadways in the county-wide bicycle network.[8]

When new developments occur, the City requires frontage improvements, dedication of rights-of-way and construction of sidewalks to meet City standards. This provides for evolving improvement of non-motorized facilities along city roadways, but as observed in the study area, typically also results in intermittent improvement of roadway segments with substantial gaps.

10. Future Planned Improvements

There are two projects identified in the City's current six-year Transportation Improvement Program[9] (TIP) as well as the Capital Improvement Program (CIP) in the vicinity of the project: CIP #1056 (SE 256th Street between 172nd Avenue SE and 180th Avenue SE) and CIP #1149 (180th Avenue SE between SE 256th Street and SE Wax Road). Portions of these two larger CIP projects are being combined to provide improvements adjacent to the new fire station at the SE 256th Street/180th Avenue SE intersection. The improvements will include widening the north side of SE 256th Street from 180th Avenue SE to 176th

[8] King County, Bike Map, 2012.
[9] City of Covington 2012-2017 Transportation Improvement Program Summary. Available: http://www.covingtonwa.gov/city_departments/publicworks/engineering/engineering.html. Accessed: August 3, 2012.

Avenue SE to match the section at 168th Avenue SE. The frontage along 180th Avenue SE will also be improved from the intersection to Crestwood Elementary School.

The City's *Comprehensive Plan* identifies a planned King County project that would install new bicycle lanes along SE 240th Street, between SR 18 and Kent; however, this does not appear to be programmed at this time. The *Comprehensive Plan* also supports regionally identified bicycle routes through reconstruction and/or widening of arterials.

11. Transportation Opportunities and Constraints

Key transportation-related opportunities and constraints identified based on review of the existing study-area conditions are summarized as follows.

Intersections adjacent to the study area are operating at levels that are better than the City's standard of LOS D. Several intersections located farther from the study area are operating at or below LOS D. This indicates that there is generally roadway capacity in the immediate study area to accommodate some level of new development; however, high levels of development that generate significant levels of additional traffic may still trigger a need for capacity improvements at some locations. Farther from the site and particularly along SE 272nd Street, far less excess capacity exists. New development that generates substantial vehicle trips through intersections operating at or below standards may need to also contribute toward future capacity improvements at these locations. It is noted that since the SE 256th Street ramps provide direct access between the study area and SR 18, vehicle trips generated by new development in the Northern Gateway area could potentially have a low impact on the SE 272nd Street/SR 18 ramp intersections.

The major roadways that serve the area are primarily classified as minor arterials. Since the function of a minor arterial emphasizes mobility over local access, this designation is appropriate for roadways expected to serve traffic that could be generated between new development within the Northern Gateway area and other areas within and beyond Covington. However, within the study area, only SE 256th Street currently meets the City's design standards for minor arterials, which include curbs, gutters, sidewalks and bicycle lanes along both sides of the roadway. Development of the Northern Gateway area as a major activity center would likely accelerate the need to upgrade the surrounding roadways to meet the City's roadway design standards.

The collector designation of SE Wax Road/180th Avenue SE (to the south of SE 256th Street), which places equal emphasis on mobility and local access, is also consistent with the function it would serve with new development in the Northern Gateway area. This segment of the roadway meets the City's design standards for collector roadways.

Transit service in the City of Covington is fairly limited. Existing bus routes do travel in the vicinity of the Northern Gateway area, but the nearest stop is about a half mile south of the western edge of the study area.

Most of the major roadways in the study area do not have continuous sidewalks. This raises potential issues not only for non-motorized traffic generated by potential new development within the Northern Gateway area, but also for other non-motorized travelers in the area who could be exposed to higher vehicle volumes generated by the new development. Upgrading the adjacent major roadways to City standards would resolve potential non-motorized issues by providing curbs, gutters and sidewalks, and potentially bicycle lanes where sufficient right-of-way is available.

It is expected that new internal roadways built as part of the Northern Gateway development would adhere to City design standards and all new roadways would include sidewalks. If any new roadways with higher classifications are built within the Northern Gateway development area they would likely also include bicycle lanes.

SR 18 and the other existing roadways provide for adequate regional access between the Northern Gateway area and areas to the north, south, northeast and west. However, access to and from the area to the southeast (eastern Covington and Maple Valley) is constrained, with SE Wax Road/180th Avenue SE providing the only route between the study area and these areas via SE 272nd Street (SR 516).
If the Northern Gateway area is developed as a major activity center, additional access to and from SE 272nd Street (to the southeast of the study area) may be desirable. The City will require any future development in the southeast and southwest study area to construct a roadway to connect SE 256th Street/SR 18 ramps with 204th Ave SE. Potential corridor locations through the southeast study area are limited by the topography of the area; a new roadway would likely be most feasible along the northern and eastern portions of the southeast study area, where grades are less steep and where there are fewer wetland constraints.

Several local residential streets terminate at the south edge of the Study Area. While potential roadway connections along the south edge would be constrained by steep slopes that exist in that area, it may be possible to extend some existing local access streets into the southern portions of the Study Area.

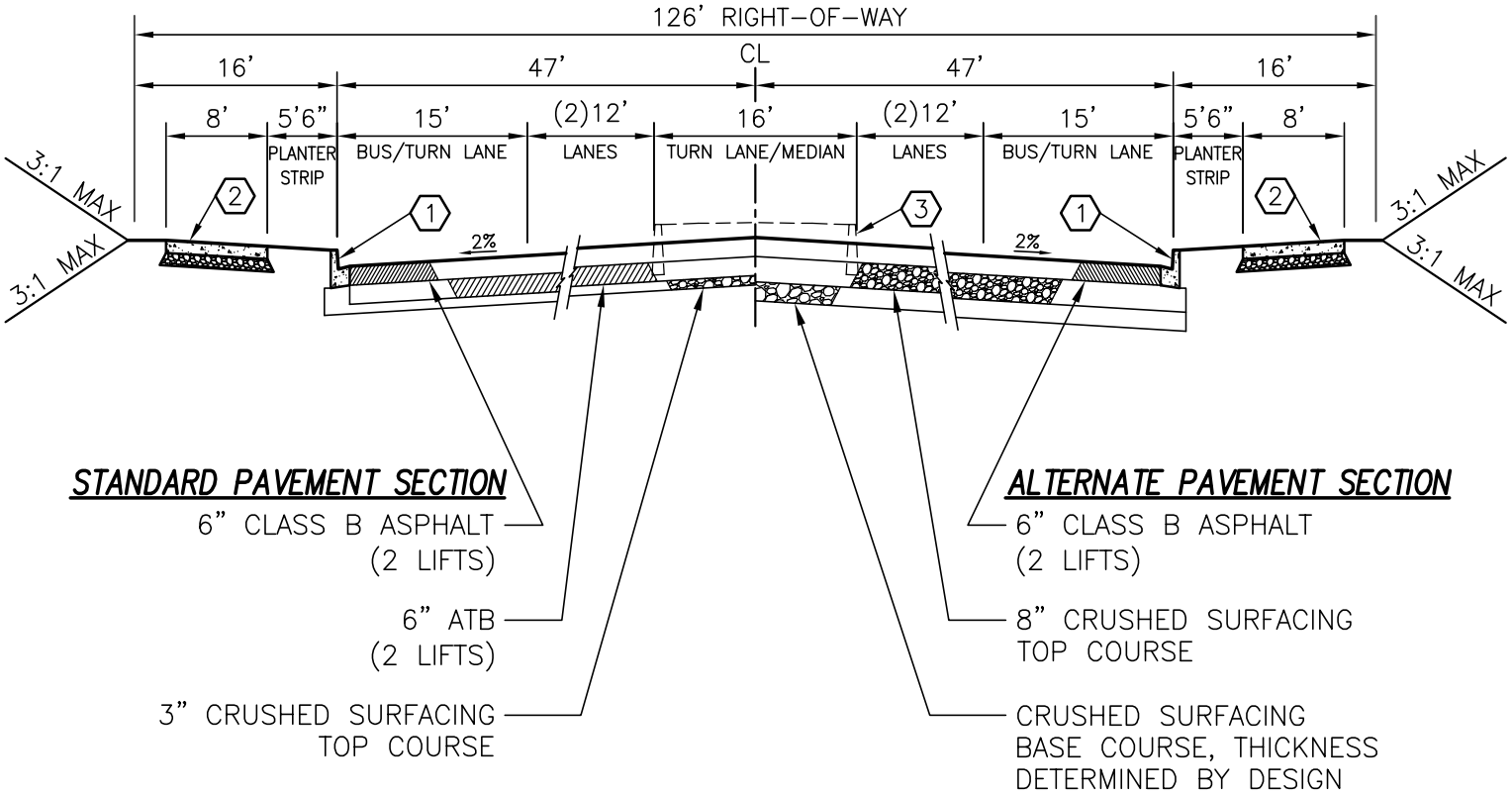
With the exception of SE 256th Street, the roadways located within the Northern Gateway study area have pavement that is aged to the point at which low to medium raveling and aging has occurred. SE 240th Street, SE Wax Road, and 180th Avenue SE all exhibit varying degrees of longitudinal and alligator cracking, which are types of pavement distress that are typically related to vehicle loading. Construction-generated trucks, as well as increased truck deliveries and auto traffic associated with potential development within the Northern Gateway area could accelerate these types of pavement defects. Pavement resurfacing and maintenance may be required along these roadways to support increases in truck traffic that could be associated with construction and everyday operations of new development within the Northern Gateway study area.

Increased traffic volumes resulting from development within the Northern Gateway area would increase the potential for vehicle conflicts. However, historical collision data indicate that the incidence of collisions in the study area has been relatively low, and no unusual safety conditions have been identified. The SE 240th Street/SE Wax Road/200th Avenue SE intersection (located outside of the Study Area and city limits) has historically experienced a low incidence of collisions, but increased traffic volumes could increase safety issues at this intersection because it has an atypical configuration and traffic control. Depending on future traffic volume levels, this intersection could be a candidate for signalization or reconfiguration to provide more conventional traffic operations.

It is anticipated that new local access roads, as well as any future improvements to existing study area roadways, would conform to City design standards and would maintain adequate sight distance at intersections.

ATTACHMENT A

CITY OF COVINGTON STREET STANDARDS



CONSTRUCTION NOTES:

1. *PAVEMENT SECTIONS SHALL BE PLACED OVER 12" MINIMUM COMPACTED SUBGRADE (95% MDD).*
2. *PAVEMENT SECTION DEPTHS NOTED REFER TO COMPACTED DEPTH.*
3. *SLOPE EASEMENTS MAY BE REQUIRED FOR GRADING OUTSIDE DEDICATED RIGHT-OF-WAY.*
4. *PLANTER STRIP SHALL DRAIN TOWARD STREET AT 0 TO 10% CROSS-SLOPE.*
5. *NO PARKING ON ARTERIALS.*

(1) *CONCRETE CURB AND GUTTER (TYPE A-1) PER STANDARD DETAIL 323.*
FLOWLINE ELEV = CL - 1.00' & TOP OF CURB ELEV = CL - 0.50'

(2) *CONCRETE SIDEWALK PER STANDARD DETAIL 306.*
BACK OF WALK ELEV = CL - 0.20' (TYP)

(3) *CONCRETE CURB (TYPE E-4) PER STANDARD DETAIL 324, WHERE APPLICABLE.*
TOP OF CURB ELEV = CL + 0.34'

City of Covington

Public Works

Community Development

DONALD M. VONDRAN
STATE OF WASHINGTON
38844
REGISTERED
PROFESSIONAL ENGINEER

TYPICAL STREET SECTION
PRINCIPAL ARTERIAL

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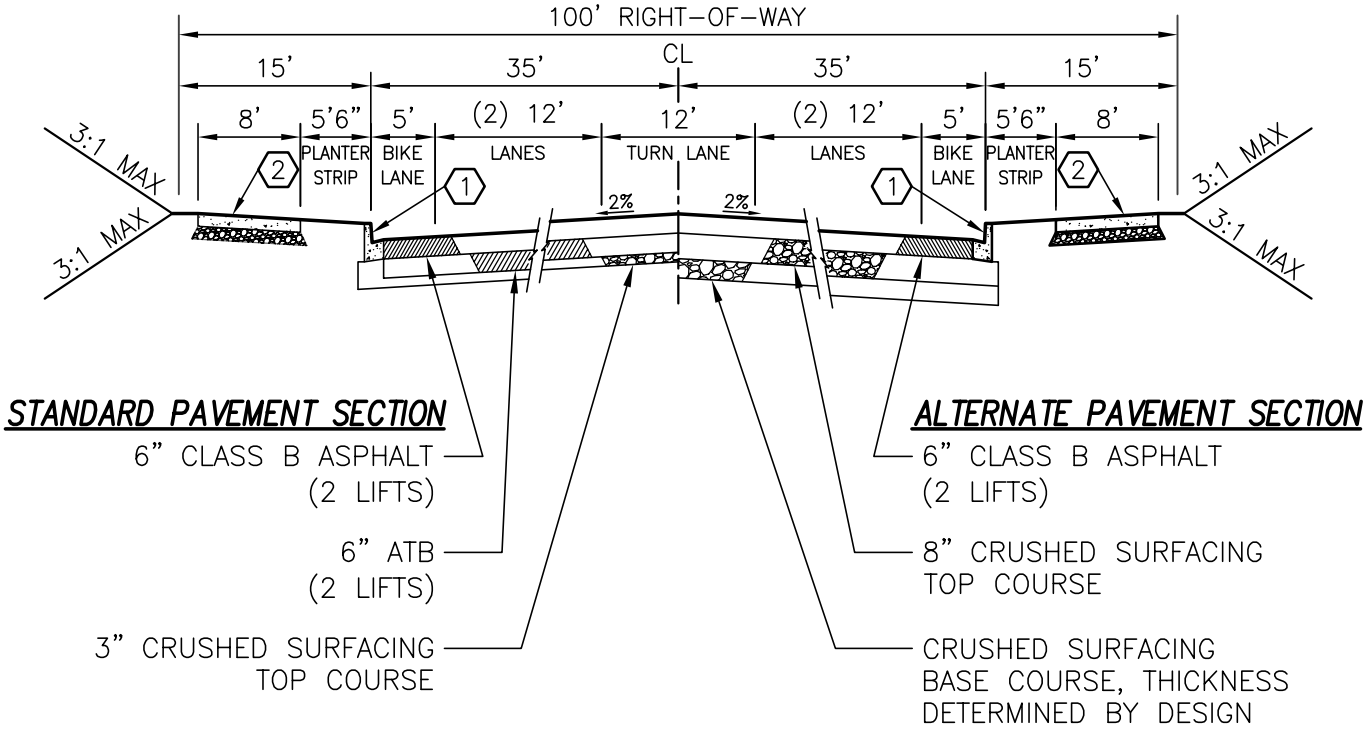
202

Revision Date
July 2009



CONSTRUCTION NOTES:

1. *PAVEMENT SECTIONS SHALL BE PLACED OVER 12" MINIMUM COMPACTED SUBGRADE (95% MDD).*
2. *PAVEMENT SECTION DEPTHS NOTED REFER TO COMPACTED DEPTH.*
3. *SLOPE EASEMENTS MAY BE REQUIRED FOR GRADING OUTSIDE DEDICATED RIGHT-OF-WAY.*
4. *PLANTER STRIP SHALL DRAIN TOWARD STREET AT 0 TO 10% CROSS-SLOPE.*
5. *ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED FOR U-TURN LANE AT INTERSECTIONS.*
6. *NO PARKING ON ARTERIALS.*

(1) *CONCRETE CURB AND GUTTER (TYPE A-1) PER STANDARD DETAIL 323.*
FLOWLINE ELEV = CL - 0.76' & TOP OF CURB ELEV = CL - 0.26'

(2) *CONCRETE SIDEWALK PER STANDARD DETAIL 306.*
BACK OF WALK ELEV = CL + 0.00' (TYP)

City of Covington

Public Works

Community Development

DONALD M. VONDRAN
STATE OF WASHINGTON
38844
REGISTERED
PROFESSIONAL ENGINEER

TYPICAL STREET SECTION
MINOR ARTERIAL

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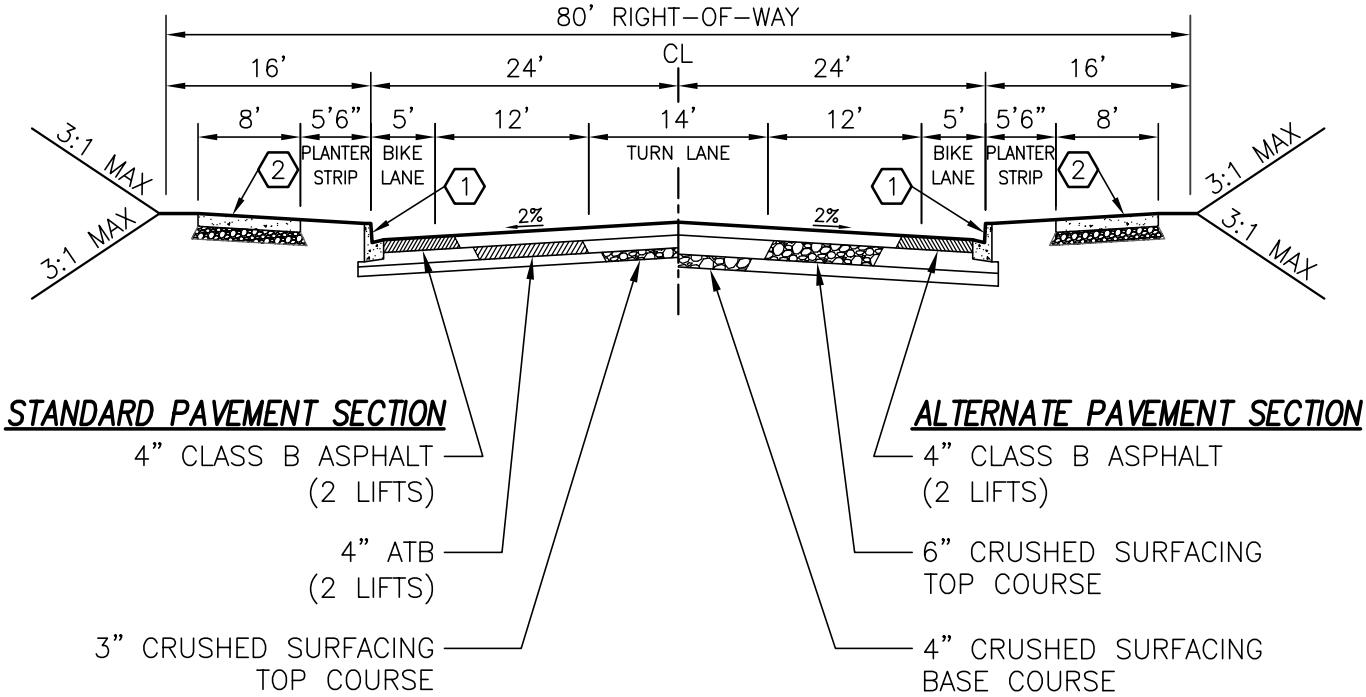

CONSTRUCTION NOTES:

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2. *PAVEMENT SECTION DEPTHS NOTED REFER TO COMPACTED DEPTH.*
3. *SLOPE EASEMENTS MAY BE REQUIRED FOR GRADING OUTSIDE DEDICATED RIGHT-OF-WAY.*
4. *PLANTER STRIP SHALL DRAIN TOWARD STREET AT 0 TO 10% CROSS-SLOPE.*
5. *NO PARKING ON ARTERIALS.*

(1) *CONCRETE CURB AND GUTTER (TYPE A-1) PER STANDARD DETAIL 323.*
FLOWLINE ELEV = CL - 0.54' & TOP OF CURB ELEV = CL - 0.04'

(2) *CONCRETE SIDEWALK PER STANDARD DETAIL 306.*
BACK OF WALK ELEV = CL + 0.22' (TYP)

City of Covington

Public Works

Community Development

DONALD M. VONDRAN
STATE OF WASHINGTON
38844
REGISTERED
PROFESSIONAL ENGINEER

TYPICAL STREET SECTION
COLLECTOR ARTERIAL

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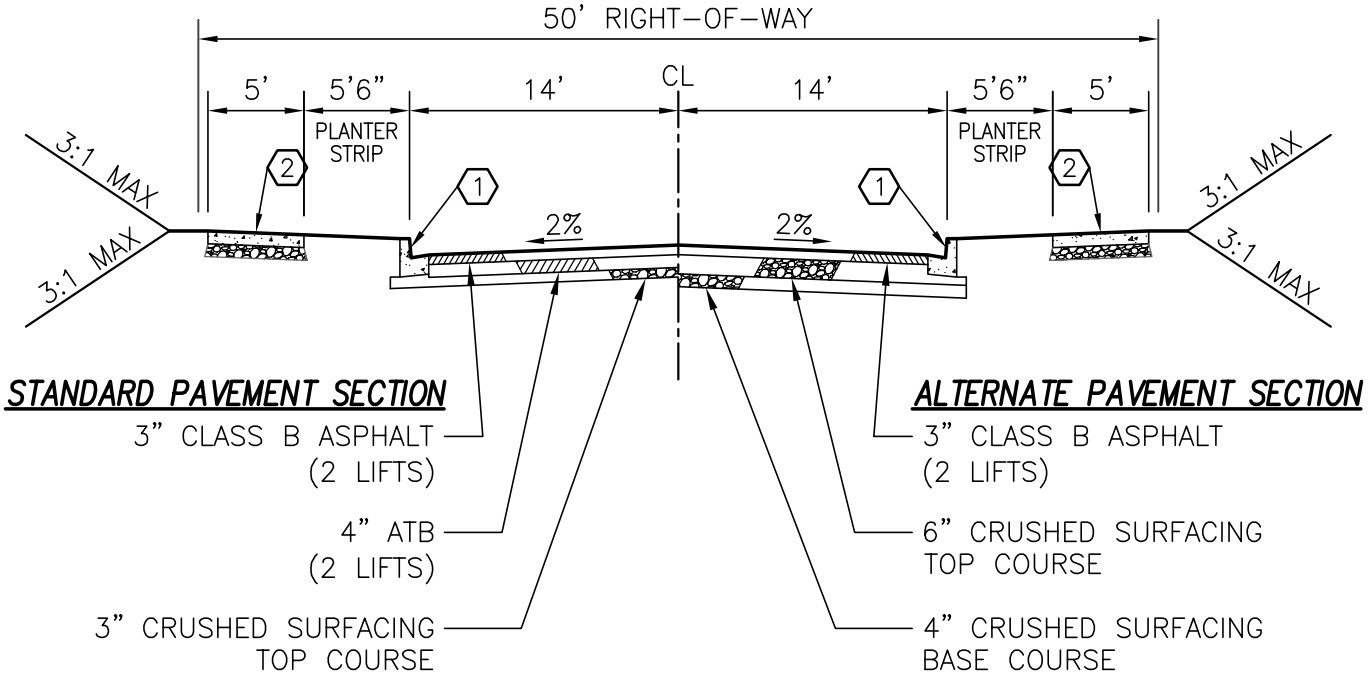

CONSTRUCTION NOTES:

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4. *PLANTER STRIP SHALL DRAIN TOWARD STREET AT 0 TO 10% CROSS-SLOPE.*

(1) *CONCRETE CURB AND GUTTER (TYPE A-1) PER STANDARD DETAIL 323.*
FLOWLINE ELEV = CL - 0.34' & TOP OF CURB ELEV = CL + 0.16'

(2) *CONCRETE SIDEWALK PER STANDARD DETAIL 306.*
BACK OF WALK ELEV = CL + 0.36' (TYP)

City of Covington

Public Works

Community Development

DONALD M. VONDRAN
STATE OF WASHINGTON
38844
REGISTERED
PROFESSIONAL ENGINEER

TYPICAL STREET SECTION
LOCAL ACCESS

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Revision Date
July 2009

Appendix D:
Northern Gateway Area Study Analysis of Existing Conditions: Public Services Capacity Analysis (Parks, Schools, Fire/EMS)
BERK, August 8, 2012

PHONE 206.324.8760
2025 First Avenue, Suite 800
Seattle, WA 98121
www.berkconsulting.com

MEMORANDUM

DATE: August 8, 2012

TO: Bill Stalzer, Stalzer and Associates

FROM: Lisa Grueter, AICP, Manager

RE: Northern Gateway Area Study Analysis of Existing Conditions: Public Services Capacity Analysis (Parks, Schools, Fire/EMS)

INTRODUCTION

This memo provides a summary analysis of services provided in the Northern Gateway Study Area (Exhibit 1) including parks and recreation, schools, and fire/emergency medical services (EMS). This memo documents the service provider, proximity of services to the Study Area, and any service delivery concerns (e.g. access, response times, etc.).

PARKS AND RECREATION

The City of Covington owns numerous parks, including some along the western and southern boundaries of the Study Area, such as the Jenkins Creek Trail property south of SR 18 and an unnamed green space along 180th Ave SE. See Exhibit 2.

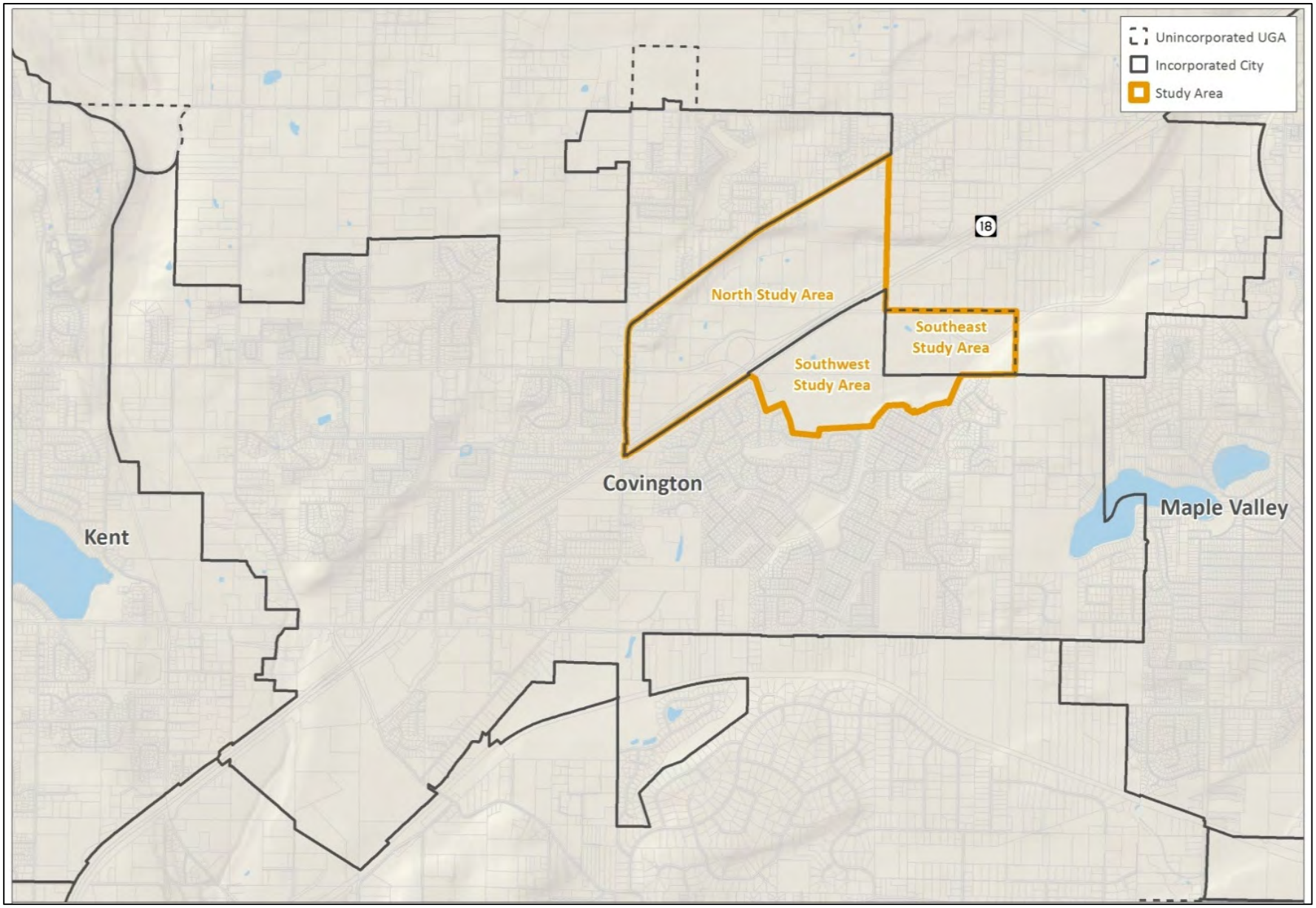
Northeast of the Study Area, the City and King County jointly own the Cedar Creek Park, and King County also owns Cedar Creek Downs east of the southeast study area. Other non-City green spaces located in the Study Area include state and County land. See Exhibit 3.

The City has an existing bike lane on 256th Street SE, ending at the interchange in the north study area. The City has planned extensive trails along Jenkins Creek in the north study area as well as along SR 18 fronting the southwest and southeast study areas. See Exhibit 4. The City has included the future trails in its capital facilities plan in the Covington Parks, Recreation & Open Space (PROS) Plan (City of Covington, 2010).

In addition to City trails, King County is planning the Tri-City Connector Trail to serve Covington, Black Diamond, and Maple Valley. The design of this trail may influence the alignment of planned City trails. The Tri-City trail is under preliminary conceptual design at this time. No public documents are available at this time, but are expected in 2012. (pers com, Ann Mueller, Senior Planner, City of Covington, July 23, 2012; Kelley Donahue, King County Parks, August 6, 2012)

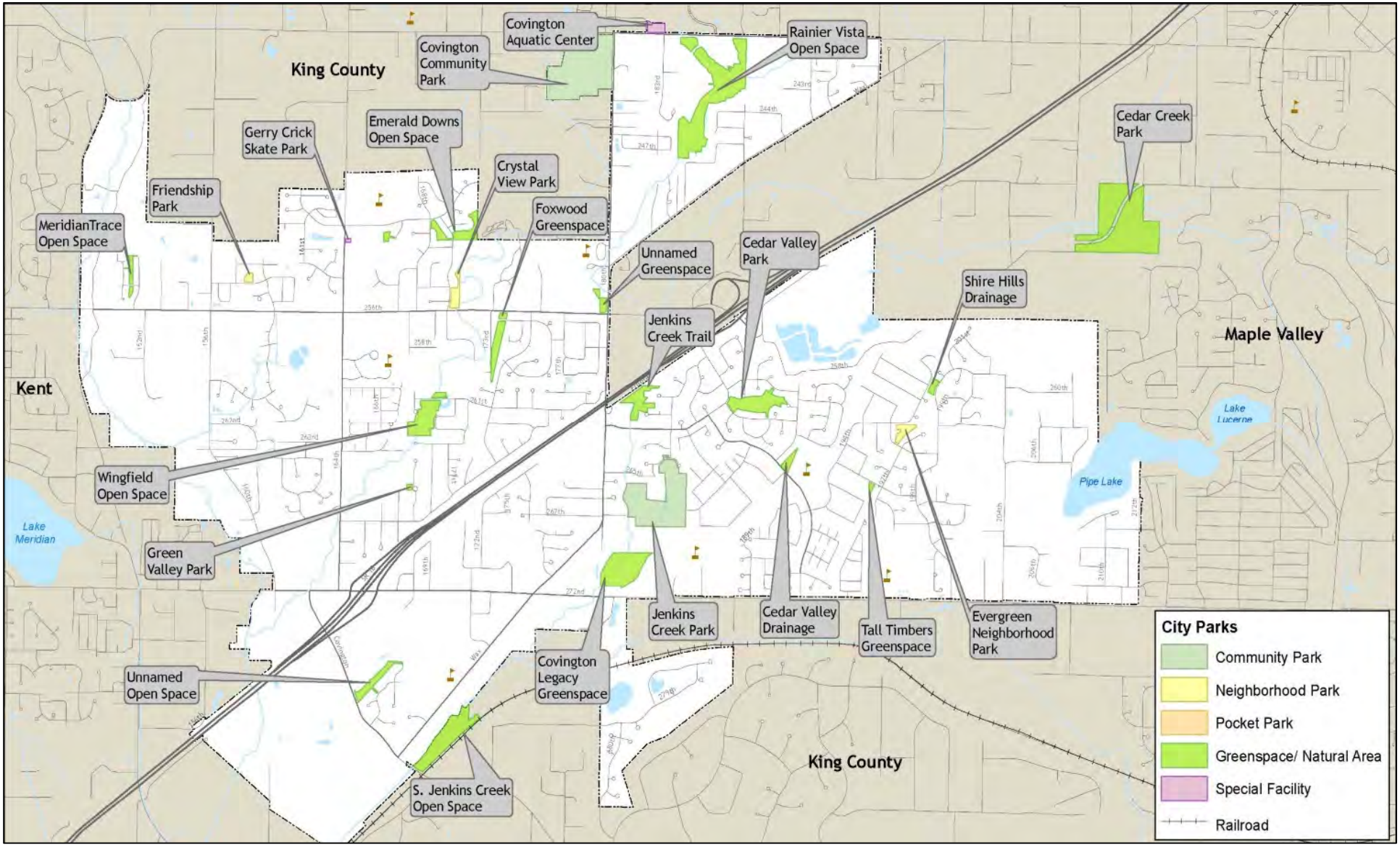
Future growth in the city limits and Study Area would increase the demand for parks and recreation services. About 3,700 dwelling units could occur based on land capacity in the city limits and Study Area, with about 75% of that located in the city limits outside of the Study Area. A more focused analysis of fiscal impacts would be determined when more information is known about the future Study Area development pattern; however, a baseline analysis is included in the memo titled “City of Covington Northern Gateway Area Study: Preliminary Fiscal Analysis of Annexation” available under separate cover.

Exhibit 1
Northern Gateway Study Area



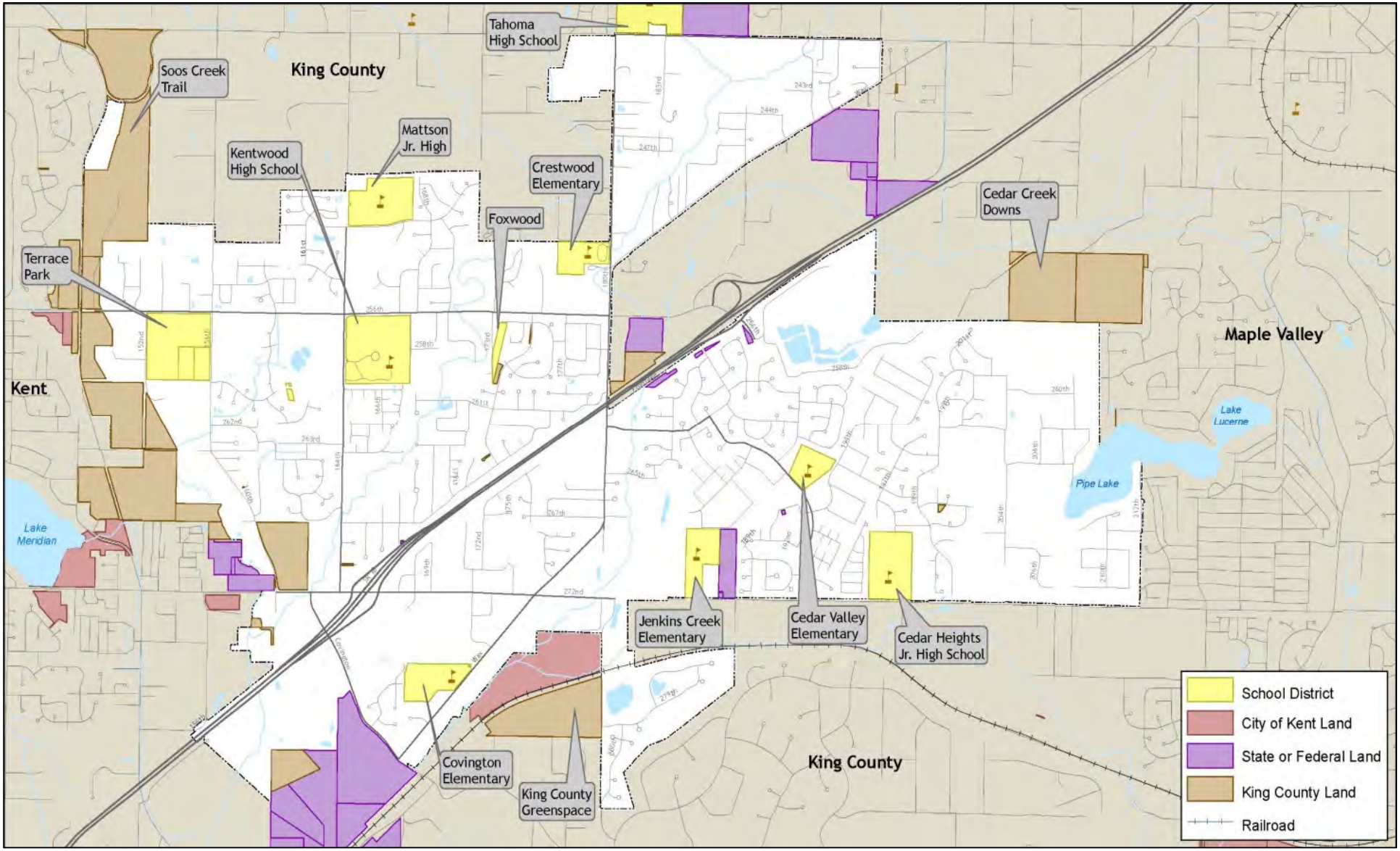
Source: BERK 2012

Exhibit 2
Existing City Parks



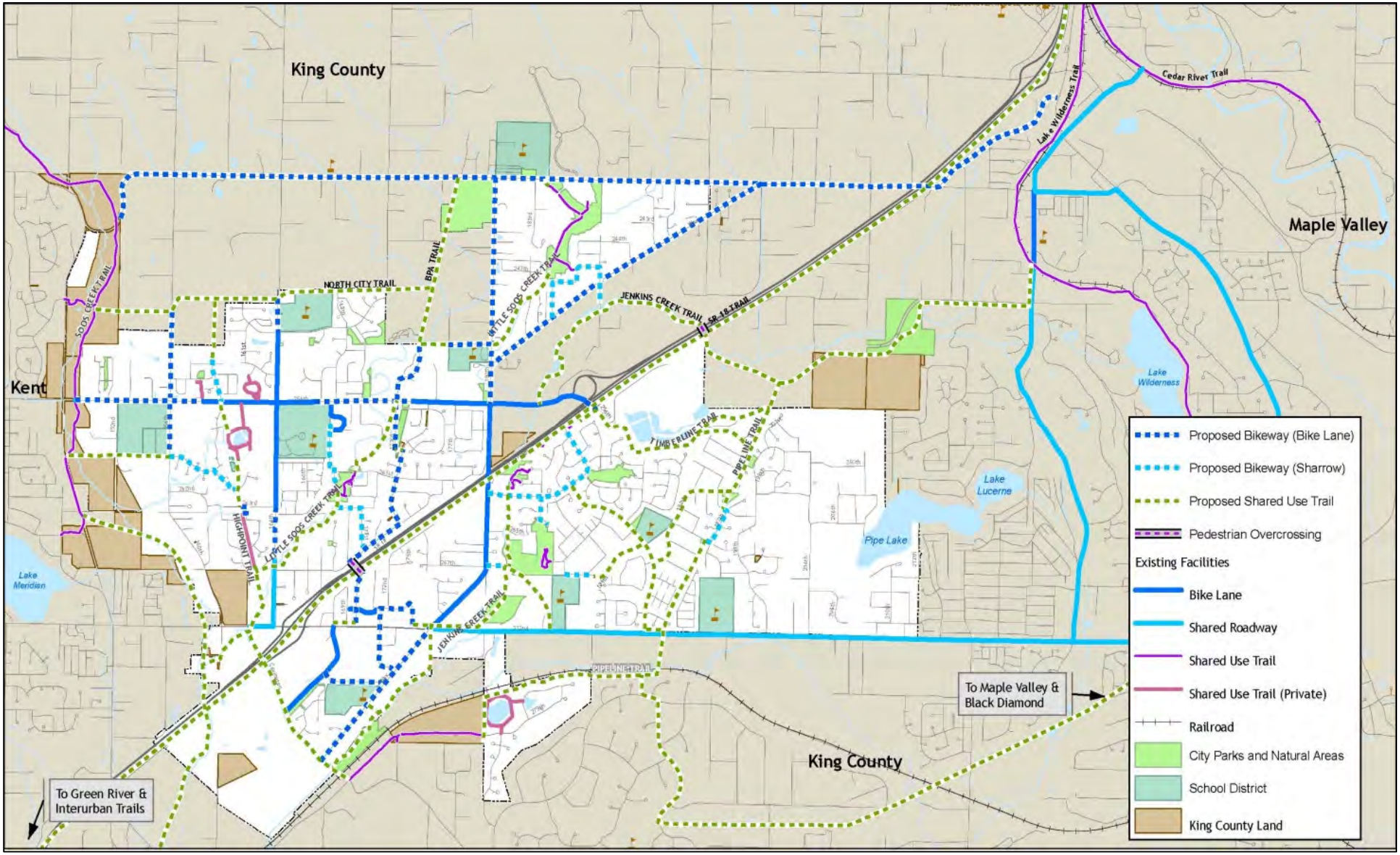
Source: City of Covington 2010

Exhibit 3
Other Agency Facilities



Source: City of Covington 2010

Exhibit 4
Existing and Planned Trails and Bikeways



Source: City of Covington 2010

SCHOOLS

The Kent School District serves the north and southwest study areas. The southeast study area is served by the Tahoma School District.

Exhibit 5 provides locations and enrollments of the schools serving the Study Area. Exhibit 6 provides a general district boundary; see Exhibit 3 for school locations. There are numerous elementary, junior high, and high schools serving various portions of the Study Area. Tahoma schools have higher enrollments in the elementary and junior high schools than the equivalent schools in the Kent School District. Kent High Schools have higher enrollment than Tahoma High School.

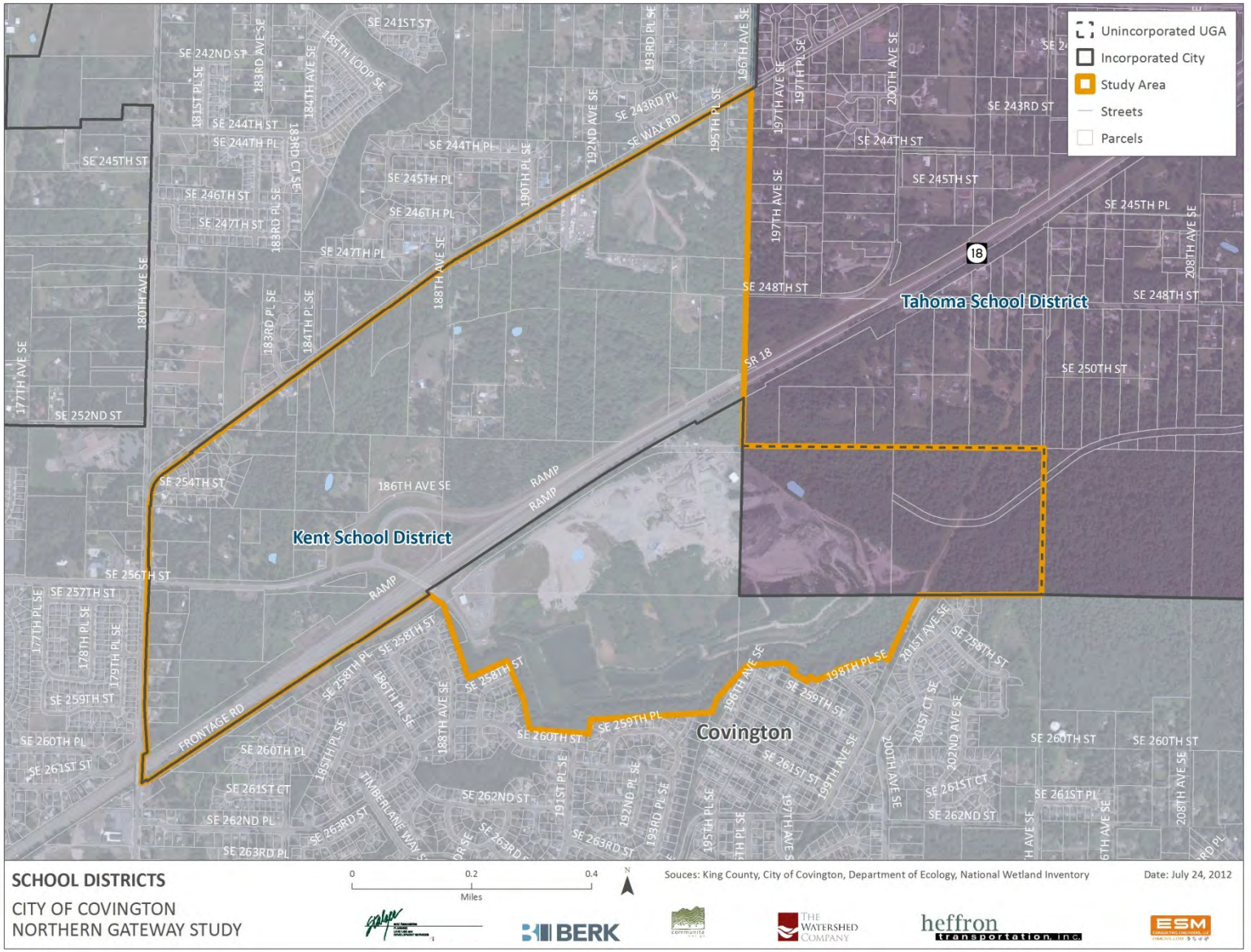
Future growth in the city limits and study area would increase the demand for school services. It is expected that up to 3,700 dwelling units could occur in the city limits and Study Area, with 75% of that growth in the city limits, outside of the Study Area. With future planning efforts in the Study Area, more analysis of effects on school demand are expected.

Exhibit 5
School Facilities serving Northern Gateway Study Area

School Name	District	Location	Service Boundary in Study Area	Enrollment 2011/2012
Crestwood Elementary	Kent	25225 180th AV SE, Covington	North study area	498
Jenkins Creek Elementary	Kent	26915 186th Avenue SE, Covington	Southwest study area	322
Cedar Valley Elementary	Kent	26500 Timberlane Way SE, Covington	Southwest study area	305
Mattson Middle School	Kent	16400 SE 251st Street, Covington	North study area	634
Cedar Heights Middle School	Kent	19640 SE 272nd Street, Covington	Southwest study area	686
Kentwood High School	Kent	25800 164th Avenue SE, Kent	North study area, west of 188th Ave SE	2,065
Kentlake High School	Kent	21401 SE Falcon Way, Kent	North study area, east of 188th Ave SE Southwest Study Area	2,191
Lake Wilderness Elementary	Tahoma	24216 Witte Road SE Maple Valley	Southeast study area	1,018
Tahoma Junior High School	Tahoma	25600 Summit Landsburg Road, Ravensdale	Southeast study area	1,206
Tahoma Senior High School	Tahoma	18200 SE 240th, Covington	Southeast study area	1,753

Source: Kent School District 2012; Tahoma School District 2012; OSPI 2012

Exhibit 6
School Districts



Source: King County 2012

FIRE/EMS

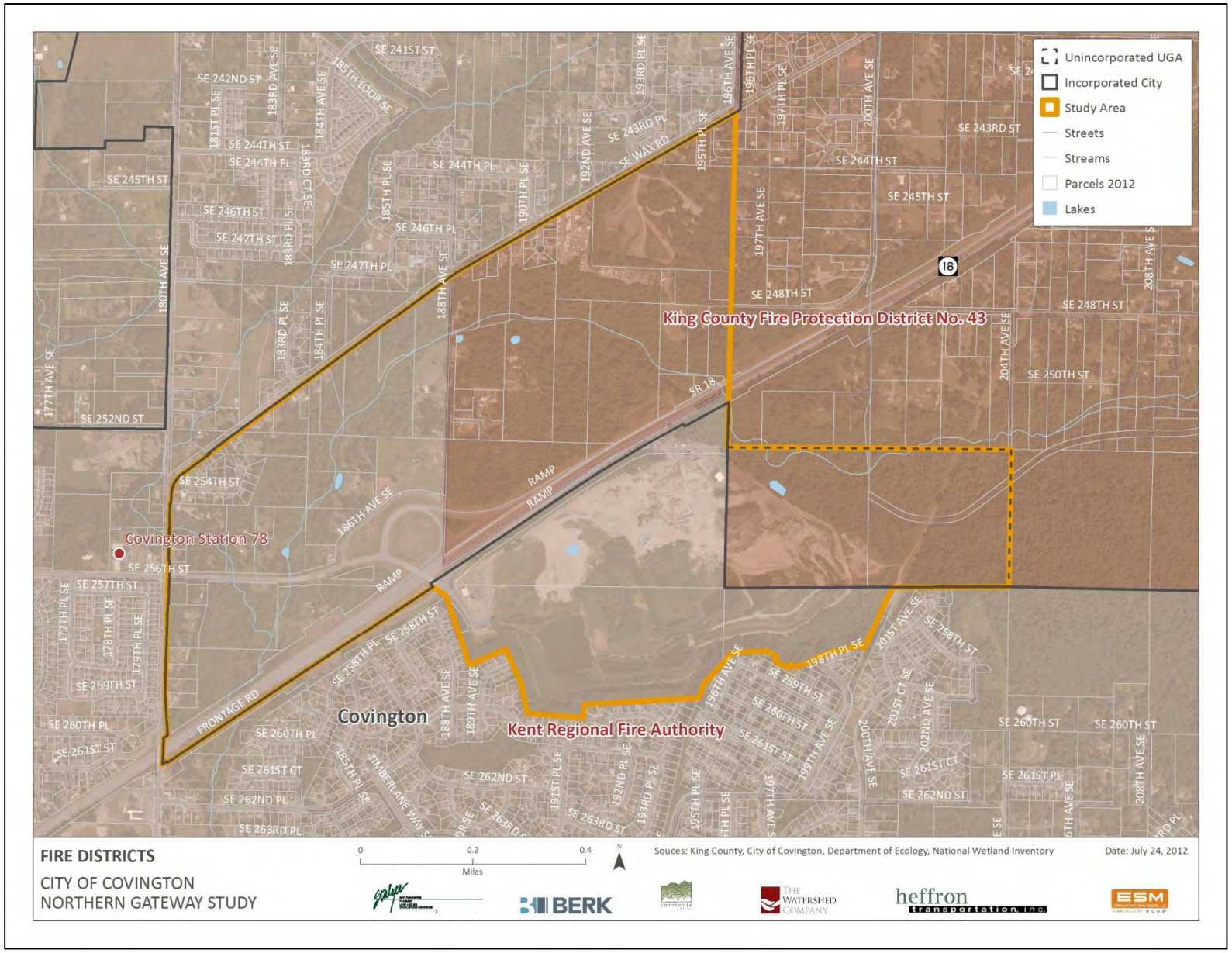
Description of Services

The Northern Gateway Study Area is served by two fire districts. The north study area west of 188th Ave SE and the southwest study area are served by the Kent Regional Fire Authority. The north study area east of 188th Ave SE and the southeast study area are served by Fire District 43, Maple Valley Fire and Life Safety. Please see Exhibit 7.

The Kent Regional Fire Authority operates Station 78 located near the western boundary of the north study area at 17820 SE 256th Street, Covington (at the northwest corner of 180th Avenue SE and SE 256th St intersection). The station has an engine company and provides small equipment maintenance, repair, and purchasing. The station has career staff 24 hours per day. Call volumes are low in the study area due to the low development intensity pattern. "First-in response" is meeting the district's performance objectives, and more information on levels of service will be available in July 2012. However, the Authority believes that in order to have a fully effective response to meet the National Fire Protection Association recommendations of 15-16 firefighters at the scene of an event is more challenging in Covington and the Northern Gateway Study Area in general. The Authority also notes that during morning and evening peak hour commutes, access can be challenging in the City and Study Area, and effectively mean that a reliable response is not always available within adopted levels of service. As a result of these challenges in staffing and access, mutual aid is required. Also concurrency and mitigation measures are important to ensure that fires can be delayed until an effective force is in place; examples of mitigation are automatic fire sprinklers, fire walls, intercom systems (e.g. in multifamily or commercial buildings), alternate construction materials, and other measures. The interchange has been helpful to improve response, as is the location of Station 78, which allows a concentration of fire equipment to be deployed in the future as the Study Area develops and the Authority has the funding and staffing to deploy adequate concentrations of equipment and personnel. The Authority also believes that access will improve when SE 256th St is extended to 204th Avenue in the future SE in the southwest and southeast study areas. (pers com Captain Larry Rabel, Kent Regional Fire Authority, June 22, 2012).

Fire District 43 (Maple Valley Fire & Life Safety (MVFLS)) serves the north study area east of 188th Ave SE, as well as the southeast study area from Station 81 located at 22225 SE 231st St, Maple Valley. Station 81 is served by career staff 24 hours per day. According to Fire District 43, the number of calls by residents is low. Occasionally there are calls from motorists along SR 18. The District indicates that a response time from Station 81 is about 6-7 minutes. The recent interchange and use of SR 18 allows the area to be well served. (pers com Battalion Chief Handley, June 21, 2012).

Exhibit 7
Fire Protection Districts



Source: King County 2012

Analysis of Growth and Service Demand

Upon annexation of the Study Area, Kent Regional Fire Authority's boundaries would expand with annexation of Covington and primary fire and response services will be provided by the Authority with mutual aid support from Fire District 43. (pers com Captain Larry Rabel, Kent Regional Fire Authority, July 16, 2012)

Based on the land capacity analysis, there could be up to 3,700 dwelling units and over 3 million square feet of commercial building space at buildout of developable land. Most of the housing units (75%) are expected in the city limits excluding the Study Area. Over half (54%) of future commercial building space is expected in the city limits excluding the Study Area.

It is projected that an increase of 3,700 housing units would increase fire service demand by 518 emergency responses per year. Over the same time period, commercial space capacity is about 3 million square feet resulting in a potential additional response to 245 incidents. In total if this growth were achieved, it could produce approximately 763 additional calls for service. See Exhibit 8. In addition, vehicle and pedestrian traffic is expected to produce one emergency call for each acre of new roadway and parking space. Collectively this increase in fire service demand would create an impact on the Kent Regional Fire Authority that would require additional emergency units and staffing to maintain adopted service levels.

Exhibit 8
Land Supply and Potential Demand for Fire Services

Location	Housing Units	Potential New Fire Incidents due to Housing	Commercial Building Square Feet	Potential New Fire Incidents due to Commercial	Total Additional Potential Fire Incidents
City limits, excluding southwest study area	2,234	313	953,758	76	389
City limits, pending permits	549	77	713,680	57	134
Southwest study area	332	46	674,574	54	100
Southeast study area	485	68	0	0	68
North study area	100	14	725,613	58	72
Total Capacity	3,700	518	3,067,625	245	763

Note: Assumes 450 square feet per commercial employee and 800 square feet per industrial employee.

Source: Larry Rabel, Kent Regional Fire Authority 2012; BERK 2012

Appendix E:
City of Covington Northern Gateway Area Study: Buildable Lands Capacity and Build-Out Analysis and Market Analysis
BERK, August 10, 2012

BERK

PHONE 206.324.8760
2025 First Avenue, Suite 800
Seattle, WA 98121
www.berkconsulting.com

MEMORANDUM

DATE: August 10, 2012

TO: Bill Stalzer, Stalzer and Associates

FROM: Erik Rundell, Morgan Shook, and Lisa Grueter, AICP, BERK

RE: City of Covington Northern Gateway Area Study: Buildable Lands Capacity and Build-Out Analysis and Market Analysis

INTRODUCTION

The City of Covington is currently engaged in a planning effort to evaluate the need and feasibility of expanding its Urban Growth Area (UGA) in the Northern Gateway Study Area. As part of this effort, BERK has been charged with evaluating the demand for a range of commercial and residential real estate uses against the available land supply. The land demand and land supply analysis considers the city limits and areas within the Northern Gateway Study Area outside of the city limits.

This assessment is intended to provide a foundational understanding of the City and Study Area relative to UGA expansions issues. There are four key study questions contemplated by the analysis for both the City and Study Area:

- How much land is available for commercial and residential uses?
- What is the market demand for commercial and residential land uses?
- How competitive is the available land to meet this demand?
- What are the implications of the land supply and land demand analysis for UGA expansion?
    - Does the City have enough buildable land supply to meet housing and employment growth targets? How does the Study Area affect the City's ability to meet its growth targets?
    - Does the recent trend in residential and commercial development permits, as well as the projected market demand for commercial and residential uses, suggest alternative growth housing and employment targets are warranted?

To help answer these questions, this memorandum determines both the supply and demand for commercial and residential uses within the City of Covington.

The remainder of this memo is structured as follows:

- Executive Summary
- Study Area Overview
- Methods and Approaches
- Supply Analysis – Buildable Lands Analysis
- Demand Analysis – Market Demand
- Comparison of Land Supply and Land Demand
- Implications of the Supply and Demand Analysis for UGA Expansion

EXECUTIVE SUMMARY

The results of the land supply, land demand, and growth target analysis show that the City has capacity for 3,700 dwelling units and over 3.1 million square feet of commercial retail and office space generating about 6,800 jobs. See Exhibit.

Exhibit 1 Total Buildable Land Supply – Housing and Job Capacity

Location	Housing Units	Commercial Building Square Feet	Jobs
City limits, excluding southwest study area	2,234	953,758	2,076
City limits, pending permits	549	713,680	1,586
Southwest study area	332	674,574	1,499
Southeast study area	485	0	0
North study area	100	725,613	1,612
Total Capacity	3,700	3,067,625	6,773

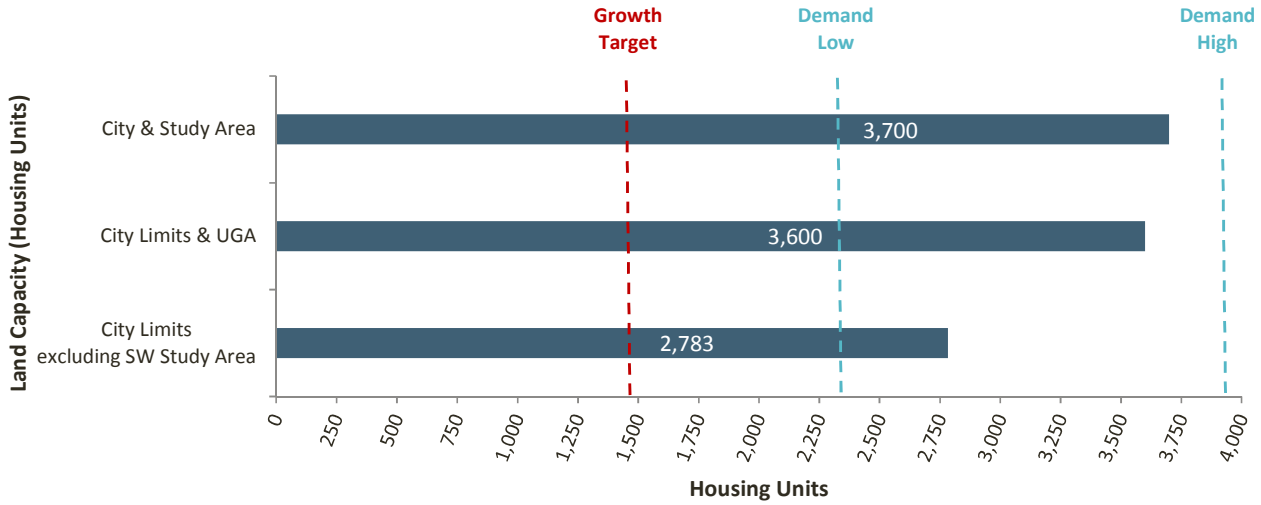
Note: Assumes 450 square feet per commercial employee and 800 square feet per industrial employee.

Source: City of Covington; BERK 2012

The available supply of land for housing and jobs exceeds the City's assigned growth targets. However, it is clear that the growth targets are below the market demand for both residential and commercial uses. See Exhibit 2, Exhibit 3, and Source: BERK 2012

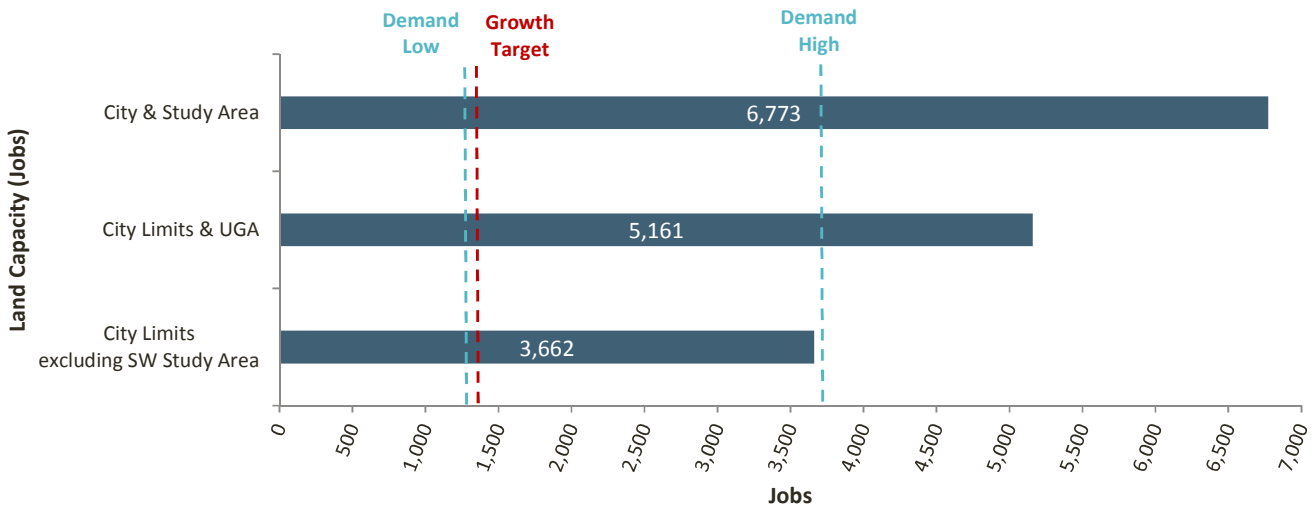
Exhibit 4.

Exhibit 2 Comparison of Market Demand, Land Supply, and Housing Growth Target



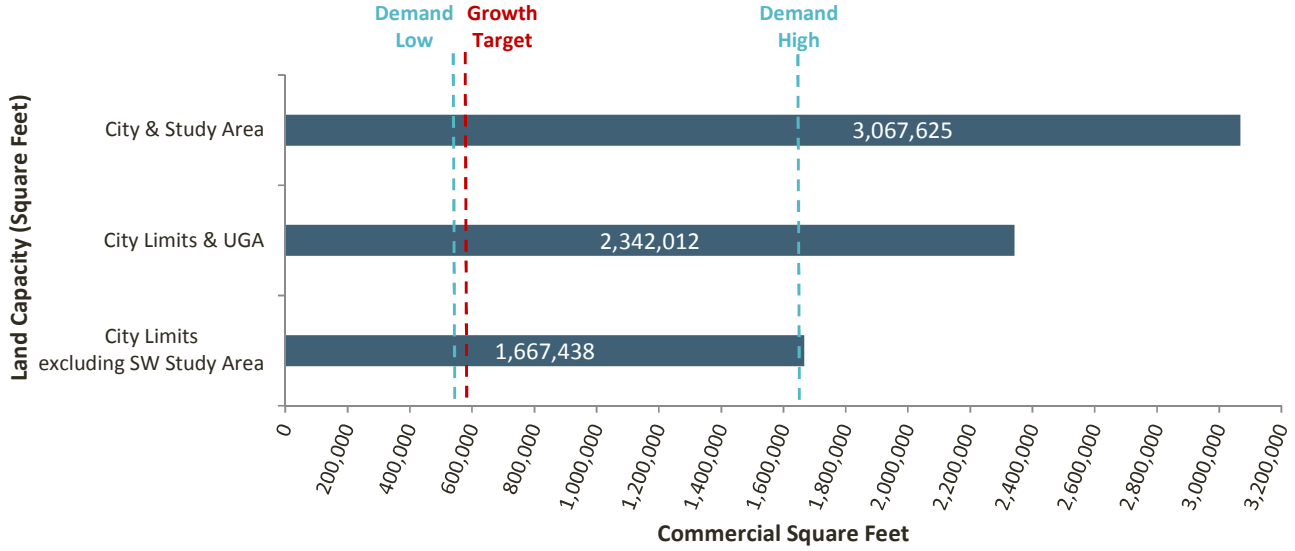
Source: BERK 2012

Exhibit 3 Comparison of Commercial Market Demand in Jobs, Land Capacity, and Jobs Target



Source: BERK 2012

Exhibit 4 Comparison of Market Demand in Commercial Square Feet, Land Capacity, and Jobs Target



Source: BERK 2012

Further, details of the permits and remaining growth targets show the City has met nearly half of its residential growth target (48%) and has already exceeded its small jobs target in the first six years of the 25 year planning period.

If the growth targets were more in line with the market demand estimates, the City would need more than the available land supply in the city limits to meet the residential demand. However, the city limits have more than enough capacity to meet the projected commercial retail and office demand. In terms of competitiveness, the city limits and UGA include land well-situated in terms of size and location along SR 18 to take advantage of the market demand for retail and office uses.

STUDY AREA OVERVIEW

The Northern Gateway Study Area (hereafter Study Area) is located on the northeast side of the City of Covington and is bisected by State Route (SR) 18. Exhibit 5 below outlines the Study Area in orange. The Study Area encompasses parcels already within the City of Covington (the southwest study area), two parcels within the City's UGA (southeast study area), and parcels northwest of SR 18 (the north study area). In total, the Study Area consists of 484 acres. The southwest and southeast study areas are currently used for gravel extraction purposes and equal 209 acres. The north study area equals approximately 275 acres.

METHODS AND APPROACHES

Buildable Land Supply

This buildable lands analysis draws information from:

- King County 2012 parcel information using Geographic Information System (GIS) data
- Assumptions in the 2007 King County Buildable Lands Report (BLR),
- Building permits issued by the City since the 2007 BLR was last conducted (2007 report uses 2006 parcel data), and
- Pending development with preliminary land use approvals.

With this data, this memo presents a 2012 buildable lands analysis to determine the development capacity or available land supply of the City and Study Area. The results of the buildable land analysis are reported for the city limits and Study Area combined. Buildable land capacity is also split out as follows:

- City limits excluding the southwest study area
- Southwest study area
- Southeast study area
- North study area
- Combined City, southwest, southeast, and north study areas

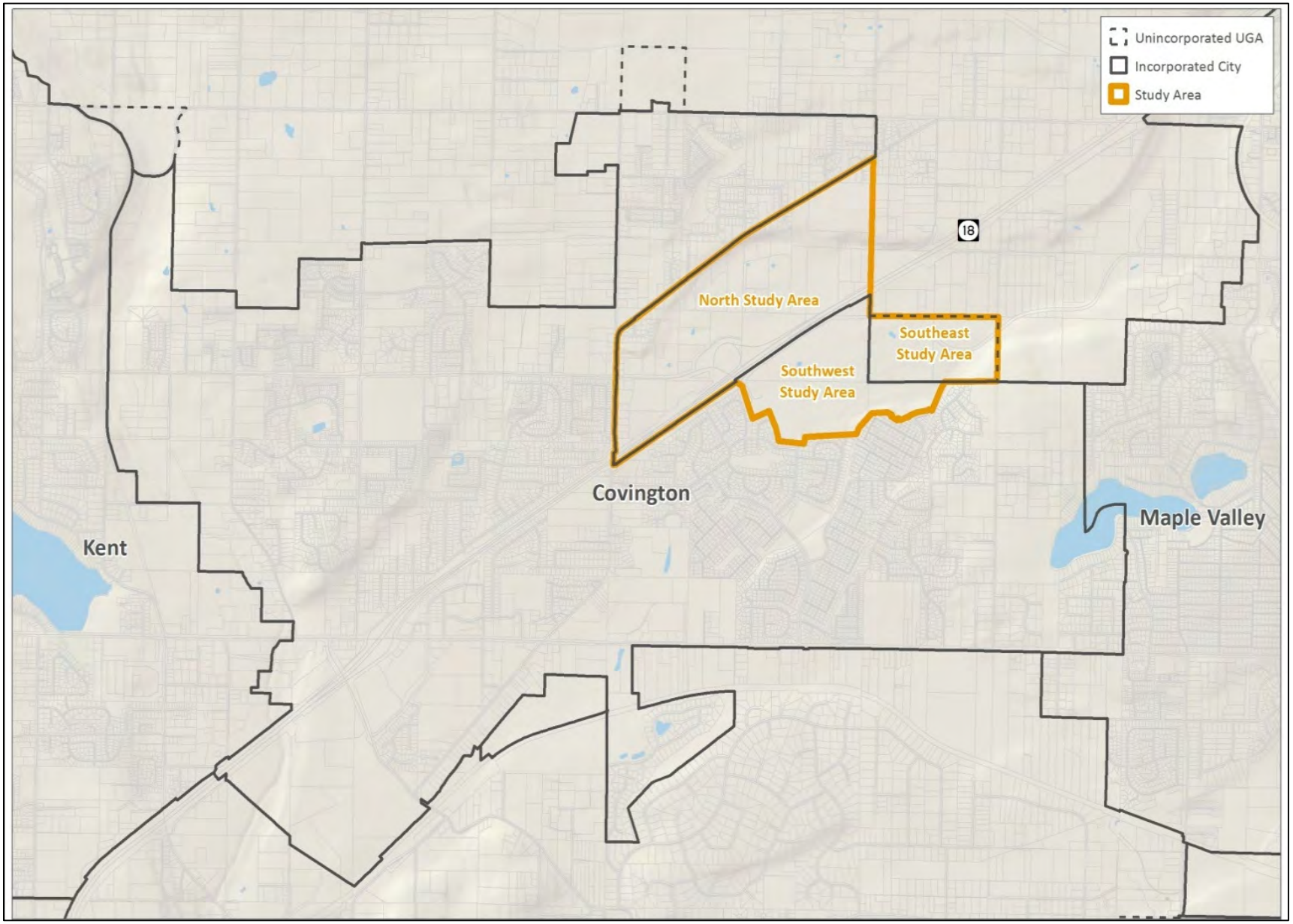
The results of the buildable lands analysis for the city limits excluding the southwest study area is the most comparable to the 2007 BLR because the 2007 BLR did not assign any growth capacity to lands with gravel extraction activities. For the purposes of this 2012 study, the southwest and southeast study areas containing the gravel extraction operation are considered developable and would add to the land capacity of the remaining city limits. The north study area is not included in the city limits or UGA today, but is under consideration for inclusion in the UGA. Accordingly, the 2012 results are presented individually for the north study area as well as collectively with the city limits and remaining Northern Gateway Study Area.

Market Demand

The market demand analysis provides a 20-year examination of growth in population, employment, and market capture for the broader Covington market area. The analysis estimates the relative magnitude of demand for retail space, office space, and housing in the area. The analysis presents the demand estimates for commercial square feet (retail and office) and residential housing units in a range (from a high estimate to a low estimate) that the region could likely support. These demand estimates are then compared to the 2012 buildable land supply assessment.

Using the supply and demand analysis as a foundation, the analysis assesses how competitive the study area is for residential and commercial development over the planning period compared to areas within the City and market area.

Exhibit 5 Study Area Map



Source: King County Assessor, 2012; BERK, 2012

Implications of the Supply and Demand Analysis for UGA Expansion

The land supply and land demand results are finally compared with the City's assigned housing and employment growth targets. Housing targets are measured in "units" and employment targets are measured in "jobs". The Washington State Growth Management Act (GMA) requires that counties distribute population growth to cities and to unincorporated UGAs. King County and its cities have collaborated on housing growth targets (translation of population to housing units) through the Growth Management Planning Council, and these targets are adopted in the Countywide Planning Policies for King County. Counties and cities are required to plan for employment uses, but are not required to have employment targets; however, King County and cities have voluntarily included employment targets in the Countywide Planning Policies. The City of Covington's current growth targets are as follows for the years 2006-2031:

- Net New Housing Units: 1,470
- Net New Jobs: 1,320

SUPPLY ANALYSIS – BUILDABLE LANDS ANALYSIS

Buildable Lands Steps

A buildable lands analysis estimates land capacity for residential and employment development given land use regulations and physical property conditions. It is the key tool used to determine the capacity for growth in UGAs. The basic steps in the buildable lands analysis include the following:

- Use GIS data to determine vacant and redevelopable parcels, sorted by zoning classification
- Exclude publicly owned lands
- Remove parcels with approved development permits (building permits) and pending permits (final plat lots with no permits; preliminary plats; and commercial site development permits) [1]
- Remove critical areas including wetlands, streams, steep slopes, and flooways
- Discount developable lands for use as future roads/rights-of-way needs
- Discount developable lands for other public purposes (e.g. stormwater facilities)
- Discount developable lands for market factors (remove a percentage of developable land recognizing not all property owners would want to develop their property)
- Add up the net available acres by zoning classification
- Multiply net residentially-zoned acres by the assumed density of each zone to yield net housing unit capacity
- Multiply net commercially-zoned acres by the assumed floor area ratio to yield net employment square footage, and divide employment square footage by the typical employee per square feet assumption to yield job capacity (450 square feet / commercial employee and 800 square feet / industrial employee)

[1] Properties with building permits are deducted from the growth target. Properties with preliminary authorizations but not yet developed are added to the buildable land capacity in a later step.

- Add pending permits (final plat lots with no permits; preliminary plats; commercial site plan permits) to determine total buildable land capacity

This 2012 buildable lands analysis generally follows the 2007 BLR methods and assumptions, except where more current information was readily available or developed for this analysis. See Exhibit 6.

Parcels Included in Analysis

The buildable lands analysis identifies vacant land[2] and redevelopable land[3] using 2012 parcel data and the 2007 BLR methods. Exhibit 7 shows the vacant and redevelopable parcels included in this analysis.

While this analysis retains most assumptions of the 2007 BLR, for the purposes of the Northern Gateway Area Study, the southwest and southeast study areas were added to the capacity analysis whereas they were omitted in the 2007 BLR due to their active extraction use. In addition, the analysis adds the north study area as the City wishes to examine the effect of this area on land capacity should it be added to the UGA.

For a more precise estimate of land capacity, this 2012 analysis removes lots from the land supply that received building permits between 2006 and 2011. Also removed were pending permits such as final plat lots with no permits, preliminary plats, and approved commercial site development permits since they contain more detailed information about potential development within the permit applications. These approved but undeveloped projects are added to the buildable land supply results later in this memo. Exhibit 8 shows the location of building permits and pending permits.

Critical Areas

To arrive at total net acres, the buildable lands analysis excludes critical areas. The critical areas excluded are: floodways, wetlands, stream corridors, and steep slopes. Because City and County zoning regulations allow density to be calculated within critical area buffers[4], wetlands buffers, partial stream buffers, and steep slope buffers were not deducted. The stream corridor assumed 100 foot buffers on either side of a centerline as a moderate assumption; otherwise the GIS analysis would only deduct a “line” and not the riparian corridor.

It should be noted that the assumed wetland areas for the buildable lands analysis – which is based on mapped records – may be different than what is ultimately established as the jurisdictional boundaries of a wetland, such as once the Department of Natural Resources approved reclamation plan is implemented on the southwest and southeast study areas following the conclusion of gravel extraction activities.

Other Deductions

Other deductions, not reflected on maps in this memorandum though addressed in the buildable lands calculations, include deductions for roads, public purposes, and market factors. Typically 2007 BLR deductions were applied. However, the public purpose deduction was increased from 5% to 10% for a downtown property encumbered by a power line easement.

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[2] Vacant land includes parcels with a present use designation of “vacant” and an improvement value less than $5,000.

[3] Redevelopable land is in use for residential or commercial purposes but can still accommodate additional development based on zoning and land area or the ratio of land value to improvement value.

[4] Development is not allowed in critical area buffers, but the density represented in buffer areas is part of the total allowable density on a site that must be located in unconstrained areas.

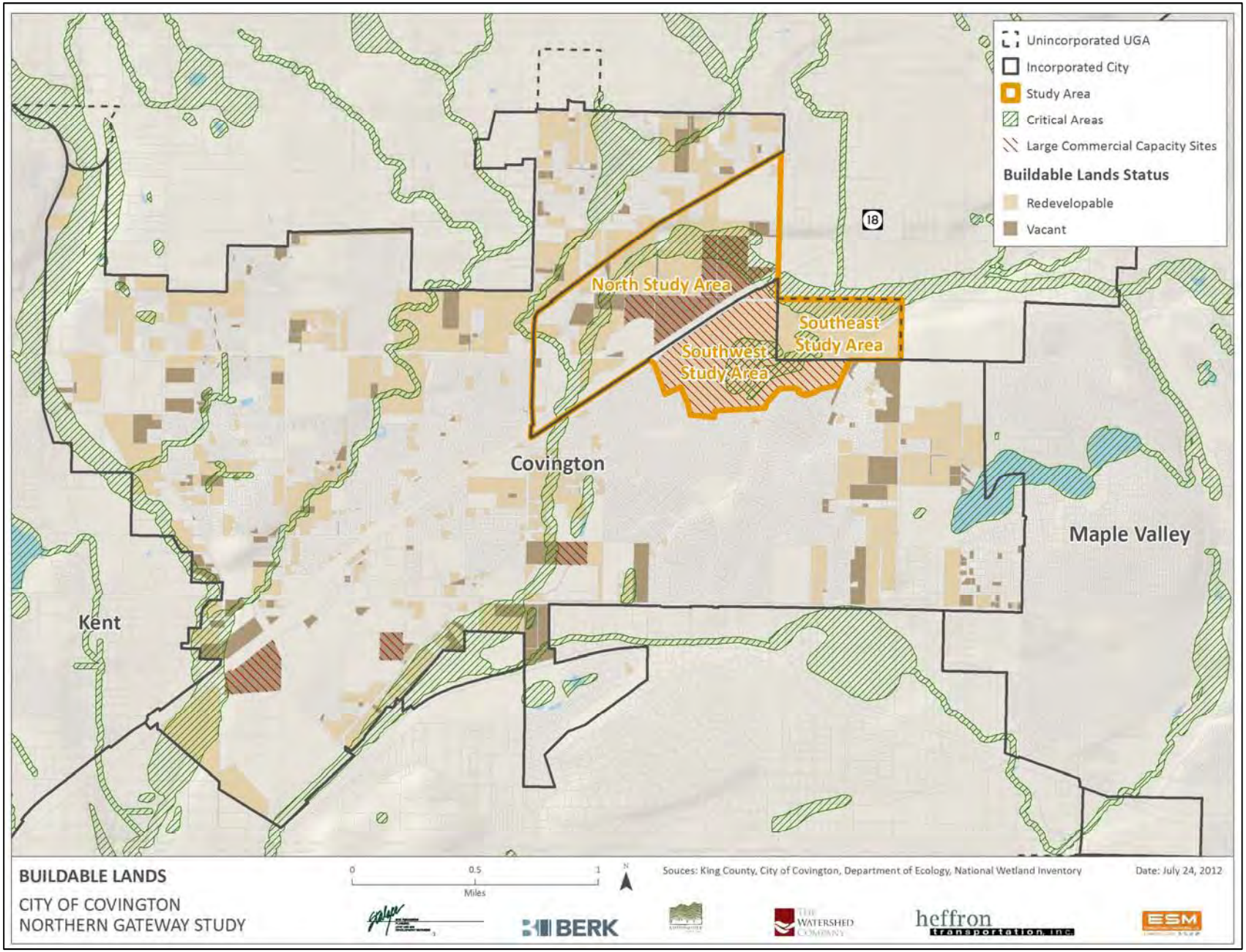
Exhibit 6
City of Covington and Northern Gateway Buildable Lands Assumptions

Buildable Land Steps	Assumption	Source	Comments
Parcels	2012 Parcels	King County	2007 BLR Appendix A
Critical Areas	GIS Layers	King County	Removed all wetlands, streams +100 foot buffers from centerline, and steep slopes > 40%
Roads/ Rights of Way Deduction	5%-10%	City of Covington	2007 BLR Appendix B
Public Purposes	5%-10%	City of Covington	2007 BLR Appendix B
Market Factor	15% for vacant land, 20% for redevelopable land	City of Covington	2007 BLR Appendix B
Residential Density	See assumed densities in Exhibit 9 below	BERK	Analysis of building permits and plats 2006-2011
Commercial Density (Floor to Area Ratio)	See assumed densities in Exhibit 9 below	BERK	Analysis of building permits and commercial site development permits 2006-2011
Mixed Use Residential and Commercial Share	30% Residential and 70% Commercial	City of Covington	The 2007 BLR assumption for 30% residential/70% commercial was applied in the City for the 2012 analysis. Recent permit trends continue to show greater commercial uses than residential uses in the zones allowing for mixed uses. For the southwest site we also assumed a 30% residential/70% commercial split. The southeast study area was assumed to be 100% residential.
Employees per Square Foot	450 SF/Employee Commercial, 800 SF/Employee industrial	City of Covington	2007 BLR Appendix C

Source: BERK 2012

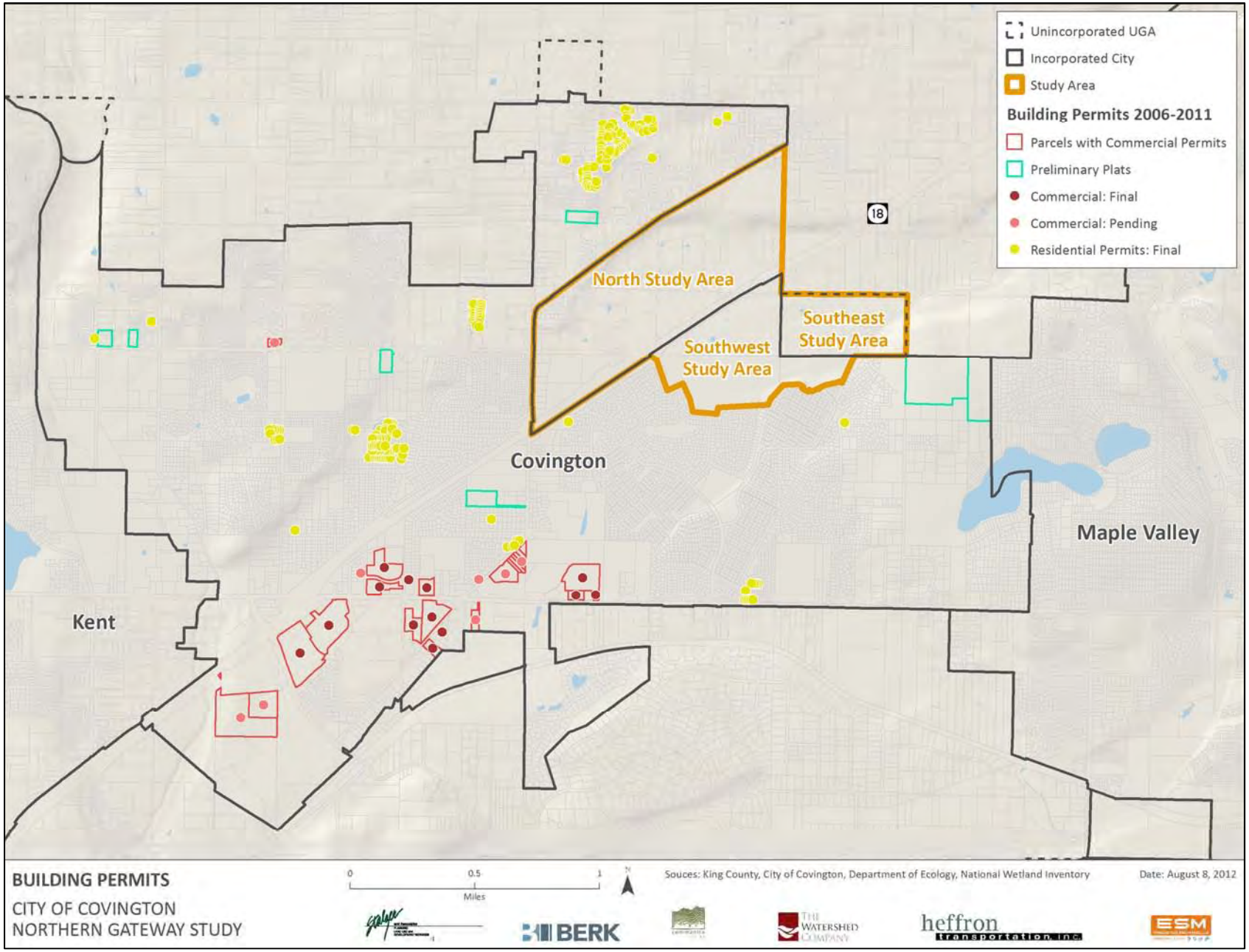
Notes: BLR = 2007 King County Buildable Lands Report

Exhibit 7 Buildable Lands Map



Source: King County Assessor, 2012; King County Buildable Lands Report, 2007; BERK, 2012

Exhibit 8 Buildable Lands Map and Permit Activity



Source: King County Assessor, 2012; King County Buildable Lands Report, 2007; BERK, 2012

Assumed Densities and Floor Area Ratios

Once the buildable land supply was adjusted as described above, the analysis applied assumed residential densities and floor area ratios (FARs) to buildable parcels. Residential and commercial density assumptions were based on building permit activity from 2006 to 2011 to better reflect recent development trends. A comparison of assumed densities used in this 2012 analysis and those from the 2007 BLR are shown in Exhibit 9 below.

Exhibit 9 Assumed Densities

RESIDENTIAL ZONES

	Assumed Units/Acre		
Zone	**2007 BLR**	**2012 BERK Estimate**	**Rationale**
R-4	4.46	3.26	Based on preliminary plat data. Only one final plat with unusually high densities.
R-6	6.18	6.70	Based on final plat data.
R-8	5.31	8.24	Based on one R-8 final plat; no preliminary plats.
R-18	15.00	15.00	Based on 2007 BLR. No plat data.

COMMERCIAL ZONES

	Assumed FAR		
Zoning	**2007 BLR**	**2012 BERK Estimate**	**Rationale**
I	0.10	0.10	No permit data. Based on 2007 BLR.
CC	0.30	0.30	No permit data. Based on 2007 BLR.
NC	0.35	0.35	No permit data. Based on 2007 BLR.
TC	NA	0.26	Based on permit data.
MC	NA	0.23	Based on permit data.
GC	NA	0.40	Based on permit data.
MHO	NA	0.61	Based on permit data.

Source: King County 2007 Buildable Lands Report; City of Covington, 2012; BERK, 2012

Zoning and Land Use

The analysis used the same zoning as exists today for all parcels with the exception of the Study Area, where future urban uses were assumed:

- The 2007 BLR assumed the gravel extraction operation in the southwest and southeast study areas would stay in operation for the foreseeable future; however, this 2012 analysis assumes that the southwest and southeast study areas will eventually be developed for commercial and residential uses. Of the 209 acres comprising the southwest and southeast study areas, approximately 50 net acres was assumed to be used for commercial uses and approximately 55 net acres for moderate density residential uses (15 units per acre). See also Exhibit 9.
- The 2007 BLR assumed the north study area would remain outside of the UGA. For the purposes of this 2012 buildable lands analysis, the north study area is projected to be included in the UGA. About 55 net acres abutting the interchange are assumed to be devoted to commercial uses, while the balance was assumed to be devoted to low-density residential uses (3.26 units per acre consistent with assumed densities for the R-4 zone using Covington plat data).

Buildable Lands Supply Results

Based on the above described methods and assumptions, we have estimated buildable land supply as shown in Exhibit 10. The rate at which the capacity would be absorbed would be determined by market forces. However, for the purposes of this memo, we are considering the buildable lands capacity as applying to the period 2012 to 2031, where 2012 reflects the parcel base year and 2031 is the current 20-year planning horizon.

In total, the city limits and the Study Area can collectively accommodate 3,151 new housing units. Within the city limits, excluding the southwest portion of the Study Area, there is capacity for nearly 2,234 new dwelling units. Within the southwest portion of the Study Area, there is capacity for about 332 housing units and within the southeast area there is capacity for another 485 housing units. Given the present use of the north portion of the Study Area for low density housing and the locations of critical areas, the housing unit capacity is only another 100 units.

For employment capacity, the city limits and Study Area can collectively accommodate 5,188 new jobs. Within the city limits there is capacity for 2,076 new jobs. Within the Study Area there is capacity for 1,499 jobs in the southwest study area, and capacity for another 1,612 jobs in the north study area.

Exhibit 10 Buildable Land Acres and Capacity

CITY OF COVINGTON (Portion Not in Study Area)

Zone Type	Gross Parcel Acres	Net Parcel Acres	Existing Housing Units	Vacant Acres (Net)	Redevelopable Acres (Net)	Housing Unit Capacity	Commercial SF Capacity	Job Capacity
C/I/MU	478	410	349	82	83	258	953,758	2,076
SF	2,576	2,253	5,644	184	643	1,908	0	0
MF	13	8	13	0	13	68	0	0
Total	**3,067**	**2,671**	**6,006**	**266**	**738**	**2,234**	**953,758**	**2,076**

STUDY AREA - SOUTHWEST

Zone Type	Gross Parcel Acres	Net Parcel Acres	Existing Housing Units	Vacant Acres (Net)	Redevelopable Acres (Net)	Housing Unit Capacity	Commercial SF Capacity	Job Capacity
C/I/MU	134	105	0	0	134	332	674,574	1,499
SF	0	0	0	0	0	0	0	0
MF	0	0	0	0	0	0	0	0
Total	**134**	**105**	**0**	**0**	**134**	**332**	**674,574**	**1,499**

STUDY AREA - SOUTHEAST

Zone Type	Gross Parcel Acres	Net Parcel Acres	Existing Housing Units	Vacant Acres (Net)	Redevelopable Acres (Net)	Housing Unit Capacity	Commercial SF Capacity	Job Capacity
C/I/MU	0	0	0	0	0	0	0	0
SF	0	0	0	0	0	0	0	0
MF	76	46	0	0	76	485	0	0
Total	**76**	**46**	**0**	**0**	**76**	**485**	**0**	**0**

STUDY AREA - NORTH

Zone Type	Gross Parcel Acres	Net Parcel Acres	Existing Housing Units	Vacant Acres (Net)	Redevelopable Acres (Net)	Housing Unit Capacity	Commercial SF Capacity	Job Capacity
C/I/MU	108	76	9	59	49	0	725,613	1,612
SF	167	134	63	18	51	100	0	0
MF	0	0	0	0	0	0	0	0
Total	**275**	**211**	**72**	**77**	**100**	**100**	**725,613**	**1,612**

TOTAL STUDY AREA

Zone Type	Gross Parcel Acres	Net Parcel Acres	Existing Housing Units	Vacant Acres (Net)	Redevelopable Acres (Net)	Housing Unit Capacity	Commercial SF Capacity	Job Capacity
C/I/MU	242	182	9	59	182	332	1,400,187	3,112
SF	167	134	63	18	51	100	0	0
MF	76	46	0	0	76	485	0	0
Total	**484**	**362**	**72**	**77**	**309**	**917**	**1,400,187**	**3,112**

TOTAL: CITY & STUDY AREA	**3,551**	**3,033**	**6,078**	**344**	**1,047**	**3,151**	**2,353,945**	**5,188**

Source: King County Assessor, 2012; BERK, 2012
Notes:
C/I/MU = Commercial, Industrial, or Mixed-Use zone; SF = Single-family zone; MF = Multi-family zone.
Net parcel acres refers to gross parcel acres minus critical areas. Other deductions are removed in the analysis but do not appear above.

Permit Activity Results

As described earlier, the buildable land supply excludes lots with issued building permits, final plat lots without permits, preliminary plats, and commercial site plan properties. This allows a more precise estimate of growth capacity using actual permit applications. Exhibit 11 lists recorded final plats. As shown below the "Total in Inventory" row, 115 final plat lots received building permits. The remaining 320 final plat lots have not received building permits. Thus, 115 lots are removed from housing growth targets, and 320 lots are added to the buildable land supply later in this memo.

Exhibit 11 Residential Final Plats (Recorded)

Recorded (Finaled) Development Project	# Lots	Gross Acres	Net Acres	Zoning
Rainer Vista	145	55.3	11.5	R-4
R-4 Subtotal	145	55.3	11.5	
Covington Plat	8	1.29	0.41	R-6
McCain	3	0.54	0.43	R-6
Meridian Point	12	2.23	1.69	R-6
Wingfield	118	24.88	16.78	R-6
Wingfield N.	45	11.66	8.46	R-6
R-6 Subtotal	186	40.6	27.77	
Cornerstone	104	17.44	12.62	R-8
R-8 Subtotal	104	17.44	12.62	
Total in Inventory	435	113.34	51.89	

Final Plat Building Permits Issued 2006-2031- Subtract from Housing Target	*115*
Final Plat Lots that are Vacant - Add to Buildable Land Capacity	*320*

Source: City of Covington; BERK 2012

Exhibit 12 lists preliminary plats that would be added to the buildable land supply. These preliminary plats would include an additional 229 lots in the buildable land supply.

Exhibit 12 Residential Preliminary Plats

Preliminary Development Project	# Lots	Gross Acres	Net Acres	Zoning
Burlea Short Plat	4	1.07	1.07	R-4
Maple Hills	149	48.00	48.00	R-4
Park Meadow S.	14	3.48	2.36	R-4
Platt Short Plat	4	1.02	1.02	R-4
R-4 Subtotal	171	53.57	52.45	
Hay Lee Glenn	12	2.30	2.30	R-6
Nop	9	2.84	2.48	R-6
Woodbridge	6	1.49	1.49	R-6
Victorian Meadow	31	5.26	5.26	R-8
R-6 Subtotal	58	11.89	11.53	
Total in Inventory	*229*	*65.46*		
Preliminary Plats - Add to Buildable Land Capacity	229			

Source: City of Covington; BERK 2012

In terms of employment activity, the City has permitted about 534,261 square feet of commercial uses (largely retail) between 2006 and 2011, resulting in approximately 1,187 jobs. These jobs are subtracted from employment growth targets later in this memo.

A number of commercial site plans have been approved, but not proceeded, for office development. Within approximately three years, building permits must be submitted unless an alternative phasing plan is approved. City staff believes that the commercial site plan proposals are likely to be developed within the next 5 years (pers com Ann Mueller, City of Covington, July 25, 2012). The Soos Creek Business Center has not yet developed due to the lack of sewer, but the Soos Creek Water and Sewer District has plans to install the needed sewer facilities in the next three years. Based on this, the City anticipates granting extensions to the existing approved commercial site plans. As shown in Exhibit 9, if developed, these commercial site plans would add 713,680 square feet of commercial space and 1,586 jobs. These jobs are added to the buildable land supply in the next section as these sites are not yet developed.

Exhibit 13 Commercial Site Plans

Project	Zone	Commercial Building Square Feet	Date
Blyth Schneider Office Building	MC	23,300	1/16/2008
Covington Professional Arts Building	MC	22,803	3/12/2010
Kentwood Plaza - Medical/Retail Building	NC	9550	3/12/2010
Multicare Medical Center - Emergency Department	MC	24,000	8/19/2010
Soos Creek Business Center Parcel A	GC	100,602	7/9/2009
Soos Creek Business Center Parcel B	GC	362,925	8/14/2009
Firestone Tire	MC	8,500	4/22/2012
Multicare Hospital	MC	162,000	7/19/2012
Total		713,680	

Source: City of Covington; BERK 2012

Total Buildable Land Supply Development Capacity

Exhibit 14 shows the sum of calculated land capacity and pending permits resulting in a total existing capacity for 3,700 housing units and 6,773 jobs. Most capacity is found within the city limits. Within the Study Area, both the north and southwest study areas have a large capacity for jobs.

Exhibit 14 Total Buildable Land Supply – Housing and Job Capacity

Location	Housing Units	Commercial Building Square Feet	Jobs
City limits, excluding southwest study area	2,234	953,758	2,076
City limits, pending permits	549	713,680	1,586
Southwest study area	332	674,574	1,499
Southeast study area	485	0	0
North study area	100	725,613	1,612
Total Capacity	3,700	3,067,625	6,773

Note: Assumes 450 square feet per commercial employee and 800 square feet per industrial employee per the 2007 BLR.

Source: City of Covington; BERK 2012

DEMAND ANALYSIS – MARKET DEMAND

Whereas the prior section addressed the land supply of available commercial and residential properties, this section provides a market demand analysis evaluating the demand for retail space, office space, and residential housing units over the next 20 years.

Retail Demand

The retail demand analysis estimates the overall demand for retail space (retail stores, restaurants and accommodations) in the Covington market area (see Exhibit 16), based on the amount of estimated retail spending in Covington over the next 20 years. Additional retail spending leads to more demand for retail space within the Covington market area. The sources of the additional retail spending over the next 20 years come from three sources:

- **New Demand:** This factor assumes that as the population of Covington's market area grows this additional population will generate demand for additional retail sales and square feet.
- **Leakage and Market Competitiveness**: This factor assumes that over the next 20 years residents in the Covington market area will spend a larger share of their money in Covington (i.e. Covington has a higher capture rate) than before because of new or expanded retail offerings.
- **Sales Substitution:** This factor assumes that Covington's current retail market can support additional retail square feet. Much of the spending at the new store(s) would be transferred from existing retail establishments in Covington (i.e. sales substitution), which then have lower total sales at the expense of the new store(s).

The analysis converted the retail spending demand into demand for square feet based on the current ratio of retail sales per square foot of retail space within Covington. The high and low ranges for demand were determined by varying the driving factors for each component. For example, the analysis varied projected new population up and down for the new demand component, varied the capture rate for the leakage capture component, and the ratio of retail sales per square foot for sales substitution component.

As shown in Exhibit 15, the overall estimated 20-year demand for retail space varies from close to 1.0 million square feet on the high end to about 450,000 square feet on the low end. About half of the demand for new retail space comes from capturing retail leakage (i.e. residents of the Covington market area spending money in locations outside of Covington).

Exhibit 15 City of Covington 20-year Retail Square Feet Demand Estimates

Range	Demand from Sales Substitution	Leakage Capture & Market Competitiveness	New Demand (Growth)	Total
High	209,000	505,000	224,000	**938,000**
Medium	176,000	249,000	204,000	**629,000**
Low	150,000	123,000	183,000	**456,000**

Source: BERK, 2012

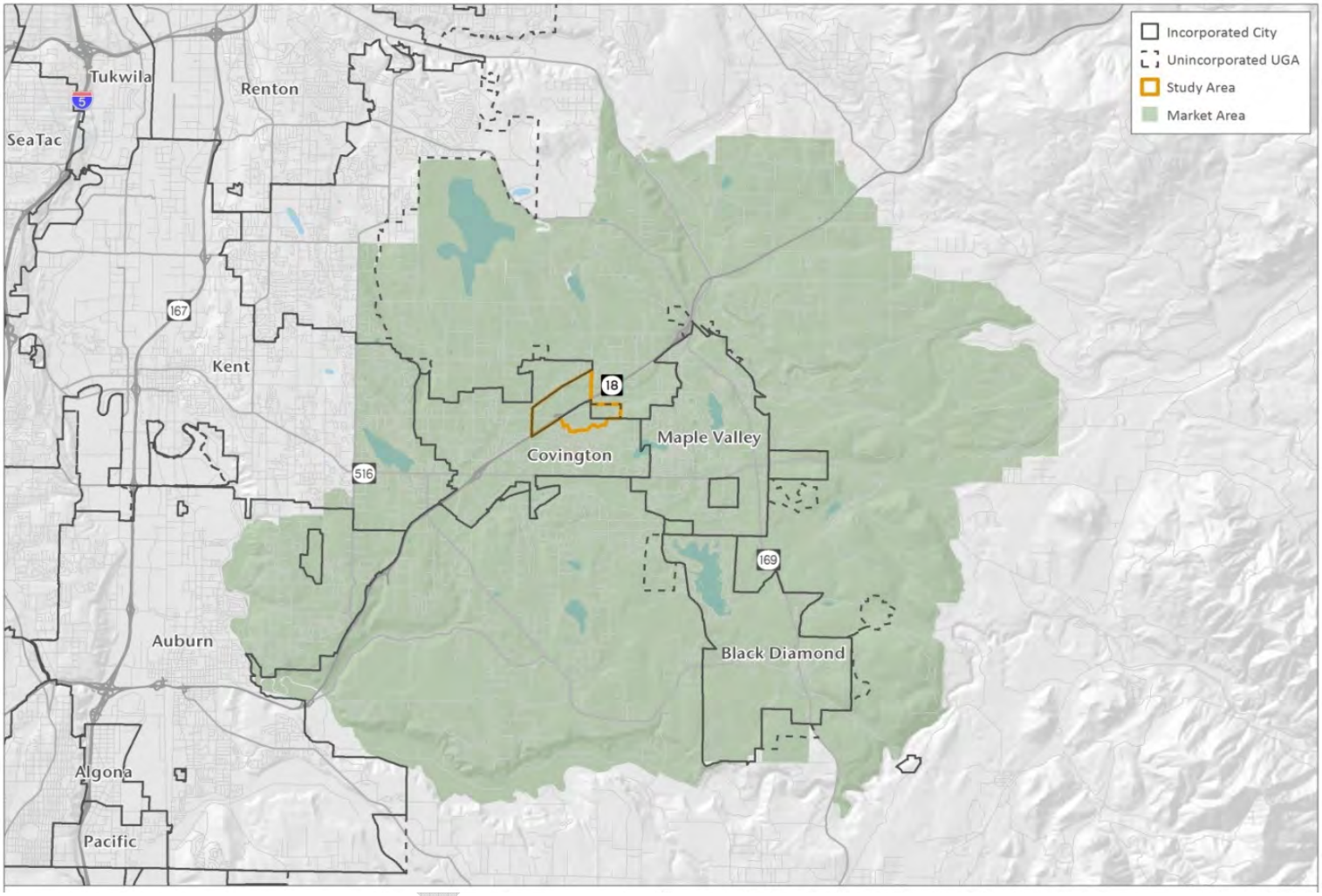
Office Demand

Much of Covington's office space serves a personal service market – with uses like medical offices, banks, insurance, etc. – geared toward personal and health consumption. Personal service office uses follow population growth, which is different from more general business and professional services oriented office users typically encountered in denser centers and office parks, which are driven by regional employment growth. Most of the office space pending approval (approximately 713,680 square feet) is medical office, which would fall under the personal service category. Over half of that pending office space is related to the proposed Soos Creek Business Center in the southwest part of the city.

The following range of potential office demand reflects two perspectives on how Covington might be competitive for office uses over the next 20 years (see Exhibit 17).

- On the low end of the range, the projected office growth is based on the ratio of office space in Covington's market area relative to the market area population and Covington's share of the total market area office supply. The market area's population was projected using the Puget Sound Regional Council's (PSRC's) population estimates. Based on the projected market area population and the market area's 2010 ratio of office square feet to population, the market area would see an additional 180,000 square feet of office development. Covington's share of that growth would be 122,000 square feet based on Covington's 2010 share of the market area's office supply.
- In the medium range, the City has absorbed roughly 220,000 square feet of space over the past two decades. A majority of that growth occurred during the 1990s when the City averaged about 13,000 square feet of space a year – with much of that space placed in a single medical office building downtown. Assuming the City maintains a competitive position over much of the personal oriented office space and achieves a similar rate of absorption experienced during the 1990s, it would not be unreasonable to assume the City could achieve in the range of 260,000 square feet of office space.
- On the high end of the range, the City has over 700,000 square feet of office space in its development pipeline. Two sites account of the vast majority of this pipeline. A new Multicare hospital and emergency department total 186,000 square feet of the proposed developments, and the proposed Soos Creek Business Center accounts for approximately 463,000 square feet of the pipeline. Currently, the phasing and buildout schedule for Soos Creek Business Center is not known.

Exhibit 16 City of Covington Market Area Map



Source: US Census, 2010; BERK, 2012

Note: The extent of the market area approximates a 10 minute drive from the center of Covington. An exception is the western part of the market area that covers a large portion of Kent. Areas west of 132nd Avenue were removed because the population within that area is closer to shopping centers in Kent, such as Kent Station than to Covington.

Exhibit 17 City of Covington 20-Year Office Square Feet Demand Estimates

Source	Square Feet
Population Based Office Growth	122,000
Projection 20 Year Trend	260,000
Office Pending Approval	713,680

Source: BERK, 2012

The estimated office demand range is 122,000 to 713,680 square feet. For the market analysis, it is assumed that all of the 713,680 square feet of office space will be built over the next 20 years. For a City like Covington with a small office stock (relative to other, more urban areas), the proposed office developments could signify a shift in Covington's market position for the viability of large scale office development as it increasingly become a regional center for the surrounding area, especially for medical offices and facilities.

Comparison to Historical Commercial Absorption

To put the retail and office square footage demand estimates into context, this section reviews how much retail and office square feet have been built over the last 20-years. Covington had almost 1.0 million square feet of retail space built between 1990 and 2010. The city experienced most of that retail development from 2000 to 2010. Office development in Covington was similar between both decades with approximately 230,000 square feet built. Exhibit 14 summarizes the absorption for the 20-year period.

Exhibit 18 City of Covington Historical Commercial Absorption – Commercial Building Square Feet

Use		1990-1999	2000-2010	20-Year Total
Retail	Total	194,379	728,981	923,360
	Avg. Annual	19,438	72,898	46,168
Office	Total	134,463	93,445	227,908
	Avg. Annual	13,446	9,345	11,395

Source: BERK, 2012

The high estimate for retail space (see Exhibit 15) is similar to what Covington experienced over the last decade, which included the development of a number of large scale retail stores. The low retail space demand estimate (see Exhibit 15) is about 150,000 square feet more than Covington experienced from 1990 to 1999.

The 20-year estimate for office space (Exhibit 17) well exceeds what Covington experienced between 1990 and 1999. Currently, the city has a total of about 270,000 square feet of office space.

Residential Demand

The residential demand analysis estimates housing unit demand by unit type – single-family, multi-family, and mobile homes – for two different growth scenarios. The high growth scenario assumes that housing unit growth for each housing type grows at the same rate that it did from 2000 to 2010. The slower growth scenario assumes slower growth for single-family housing and more growth in multi-family housing units. Both scenarios include a pending multi-family housing project that is currently under feasibility review prior to formal submittal and has a total of approximately 178 units.

Exhibit 19 City of Covington 20-Year Housing Unit Demand Estimates

Unit Type	Slower Growth Scenario	High Growth Scenario
SF	2,000	3,700
MF	300	230
MH	-10	-10
Total	**2,290**	**3,920**

Notes: SF = Single-Family, MF=Multi-Family, and MH = Mobile Homes
Source: OFM, 2011; BERK, 2012

In 2010, the City of Covington had 6,081 housing units. The low-end estimate of the 20-year demand for new housing units is 2,290 units, and the high-end estimate is 3,920 units.

COMPARISON OF SUPPLY AND DEMAND

This section compares the result of the land supply (buildable land analysis) to projected land demand (market analysis). Results show the buildable land capacity within the City and Study Area exceeds the amount of foreseeable demand for commercial uses, including both retail and office. The land supply can support a capacity of around 3.1 million commercial building square feet (see Exhibit 14) compared to the 20-year market demand estimate for retail and office combined (0.6 to 1.7 million square feet). Available land is attractive for commercial uses and would likely capture the market demand. Much of Covington's existing commercial capacity is represented by the southwest study area, which is well located and a fairly competitive site. It is located next to the exit/entrance ramps for SR 18, is easily visible from the highway, and has few existing structures on the site.

The capacity of the City and Study Area to accommodate housing units is 3,700 (see Exhibit 14), which is in the range of residential demand estimates of 2,290 to 3,920. The City land supply excluding the southwest study area is close to the low range of residential demand and the combined City and Study Area buildable land supply is close to the high range of residential demand. If the high range of demand were achieved, the full city limits and Study Area would be needed in terms of land supply.

IMPLICATIONS OF THE SUPPLY AND DEMAND ANALYSIS FOR UGA EXPANSION

As described previously, the City of Covington's current housing and employment growth targets established in the King County Countywide Planning Policies are as follows for the years 2006-2031:

- Net New Housing Units: 1,470
- Net New Jobs: 1,320

This section relies on the results of the buildable land supply analysis and the market demand analysis to answer the following questions:

- Does the City have enough buildable land supply to meet growth targets? How does the Study Area affect the City's ability to meet its growth targets?
- Does the recent trend in residential and commercial development permits, as well as the projected market demand for commercial and residential uses, suggest alternative growth targets are warranted?

Ability to Meet Targets

Housing Growth Targets

The City's housing growth target from 2006-2031 equals 1,470 new housing units. The City has made progress towards the target by issuing 163 residential building permits. In addition, the City has a "pending lot supply" consisting of preliminary plats and vacant recorded lots totaling 549 lots. Based on the residential building permit and plat activity, the City has nearly met half (48%) of the growth target in the first six years of the 25 year growth target period. See Exhibit 20. The City has a remaining housing growth target of 758 units. That means the City would need to show it has capacity for at least 758 housing units.

Exhibit 20 Residential Permits Issued and Remaining Housing Growth Target

	Housing Units
Countywide Planning Policy Housing Growth Target 2006-2031	1,470
Housing Units Permitted 2006-2011	163
Pending Residential Lot Supply (Preliminary Plats and Vacant Recorded Lots)	549
Remaining Housing Growth Target 2012-2031	758

Source: BERK 2012

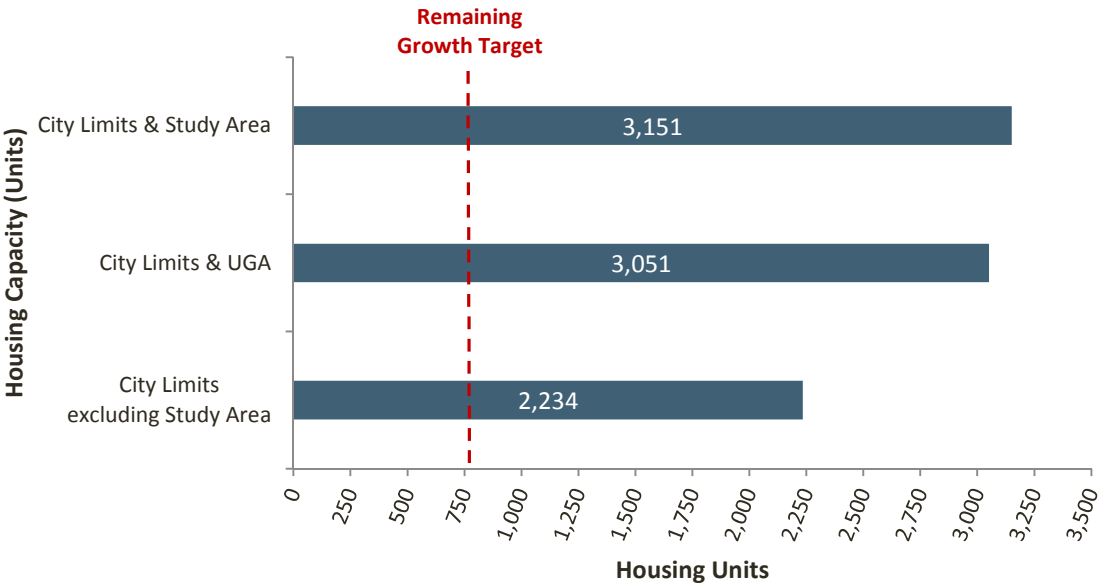
Exhibit 21 compares the remaining growth target to the buildable land supply under three geographic boundaries: A) the city limits excluding the southwest study area, most comparable to the 2007 BLR assumptions; B) the city limits including the southwest and southeast study areas, showing results with the full city limits and UGA included; and C) the city limits and full Northern Gateway Study Area including the "north study area." Under any geographic area studied, the available residential land capacity produces more housing units than required to meet the 2012-2031 remaining housing growth target. See Exhibit 22.

Exhibit 21 Table Comparison of Housing Unit Capacity and Remaining Housing Growth Target

Geographic Area	Total Housing Unit Capacity	Remaining Housing Growth Target 2012-2031	Excess Capacity Above Housing Growth Target
A. City limits excluding southwest study area	2,234	758	+1,476
B. City limits with southwest and southeast study areas (city limits and UGA)	3,051		+2,293
C. City limits with southwest, southeast, and north study areas (city limits and Study Area)	3,151		+2,393

Source: BERK 2012

Exhibit 22 Chart Comparison of Housing Unit Capacity and Remaining Housing Growth Target



Source: BERK 2012

Employment Growth Targets

Regarding the employment target, the City has met 90% of its 2006-2031 target of 1,320 jobs just with issued building permits; with pending commercial site plan approvals the City would far exceed the employment growth target (1,453 more jobs than the 1,320 jobs target).[5] See Exhibit 23.

Exhibit 23 Comparison of Employment Land Capacity and Jobs Target

	Jobs
Countywide Planning Policy Employment Growth Target 2006-2031	1,320
Employment capacity added 2006-2011 (based on 450 s.f. per employee)	1,187
Pending employment capacity (Commercial Site Plan Permits)	1,586
Remaining Jobs Growth Target 2012-2031	-1,453

Source: BERK 2012

Exhibit 24 compares the remaining jobs growth target to the employment land capacity under three geographic boundaries: A) the city limits excluding the southwest study area, most comparable to the 2007 BLR assumptions; B) the city limits including the southwest and southeast study areas, showing results with the full city limits and UGA included; and C) the city limits and full Northern Gateway Study Area including the "north study area."

[5] PSRC does show covered employment estimates increasing from 3,448 to 4,631 between 2006 and 2010, adding nearly 1,183 jobs; this matches the estimated employment capacity added between 2006 and 2011 of 1,187.

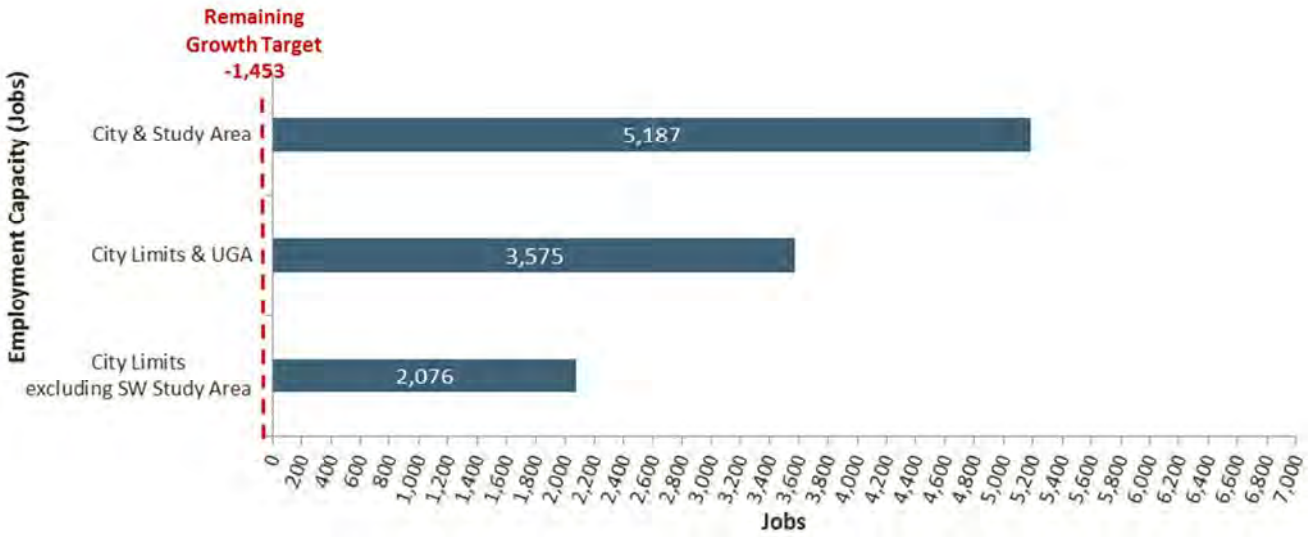
Exhibit 24 Comparison of Employment Land Capacity and Remaining Jobs Growth Target

Geographic Area	Total Job Capacity	Remaining Jobs Growth Target 2012-2031	Excess Capacity Above Remaining Growth Target
A. City limits excluding southwest study area	2,076	-1,453	+3,529
B. City limits with southwest and southeast study areas (city limits and UGA)	3,575		+5,028
C. City limits with southwest, southeast, and north study areas (city limits and Study Area)	5,187		+6,640

Source: BERK 2012

As with residential growth targets, under any geographic area studied, the available employment and capacity produces more jobs than required to meet the 2012-2031 remaining job growth target – especially since the City would already meet the jobs target with issued commercial building and site plan permits. See Exhibit 25.

Exhibit 25 Comparison of Jobs Capacity and Remaining Employment Growth Target



Source: BERK 2012

Growth Trends and Potential Adjustments to Targets

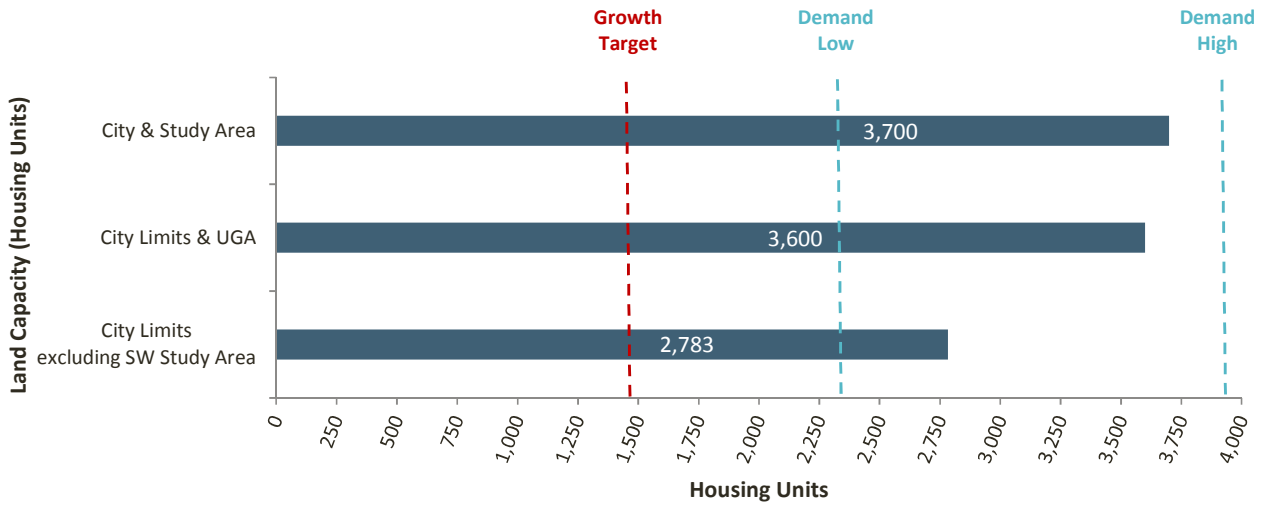
Although the City has more buildable land supply than its growth targets, it is important to consider the rate of residential and employment permitting and the future market demand, and ask the question "have the appropriate growth targets been allocated to Covington?"

Between the actual dwellings permitted and the pending lot supply, the City will have met about 48% of its 20-year growth target within the first six years of the 25-year planning period (2006-2031). In addition, the market demand for residential uses shows that there is a greater demand for housing than reflected in the

City's housing target (demand for 2,290 to 3,920 units and residential dwelling unit target of 1,470).[6] Depending on whether demand is lower or higher, Covington could need all the residential supply in the city limits and Study Area to meet the demand. See Exhibit 26.

As a result the City may wish to work with King County to determine if a higher 20-year housing unit growth target is warranted. A higher housing target would better match market demand projections and available buildable land supply. A revised residential dwelling target would be based on a negotiation between the County and City considering growth trends, land capacity, and Countywide Planning Policies.

Exhibit 26 Comparison of Market Demand, Land Supply, and Housing Growth Target

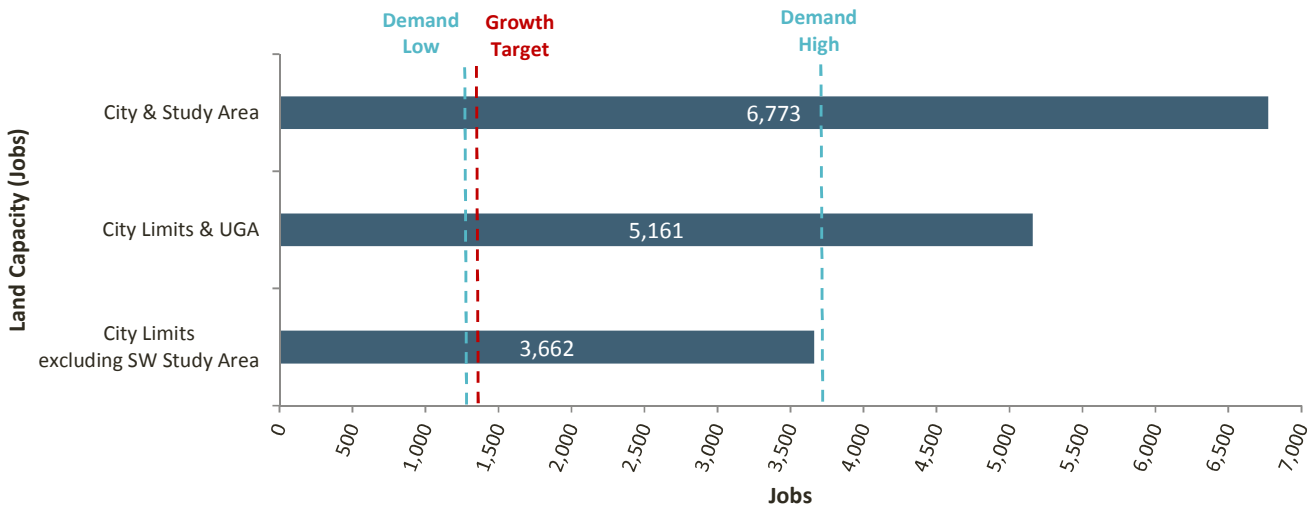


Source: BERK 2012

Presently, the city limits has just enough capacity to meet the high range market demand for commercial building space and the city limits and Study Area would exceed the capacity needed for the high range market demand. However, given that the City has already met its employment growth target with issued and pending permits, the City may wish to revisit its jobs target with King County. A higher jobs target would also better match market demand projections. See Exhibit 27 and Exhibit 28 for a comparison of commercial land capacity and jobs to growth targets (targets are converted to commercial building space based on jobs and employee per square feet assumptions). A revised jobs target would also be based on a negotiation with the County and City considering growth trends, land capacity, and Countywide Planning Policies.

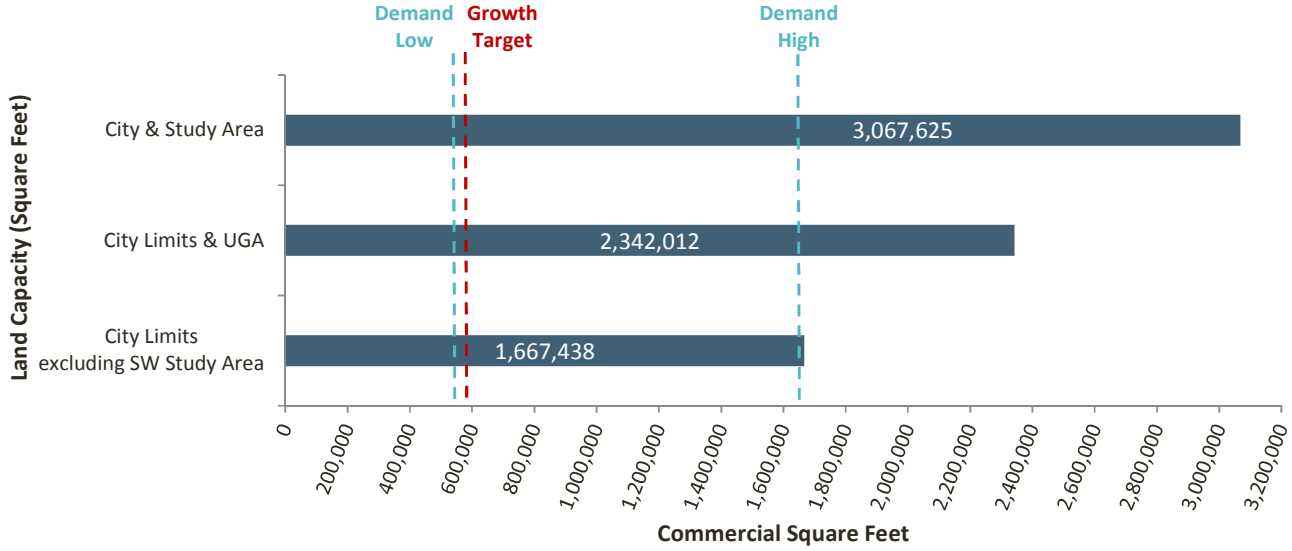
[6] Whereas the prior section focused on the remaining growth targets and remaining land supply, this section looks at the total supply and total targets including "pending permits".

Exhibit 27 Comparison of Commercial Market Demand in Jobs, Land Capacity, and Jobs Target



Source: BERK 2012

Exhibit 28 Comparison of Market Demand in Commercial Square Feet, Land Capacity, and Jobs Target



Source: BERK 2012

Appendix F:
Preliminary Land Use Concept Plan
Communita, August 10, 2012

Preliminary Land Use Concept Plan

Northern Gateway Area Study

August 10, 2012

For the purposes of providing guidance to a buildable lands analysis, market analysis, and fiscal analysis, a preliminary land use concept plan was prepared. It illustrates the potential land use patterns, uses, developability, and constraints given the state of knowledge about the Study Area. The sizes and locations of the different potential land use areas and stream/wetland areas are approximate only. Generally commercial and low density residential is shown in the north study area and mixed uses in the southwestern and southeastern study areas. If the City moves forward with a subarea planning process the preliminary land use concept would be vetted and modified through a public review process.

Preliminary Land Use Concept Plan
Covington Northern Gateway Area Study

August 10, 2012

Appendix G:
City of Covington Northern Gateway Area Study: Preliminary Fiscal Analysis of Annexation
BERK, August 8, 2012

PHONE 206.324.8760
2025 First Avenue, Suite 800
Seattle, WA 98121
www.berkconsulting.com

MEMORANDUM

DATE: August 2, 2012

TO: Lisa Grueter, BERK
CC: Bill Stalzer, Stalzer and Associates

FROM: Morgan Shook and Emmy McConnell, BERK

RE: City of Covington Northern Gateway Area Study: Preliminary Fiscal Analysis of Annexation

INTRODUCTION

Purpose of the Fiscal Assessment

This preliminary fiscal analysis evaluates the incremental fiscal impact of annexing two separate Potential Annexation Areas (PAAs) that the City is considering. The goal of this analysis is to provide the City with a more complete understanding of the fiscal implications of annexation. This assessment evaluates the annexation impacts over a period of time to provide information on how the annexation would affect the long-term fiscal balance in the City.

Relationship to Buildable Lands and Market Analysis

This analysis is related to but separate from the Buildable Lands Capacity and Build-Out Analysis and the Market Analysis also being conducted as part of the Northern Gateway Area Study. Those two analyses focus on the *capacity* and *demand* of the study area.

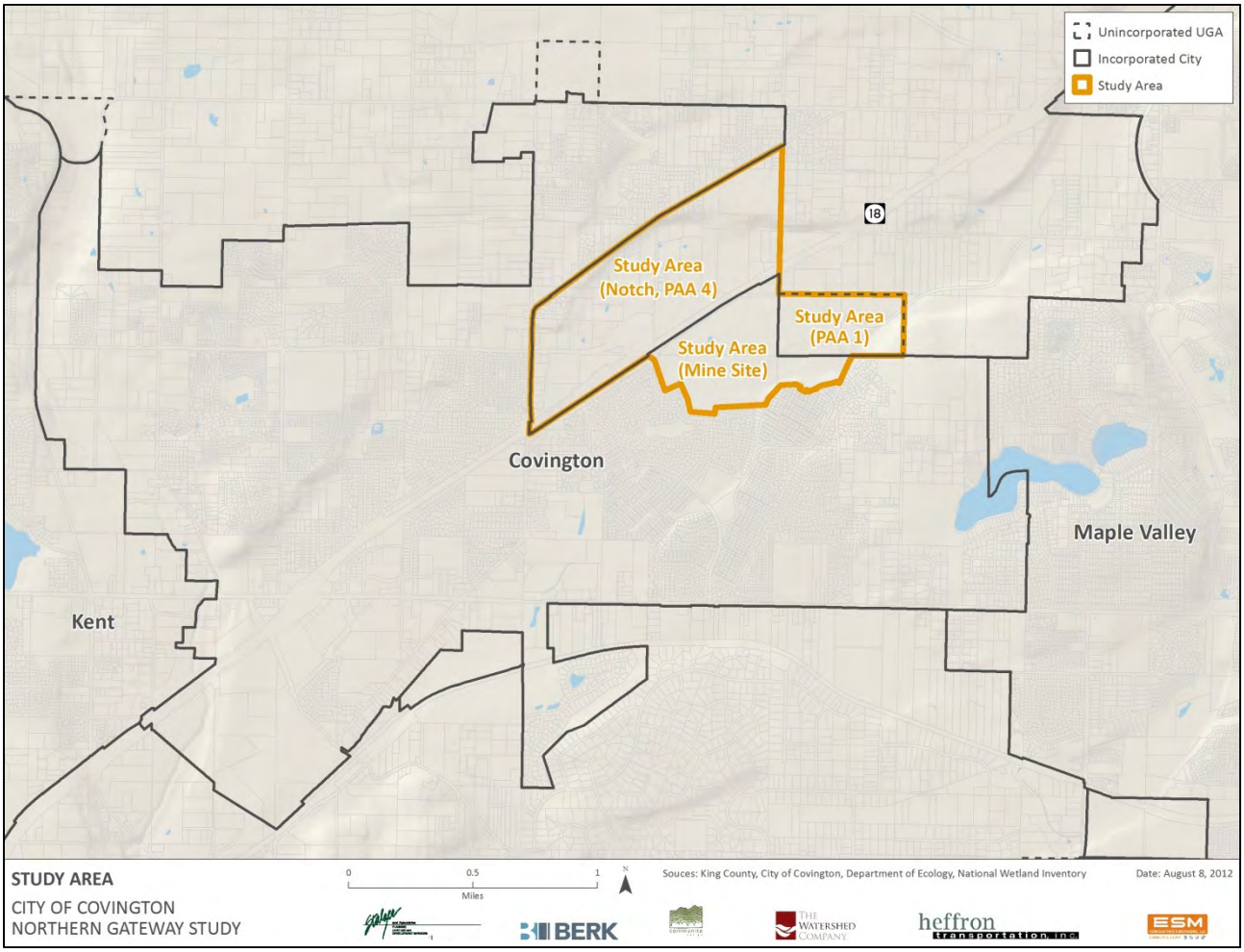
This Fiscal Assessment, in contrast, makes assumptions about actual future residential and commercial development on the land in order to generate revenue and cost estimates **so that the City may have a better understanding of the direction and magnitude of how development in these areas and potential annexation would impact the fiscal position of the City.** In order to be conservative and not over estimate impacts, this analysis uses past development trends to ground future assumptions based on levels of growth the City has historically been able to achieve.

Fiscal Assessment Geography and Timeline

This analysis focuses on the 10-year window following assumed annexation in 2014. The analysis can be adjusted to reflect the 20-year period of 2012-2031 if desired by the City. It is anticipated that the results would show a similar direction over the 20-year period as for the 10-year period.

Exhibit 1 shows a map of the two PAAs analyzed in this assessment and their relationship to the current city boundaries.

Exhibit 1
City of Covington Potential Annexation Areas



Source: King County 2012; BERK 2012.

- PAA 1 is the area of the current mine site that is located outside of the City's boundaries but within the City's Urban Growth Area (UGA). It would currently be eligible for annexation. This area is informally referred to as the "mine" site. In other portions of the Northern Gateway Area Study it is also called the southeast study area.
- PAA 4 (also known as the "notch" area) is not currently located within the King County UGA, nor is it assigned to the City of Covington. It would need to be brought into the UGA first prior to an annexation discussion. This site is informally referred to as the "notch". In other portions of the Northern Gateway Area Study it is also called the north study area.

The analysis provided in this assessment is based on a conceptual sketch of land use which is likely to change as the project continues. This preliminary fiscal assessment will be updated going forward should the City proceed with subarea planning in subsequent phases.

STUDY APPROACH OVERVIEW

Policy Planning

It is important to note that this is a planning-level fiscal analysis and not a budget development exercise. The analysis is intended to provide a reasonable estimate of potential costs and revenues associated with annexation of the PAAs. This estimate could provide a basis from which the City can begin development of an actual service plan if the City decides to proceed with the annexations. However, the actual implementation would be accomplished through the regular budget process wherein City management will revisit the balance of costs and revenues in light of updated information and the overall needs of the City at that date.

In addition, staffing projections used in this analysis are the best estimates given current information. If the City proceeds with annexation, it will need to determine exact staffing levels for each department as well has a plan for hiring and training new staff, which can include substantial lead time. The number of personnel needed and the timing of hiring will have to be planned at a greater level of detail than was necessary for this planning-level analysis.

While this analysis provides a comprehensive look at the potential incremental impacts on the City's financial picture, it does not provide a full accounting of the City's projected sources and uses of funds. In particular, the analysis does not include fund balances or enterprise funds.

Approach to Fiscal Analysis

This assessment looks at the impacts of each PAA separately and also the impact of annexing both. Holding aside the issue of UGA boundaries, this analysis assumes that the City would annex these areas in 2014 and that significant buildout and development would not begin until after annexation occurs. The analysis looks forward through 2023 to provide a 10-year look ahead after annexation occurs.

Taking the analysis into the future shows how the fiscal balance in the City would be affected over time by changes in revenues and costs and how the annexation might affect the long-term fiscal outlook for a larger City if it chooses to annex.

Focus on General Tax and Fee Revenues

While this analysis is not fund-based, it does isolate the components of the City's budget that are funded through general tax and fee revenues, including functions and departments funded by the City's General, Street, and Parks funds.

The analysis does not include costs or revenues in utility enterprise funds, such as stormwater management (SWM), whose operating costs are supported through user fees, or the development services fund, which is supported through license and permit fees and other charges for service. These funds are supported on a cost-recovery basis, so it is assumed that any additional costs from annexation will be covered from additional revenue at a similar cost recovery ratio as currently experienced in the City.

Development Assumptions

Within the City, this study assumes a level of development activity similar to that seen historically. In the PAAs, the projected development is based on a conceptual sketch of land use for how those areas might develop; bounded by the realities of the economy, land capacities, and demand for new development as described in the Buildable Lands Capacity and Build-Out Analysis and Market Analysis.

The analysis is built on the premise that key factors in the land base (such as population, employment, and commercial activity) drive both demand for services and changes in the City's tax base. Demand for services drives

costs and depends on a jurisdiction's scope of services and choices regarding level of service. The tax base drives revenues and will vary based on a jurisdiction's choices regarding fiscal and taxing policy.

The fiscal analysis is flexible and allows for varying assumptions about anticipated development in the City and annexation areas over time, and how these changes affect the underlying tax base. In particular, the following elements are explicitly specified in the fiscal model: (1) development assumptions, including type, scale, and timing of new development; (2) type and mix of tenancies and associated employment; (3) housing mix (single-family and multi-family) and density; and (4) productivity of new retail activity.

Exhibit 2 summarizes the impacts of the development assumptions on the three separate geographies considered in this study. The table shows the total population, housing units, land area, taxable assessed value, and taxable retail sales at the beginning of the study period (2012) and the end (2023) by area.

Exhibit 2
Current and Estimated Future Demographics by Geography (2012-2023)

	PAA1 (mine)		PAA4 (notch)		Current City Boundaries	
	2012	2023	2012	2023	2012*	2023
Total Population	0	135	210	294	17,640	21,402
Total Housing Units	0	45	72	100	6,006	7,348
Total Land Area (sq miles)	0.1	0.1	0.9	0.9	5.9	5.9
Total Taxable Assessed Value	$2,500,000	$18,200,000	$29,900,000	$68,100,000	$1,678,700,000	$2,945,900,000
Total Taxable Retail Sales	$0	$2,500,000	$0	$31,800,000	$339,900,000	$604,200,000

** Current City population is from OFM's April 1, 2011 Cities and Towns population estimate. Current City housing units and land area are from 2012 King County parcel data. Current city taxable AV is from 2012 King County parcel data. Current city TRS is from the Department of Revenue's 2011 annual TRS estimate.*

Note: The portion of the mine in the city limits would have a share of development attributed to the current city limits.

Source: Washington State Office of Financial Management, 2011; King County Assessor's Data, 2012; Washington State Department of Revenue, 2011; and BERK, 2012.

Ongoing Costs

The fiscal analysis estimates changes in the cost of services based on relationship between direct services, such as maintenance workers or planners, and underlying demographic and community changes such as increases in population, housing units, commercial activity, and land area. However, the focus of this analysis is to analyze the incremental costs of annexation by understanding the current City's fiscal balance (costs vs. revenues) and how annexing one or both of the PAAs impacts that balance.

Costs for the City and PAAs are estimated as follows:

- Labor costs (salary and benefits) are based on 2012 budgeted salaries and benefits and assumed annual escalation rates (4.0% for salaries[1] and 7.5% for benefits[2]).

[1] "Salaries" includes cost of living adjustments (COLAs) and annual step increases. Some employees are at the top step of their pay range and are only eligible for COLAs.

[2] "Benefits" includes pensions and medical benefits.

- Non-labor costs are driven by the number of Full Time Equivalents (FTEs) in each department and escalated at an annual rate commensurate with historical growth in the Consumer Price Index (CPI), or about 2.0%.
- Contracted services besides public safety (such as legal, court, and jail costs) are based on current relationships between costs and City demographics and size, supplemented with discussion with City staff. Costs are escalated at 3.5% annually for most contracts, and 5.0% annually for jail.
- The City of Covington currently contracts with the King County Sheriff's Office (KCSO) for public safety services. This analysis assumes a continuation of this contracting model. Incremental contract costs associated with extending police services into the PAAs are based on relationships between current staffing and city demographics, supplemented by discussions with the Police Chief. Contract costs for police services are escalated at an annual rate of 5.0%, driven mainly by salary and benefit pay escalation.

Economies of Scale

When thinking about annexation, it is likely that the City of Covington will enjoy certain economies of scale in delivering City services. These savings mean that the average cost-per-resident (in inflation-adjusted terms) of providing many city services will tend to decrease as the City becomes larger. In practical terms, the analysis framework reflects economies of scale by identifying positions that will not be affected by annexation (e.g. annexation will not trigger the need to hire another City Manager, Finance Director, Police Chief, etc.).

State of the Economy

The potential impacts of the slow recovery from the recent economic recession are incorporated into the analysis by allowing for specific and variable assumptions regarding level of economic activity and possible year of full recovery (i.e. return to more historic rates of development and business activity). The recovery factor impacts levels of development, taxable retail sales growth rates, rates of increase in assessed value, and real estate turnover rates. For this analysis, we assumed economic activity at 50% of historical averages for 2012, increasing incrementally until "full recovery" in 2016, when activity is anticipated to return to an average rate experienced over the past 20 years.

Analysis Considers City With and Without Annexation

This analysis considers the potential impact of annexation by comparing the fiscal outlook for the City under two primary alternatives: (1) the future of the City with no boundary adjustments and (2) the future of the City after annexation. This provides a comprehensive look at the impacts of annexation on long-term fiscal sustainability. For example, it's possible that the City with annexation could show expected future net fiscal deficits, but still be considered a net plus for future fiscal sustainability if the base City outlook projected larger future deficits.

As is the case with almost all cities in Washington, an assumption of continuing current policies will lead to budget deficits in the coming years. This is a function of a basic structural imbalance in local government funding resulting from recent tax limiting measures and exacerbated by the slow recovery from the recent recession. Because a city cannot operate with a budget deficit, City of Covington leaders will continue to make policy choices to balance the budget each fiscal year. Since these future policy choices will have an impact on the economics of annexation, it is necessary to consider how annexation impacts might vary based on a range of potential policy choices that are available to address future fiscal imbalances.

City Staff Engagement

BERK used the 2012 Adopted City budget as the foundation for the baseline annexation analysis and consulted with department directors and finance staff for clarifications on structures and data. Through discussion with City staff, the analysis assumptions and draft results have been refined to best reflect the City's likely future.

Data Sources

Data used in this analysis came from the following sources:

- City of Covington
  - 2012 Adopted City Budget
  - Staffing detail including position titles, FTEs, salary and benefit costs
- King County
  - 2012 parcel data
  - 2007 buildable lands data
  - 2011 personal property tax revenue
  - 2012 street GIS layer
- Puget Sound Regional Council
  - 2010 employment
- Washington State Department of Revenue
  - 2011 taxable retail sales
- Washington State Office of Financial Management
  - 2010 housing units

STUDY FINDINGS

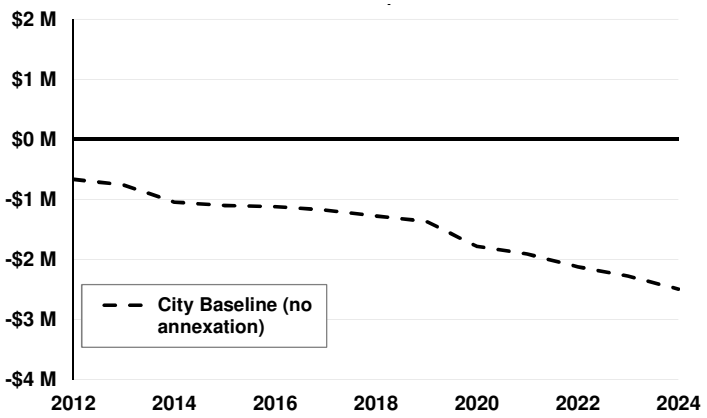
Baseline Outlook for City of Covington

All cities across the state are different in terms of tax bases, mixes of commercial and residential land uses, and fiscal policies; however, almost all are experiencing the trend of municipal service costs growing at faster rates than revenues. This creates a common challenge to continue current levels of service while maintaining a balanced budget.

Assuming no annexation and no changes in City policies, the City of Covington is expected to face budget deficits in the coming years. This finding is consistent with the common fiscal challenge in most other cities in Washington State and is related to the impact of Initiative 747 (which caps property tax revenue growth at 1% per year plus the addition of new construction), Initiative 695 (which replaced the value-based motor vehicle excise tax with a $30 flat fee, severely reducing funding for street maintenance), rising costs of doing business, and additional staffing related to in-city growth needed to maintain existing levels of service. In addition, the national economy is still struggling with low consumer confidence, weak housing, and high unemployment, causing slow growth in other revenue sources. To address this challenge, local governments must make tough choices involving either increases in revenues, cuts in costs, or both to maintain fiscal balance.

If the current trends were to continue without intervention, the City of Covington is estimated to see costs increasing at approximately 4.6% per year and revenues increasing at about 4.0% per year, leading to an increasing deficit over time. Exhibit 3 shows the City's estimated fiscal baseline (the difference between estimated costs and revenues) from 2012 to 2023. **Note that this fiscal picture only includes the General, Street, and Parks funds**.

Exhibit 3
Estimated Net Fiscal Deficit/Surplus for City of Covington
Baseline No Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,815,000
Net Revenues	**(664,000)**	**(2,275,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Note: Although Exhibit 3 shows a deficit in 2012, the City has balanced its 2012 adopted budget through the use of fund balances.

Source: City of Covington 2012; and BERK 2012.

Exhibit 3 shows that the City has an operating deficit in 2012, which will be covered by using some of its beginning fund balance to pay for services during the year. The purpose of this analysis is to understand the structural relationship between operating costs and revenues, showing *in any given year* what the difference will be between costs and revenues. The City can choose how to address shortfalls, either with beginning fund balances or changes to policy.

As stated previously, a City cannot, in reality, operate with a budget deficit – cities are legally required to have balanced budgets. As with all cities, City of Covington leaders will continue to make policy choices to balance the budget each budget cycle. The result is that large projected budget deficits do not materialize. Each budget period the City Council will make incremental adjustments to the existing budget and policy structure to keep the City functioning within its means, continually holding potential larger budget deficits at bay.

Costs Increasing Faster than Revenues

As stated previously, the primary reason the City is expected to see an increasing budget deficit over time is that costs are increasing faster than revenues, as is the case with almost all cities in Washington State.

Based on historical averages and recent experience, this baseline outlook assumes the following annual growth rates for major cost drivers: 1) salaries at 4.0%; 2) benefits at 7.5%; 3) non-Police contract costs at 3.5%; and 4) Police contract costs at 5.0%, all of which does not include increases in City staff. This may be slightly pessimistic given that benefits may see lower future growth. Given these assumptions, overall cost increases for the City are estimated to be 4.6%, while revenues are estimated to increase at an average annual rate of about 4.0%.

It is important to put this ongoing funding shortfall into an appropriate planning context. While this analysis provides a comprehensive look at the potential incremental impacts on the City's financial picture, it does not provide a full accounting of the City's projected sources and uses of funds. In particular, the analysis does not include any reserve

funds the City may have. **As a result, the deficits projected in the baseline outlook should be viewed as an indication of the structural imbalance between new and ongoing revenues and expenditures assuming continuation of existing tax policies and levels-of-service. It should not be viewed as an estimate of the near term cash flow situation for the City**.

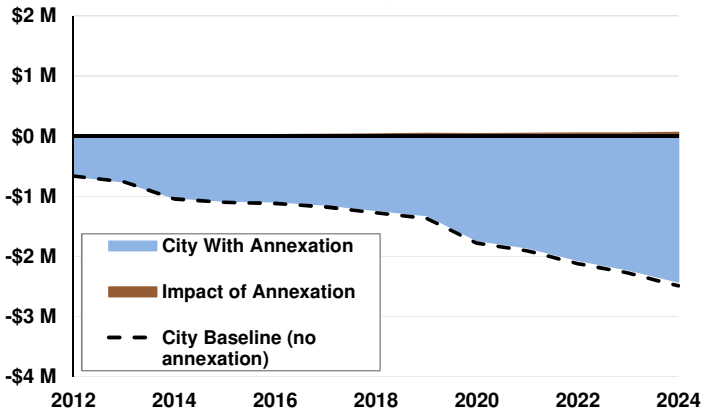
Fiscal Impact of Annexation

This analysis looks at the impacts of each annexation area separately and then combined to understand how the distinct characteristics of each area will likely impact the City's fiscal outlook.

Potential Annexation Area 1: Portion of Mine in UGA

The annexation of PAA1 would have a relatively neutral impact on the City's future fiscal outlook, as development assumptions result in minimal growth in population and housing over the 10-year period following annexation. Exhibit 4 shows the incremental core revenues and expenditures that would result from annexing PAA1. **Note that this fiscal picture only includes the General, Street, and Parks funds**; **and does not include any fund reserves**.

Exhibit 4
Estimated Net Fiscal Deficit/Surplus for PAA1 Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,816,000
Net Revenues	**(664,000)**	**(2,274,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	32,000
Core Revenues	0	82,000
Net Revenues	**0**	**50,000**
Deficit/Surplus as % of Expenditures	**0%**	**156%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,122,000
Core Revenues	9,687,000	14,898,000
Net Revenues	**(664,000)**	**(2,224,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**
Marginal Impact of Annexation	**0%**	**2%**

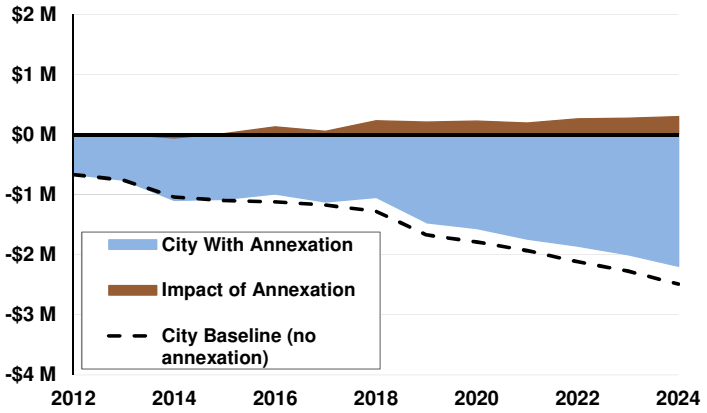
Source: BERK 2012

Given the 10-year development assumptions outlined above, the PAA1 area provides minimal additional revenue to the City, but also does not generate a need for significant costs related to service provision. From a long-term fiscal perspective, annexation would be a fiscally neutral proposition to the current City. From this perspective, the annexation of the area does not worsen, nor does it substantially improve the City's ability to balance its budget.

Potential Annexation Area 4: Area Outside UGA- Notch

The annexation of PAA4 will likely provide a fiscal benefit to the City over time, as the tax revenues generated by its commercial areas and new population will outweigh the incremental cost of providing public service to the area. Exhibit 5 shows the incremental core revenues and expenditures associated with annexing PAA4. **Note that this fiscal picture only includes the General, Street, and Parks funds**; **and does not include any fund reserves**.

Exhibit 5
Estimated Net Fiscal Deficit/Surplus for PAA4 Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,818,000
Net Revenues	**(664,000)**	**(2,272,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	168,000
Core Revenues	0	439,000
Net Revenues	**0**	**271,000**
Deficit/Surplus as % of Expenditures	**0%**	**161%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,258,000
Core Revenues	9,687,000	15,257,000
Net Revenues	**(664,000)**	**(2,001,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-12%**
Marginal Impact of Annexation	**0%**	**13%**

Source: BERK 2012

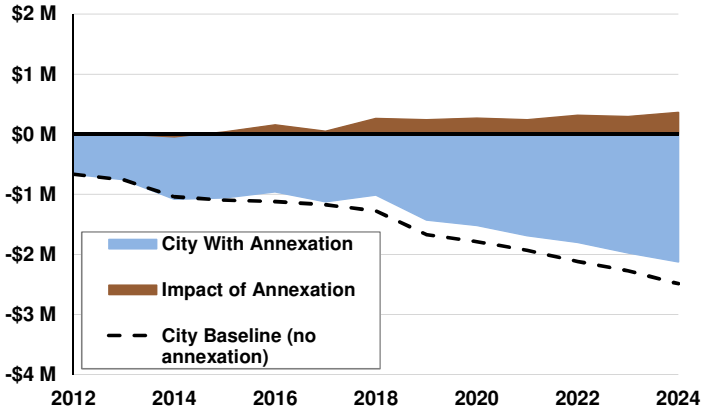
The existing population, development activity, and lane miles in the area will result in the need for some additional street and parks maintenance costs and police services upon annexation, as well as new revenues from sales tax, utility taxes, and property taxes. Initially, costs will outweigh revenues by a small margin.

In 2023, ten years after annexation, the area will still provide a net fiscal benefit to the City, and the surplus of incremental revenues above incremental costs will be increasing over time. The net impact is still relatively small compared to the City's overall costs and revenues, but the larger future population and retail base does give the City some additional flexibility for raising future revenues.

Combined Impact

Exhibit 6 shows the combined impact of annexing both PAAs. It's important to note this situation is not equivalent to simply adding together the incremental impacts of annexing each PAA separately, as annexation changes the way taxes are collected, primarily by marginally changing the property tax levy rate throughout the entire city. Property brought into the city through annexation is considered "new construction" in the calculation of the allowed property tax, thereby increasing the property tax limit (and the corresponding levy rate somewhat) for the City as a whole in the year of annexation, and the years following

Exhibit 6
Estimated Net Fiscal Deficit/Surplus for Combined Annexation Scenario (2012-2023)



Current City	2012	2023
Core Expenditures	10,351,000	17,090,000
Core Revenues	9,687,000	14,818,000
Net Revenues	**(664,000)**	**(2,272,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-13%**

Increment from PAA	2012	2023
Core Expenditures	0	224,000
Core Revenues	0	521,000
Net Revenues	**0**	**297,000**
Deficit/Surplus as % of Expenditures	**0%**	**133%**

Entire City with Annexation	2012	2023
Core Expenditures	10,351,000	17,314,000
Core Revenues	9,687,000	15,339,000
Net Revenues	**(664,000)**	**(1,975,000)**
Deficit/Surplus as % of Expenditures	**-6%**	**-11%**
Marginal Impact of Annexation	**0%**	**14%**

Source: BERK 2012

The existing population, development activity, and lane miles in the areas will result in the need for some additional street and parks maintenance costs and police services initially, as well as some new revenues from sales tax, utility taxes, and property taxes. Initially, costs will outweigh revenues. Ten years after annexation, the analysis anticipates the area will provide a net fiscal benefit to the City. The net impact is still relatively small compared to the City's overall costs and revenues; however the benefit will grow over time as additional commercial space is added.

Operating Revenue Analysis

As discussed earlier, tax and fee revenues are estimated based on the changes in the components of the City's tax base resulting from growth. Components of growth that could influence revenues include population, employment, land use changes, or base inflation in certain components of the tax base. Each of the City's tax and fee revenue sources is separately estimated by assessing changes in the tax base and applying the assumed future tax and fee structure to generate revenue projections. Exhibit 7 shows estimated revenues for Covington assuming annexation occurs in 2014; 2012 numbers are current City budget estimates and do not include any annexation.

Exhibit 7
Estimated Revenues for City of Covington Assuming Annexation of both PAAs in 2014
(General, Street, and Parks Funds Only) (Millions of Dollars)

	2012	2023
Sales Tax	2.85	5.36
Criminal Justice Tax	0.35	0.54
Regular Property Tax	2.34	3.34
Utility Taxes	2.01	3.08
Cable Franchise Fee	0.20	0.30
Liquor Board Profits and Excise Tax	0.17	0.24
Gas Tax	0.37	0.46
Interfund Services Payments	0.26	0.40
Fines and Forfeits	0.03	0.05
Recreation Charges	0.50	0.75
Grants and Other Intergovernmental	0.11	0.17
Other Miscellaneous	0.15	0.23
Parks Housing Rentals/Leases	0.04	0.05
Internal Charges for Service	0.23	0.35
TOTAL REVENUE	**9.62**	**15.34**

Source: BERK 2012

Primary Revenue Sources

As with many cities in Washington State, the three largest revenues sources for the City of Covington are Sales Tax, Property Tax, and Utility Taxes, making up about 75% of the City's General, Street, and Parks Fund revenues.

Retail Sales Taxes. One of the key revenue sources that cities rely on is Retail Sales Tax. Of the total sales tax currently collected in the City and the potential annexation area, a 1% "local option" accrues to local jurisdictions. If the transaction location is within a city, the city receives 85% of the 1% local sales tax and the County receives 15% (net of a 0.01% fee for Department of Revenue). This tax is levied not only on businesses in the area, but also on construction activity and some transactions that are related to housing, such as certain online purchases.

Property Taxes. Taking into consideration the slow recovery from the recent economic recession, assessed value on real property is assumed to increase at the rate of inflation (estimated at 2.0% annually) in 2012. From 2013 through 2017 the inflation rate increases incrementally above 2.0% until, in 2018, it is assumed to increase at 3.0% annually and remain at that rate through the remainder of the study period. Additional assessed value will be added to the area through residential and commercial development. Since property values are expected to increase annually, the property tax levy rate will necessarily decline over time.

Because of the method for calculating Covington's property tax levy (equal to the previous year's levy plus new construction), the amount of new construction is important to the City's ability to limit the erosion of its millage rate over time. For both the current City and the PAAs, construction rates are based on development assumptions for parcels that are vacant, redevelopable, or already planned or permitted by King County.

Utility Taxes. The City of Covington imposes utility taxes on telephone services, electricity, natural gas, cable, and solid waste, and collects franchise fees for cable. Because these taxes are paid by both residences and businesses, revenues are projected based upon a per capita number for population and employment.

Other Revenue Sources

Gas Tax. A portion of the state-collected gas tax is shared directly with municipalities, which bear a substantial portion of the overall costs of road maintenance and construction. The gasoline and diesel tax is a flat amount levied per gallon (rather than a percentage of the price at the pump).

Cities are allowed to use this funding for maintenance or capital, and Covington uses its gas tax revenues for street maintenance. The gas tax revenue estimates from the City's budget project a per capita gas tax allocation of $20.86 in 2012. Since this tax is a per-gallon tax and not impacted by changes in prices, this per capita number is assumed to remain constant into the future, so revenues will grow proportionally with population growth in the City and the PAAs.

Criminal Justice Sales Tax. King County levies a dedicated sales tax to support criminal justice expenditures. This 0.1% sales tax is collected by the state's Department of Revenue, and is distributed to the County and to cities within the County on a per capita basis. In 2012, Covington estimates criminal justice sales tax revenues at a per capita rate of $19.87. Total future revenues are calculated on a per capita basis, with the annual per capita revenue assumed to increase at the rate of inflation.

Other Miscellaneous. The City receives some small revenues that have been categorized as "Other Miscellaneous" for this analysis. Included in this category are, among others, interest on investments, the technology surcharge, small cost recoupments, and other miscellaneous revenues. These revenues are estimated on a per capita basis, averaging $8.50 for the City population in 2012, and are assumed to increase with inflation.

Liquor Board Profits and Excise Tax. According to Washington State law, a share of the state profits from liquor sales and state collected excise tax on liquor is distributed directly to cities on a per capita basis. Currently the revenue estimated in the City's budget projects the per capita distributions for liquor profits and excise taxes to be $10.95 in 2012. Given the recent passing of Initiative 1183, which changed the state's liquor distribution and sales system from public to private operation, the City will see a decrease in liquor revenues from this budgeted number. Revenues are estimated to drop to about $8.80 per capita in 2013, and then grow with inflation going forward.

Recreation Charges. For projections of revenue from recreation charges within the City, the analysis estimated the per capita revenue at $28.00 for 2012, based on the City's budgeted revenues from the Parks Fund, which is assumed to increase at the rate of inflation. Given that existing residents of the PAAs already use the City's recreation facilities, only new residents are assumed to increase recreation revenues.

Fines and Forfeits. This group of revenues includes parking infraction penalties, DUI fines, other criminal traffic and non-traffic fines, criminal conviction fees, and false alarm fees that provide revenue to the General Fund. Currently the revenue estimated in the City's budget projects the per capita revenues for fines and forfeits to be $1.70 in 2012. These per capita estimates are assumed to increase with inflation.

Cable Franchise Fee. The City of Covington charges Comcast a franchise fee for providing service within the City boundaries. These revenues are projected on a per-resident basis and are estimated to be $11.17 per resident in 2012, according to the City budget. This rate is assumed to increase with inflation and will extend to the PAA area with annexation.

Internal Charges for Service. The City provides central services, such as Information Services, to all of its departments through a General Fund funded position and contracts. Other departments make operating transfers to the General Fund to cover their relative portion of these services. The City is estimated to receive about $230,000 in 2012 from its other departments into the General fund to support central services, growing with inflation going forward. This total does not include the transfers from the Parks and Street Funds, as the central services revenues and expenditures associated with those funds were netted out to avoid double counting.

Grants and Other Intergovernmental. This group of revenues includes grants and intergovernmental revenues for operational expenditures that are not already addressed above. It does not include grants for capital projects. Future revenues are estimated on a per capita basis and applied to the annexation area population. The current per capita revenues, according to the 2012 City budget, are $6.42 and are assumed to increase at the rate of inflation. It is important to note that it is difficult to estimate this source of revenue as grants tend to fluctuate widely from year to year.

Operating Cost Analysis

As described before, the fiscal analysis estimates changes in the cost of services based on relationships between direct services, such as maintenance workers or planners, and underlying demographic and community changes such as increases in population, housing units, commercial activity, and land area.

- Costs are broken up into labor and non-labor categories.
- Non-labor costs that support the positions added in each department were developed with the assistance of City staff.
- Non-labor costs that are unrelated to the positions in a department (such as street maintenance, which is related to lane miles) are separated from the department costs and increased based on their own drivers.

General Assumptions

Currently, assuming that the City's policies remain unchanged, annual growth rates for major cost drivers include: 1) salaries at 4%; 2) benefits at 7.5%; 3) non-Police contract costs at 3.5%; and 4) Police contract costs at 5.0%, all of which does not include increases in City staff.

Impacts to City Staffing

As a reminder, the staffing estimates in this section reflect **only those positions funded through the General, Street, and Parks Funds**. They do not include increases in positions (or portions of positions) funded by Utility Funds or other Special Revenue Funds. Many positions in the City are partially funded from the General Fund and Development Services Fund or Stormwater Fund, based on the functions performed. As discussed previously, this analysis does not include those funds, as they are supported through building permitting and stormwater fee revenues, respectively.

However, it should be acknowledged that there will be necessary growth in those positions (or portions of positions) paid for with those funds.

Exhibit 8 shows that the two departments that will be affected by annexation are the Streets and Parks departments, each of which will need to add about 0.2 FTEs of maintenance staff to serve the additional park acres and lane miles associated with the annexations (this is only the portion of additional staff that will be funded by the parks and street funds; approximately 40% of maintenance positions are funded from the surface water fund). There is existing capacity within the other City departments to absorb any increase in services generated by annexation.

Exhibit 8
Impacts of PAAs on Staffing (2012-2023)

	2012	2023	2023 (increment from annex)
City Council	7.0	7.0	0.0
City Manager	6.7	6.7	0.0
Community Development	2.7	3.4	0.0
Personnel	2.0	2.0	0.0
Finance	3.8	3.8	0.0
Central Services	1.0	1.0	0.0
Street	3.4	4.6	0.2
Parks	11.2	11.6	0.2
Total	**37.7**	**40.0**	**0.4**

Source: City of Covington, 2012; and BERK, 2012.

Street and Parks Maintenance Staff. Street and parks maintenance is conducted by the Public Works Department, which is funded by a combination of revenue from the Street Fund, Parks Fund, and Stormwater Fund. The demand for street maintenance and parks maintenance was analyzed separately in order to understand what drives the need for each type of staff:

- **Street**. The foundational driver for increasing street maintenance staffing is the relationship between current staffing and lane miles, applied to the lane miles that will become part of the City upon annexation. Increases in staffing needs are based on current estimated lane miles in the PAAs. At this stage in the planning process that are no development plans for those areas that would allow us to determine how many more miles will be added and whether they will be public or private roads.

  Based on the existing lane miles in the PAAs, this analysis estimates that the City will likely need to hire about 0.5 FTEs of maintenance workers to serve the new areas upon annexation, most of which will be needed to serve the PAA4 area (outside of the UGA). About 40% of this position will be funded by the Street Fund, resulting in a new cost to the city of about 0.2 FTEs for streets.

  Currently, the City has 1.6 maintenance FTEs funded through the Street Fund, so this increase represents maintenance staff growth of about 13% to serve the new areas. This need will grow over time as the annexed areas are built out and lane miles are added to serve residents and businesses, but this level of staffing should be adequate to serve the development assumed in the first 10 years after annexation.

- **Parks**. The foundational driver for increasing parks maintenance staffing is existing park and open space acres. Given that there are no planned parks for the annexation areas in the City's parks plan at this time, it is difficult at this stage of the planning process to determine exact maintenance needs. Currently there is slightly more than seven acres of open space that will be taken over by the City if it were to annex PAA4.

This analysis estimates that the City will likely need to hire about 0.5 FTEs of parks maintenance workers to serve the new areas upon annexation. Since funding of maintenance positions is split among multiple funds, this increase in positions will result in a new cost to the city of about 0.2 FTEs.

Currently the City has 0.8 maintenance FTEs funded through the Parks Fund, so this increase represents maintenance staff growth of about 25% to serve the new areas. This need will grow over time as the annexed areas are built out and parks are added to serve residents, but this level of staffing will likely be adequate to serve the development assumed in the first 10 years after annexation.

Other Impacts by Department/Division

While the public works department will see the main staffing impact from annexation, there will be additional costs incurred by the City. This section provides a narrative of non-staff annexation cost impacts by affected department:

Police. The City of Covington currently contracts with the King County Sheriff's Office (KCSO) for public safety services. In 2012, this contract cost about $3.04 million and included service from 20.9 FTEs, including one chief, 11 officers, and one detective.

The City is currently at capacity with regard to its police services, and future population and commercial activity growth within both the current City boundaries and within the PAAs will drive the need for new officers and detectives. Since the contract can only be increased in increments of one full-time officer or one full-time detective, it's likely that each new hire will partially serve increased need from City growth as well as some increased need from growth in the PAAs.

In order to understand the total future need for police services, we analyzed the full future need of the City and both PAAs, which resulted in the need for the following future hires to serve the combined area:

- One new Officer FTE in about 2014.
- One new Officer FTE in about 2019
- One new Detective FTE in about 2019.

Overall, three additional FTEs should be added through 2023 in order to serve the combined City and PAA area. For the purposes of this analysis, this cost was then apportioned between the City and the annexation areas based on the relative growth in population and commercial activity within each space. This provided an approximate percentage of how much of each new hire was generated by the City growth vs. the new PAAs:

- The mine (PAA1) would generate about 2.5% of additional police costs, as its small residential population makes up a small percentage of the City's and PAA's combined future growth.
- The notch (PAA4) would generate about 12.5% of additional police costs, including a smaller portion initially and then a larger portion once the retail areas begin developing.
- The area within current City boundaries would generate about 85% of the need for additional police staffing, as it has significantly more growth each year than the PAAs.

The relationship between the need for additional staff in each area will depend on *how quickly the annexation areas grow in relationship to the current City's growth.* If the annexation areas develop faster than assumed in this analysis, their portion of future police costs will be greater.

Public Works (Street and Parks Maintenance). In addition to the staffing increases noted above for street and park maintenance workers, there will be additional non-labor costs to maintain the added streets, sidewalks, parks, and

public right-of-ways that are currently maintained by King County. For the purposes of this study, it is assumed that the City will take over maintenance of these assets upon annexation.

These costs fall into two categories, both of which are *in addition* to the cost of staffing increases noted above:

- **One-time costs**. In order to support the work of the additional staff members noted above, the City would have one-time costs for miscellaneous capital items, such as mowers. One-time costs for public works are estimated at about $9,000 (YOE$) in 2014, upon annexation.
- **Ongoing costs**. Maintaining the existing streets and parks in the PAAs will have an ongoing cost in the form of materials such as asphalt, concrete, sand, paint, and water, and utilities such as electricity to support street lights and traffic lights. It is estimated that the ongoing non-staff cost of maintaining the existing streets and parks in the PAAs will be about $47,000 per year (YOE$) beginning in 2014, and will increase with inflation and the addition of lane miles and park acres over time.

As noted in the staffing impact section above, the lack of specific plans for new parks and roads in the PAAs makes it difficult to estimate future maintenance costs. This preliminary fiscal assessment is based on the existing inventory of parks and roads in the PAAs. This assessment will be updated going forward to incorporate the cost of maintaining new infrastructure should the City proceed with subarea planning in subsequent phases.

Contract Costs. The city contracts for many services, including public defense, prosecuting attorneys, municipal court costs, animal control, jail beds, and fire investigative services. For this analysis, these costs were addressed as described below:

- **Jail Contract**. In 2012, the jail contract was about $300,000. This cost will increase as the City's need for jail beds increases. The cost of this contract is assumed escalate at about 5.0% annually, and increase in proportion to population. The PAAs will begin to drive costs for this service beginning in 2021 at about $46,000 per year (YOE$).
- **Legal (Public Defense and Prosecuting Attorney)**. This contract is also estimated to increase with population. The City currently contracts for a public defender and a prosecuting attorney at a total of $104,000 in 2012. It's estimated that the annexation would add about $1,000 per year to the contract in 2014, which would increase with inflation and population growth going forward.
- **Municipal Court.** The City contracts for court services at about $260,000 per year. It's estimated that the addition of the PAA population in 2014 would increase contract costs by about $4,000 per year (YOE$) on top of the existing contract, growing with population and inflation going forward. The City is working with the County to reduce its court service contract, but will likely not see an impact until 2017.
- **Animal Control.** Animal control is provided via contract and costs were projected forward based on a per capita basis, increasing proportionally with population and escalated at the rate of inflation. The City's contract cost about $73,000 in 2012; the PAAs would have an impact on contracting costs of about $8,000 per year (YOE$) beginning in 2018.
- **Human Services Contract.** The Human Services contract is an amount set by the City Council, and has been stable at $105,000 for a few years. This contract is discretionary, but for this analysis it is assumed that the Council will continue to fund this service at the same level on an inflation-adjusted basis going forward. In other words, this contract is assumed to increase with inflation over time.

- **Fire Investigation Services.** The City contracts with Kent Fire Regional Fire Service to support its community development department with fire investigation; in 2012 the contract cost was $10,100. This contract is assumed to grow proportionally to new residential and commercial development, which will drive the demand for fire investigation. Given the low percentage of new development that the PAAs will comprise compared to the City total, annexation is only expected to increase this contract by about $1,100 per year.

ADDITIONAL ANNEXATION CONSIDERATIONS

Transition Period

Although this planning-level analysis makes the simplifying assumptions of full staffing and full revenues received by the City on the first day of annexation, in reality there would be a transition period. The City should develop an annexation transition plan starting several months prior to and ending several years after annexation. The plan should outline the preferred hiring schedule and estimate cash flow requirements during the phasing-in of various revenue sources and building-up of City service capabilities and facilities.

Transition Revenues. The timing of the effective date of annexation has a large effect on revenues in the first few years of annexation. Many of the revenue sources are not time sensitive and will begin immediately upon annexation. Other revenue sources such as sales taxes, property taxes, and state-shared revenues have certain lags associated with distribution.

Transition Costs. These costs may have an impact on the financial outcome of the first few years of annexation. The decision to pre-hire positions or to delay non-essential positions is also a major timing factor to consider. The City will likely ramp up its hiring more slowly over time for all departments and phase in many costs and services based on available revenues and the availability of qualified staff.

Capital Impacts and Revenues

Capital Impacts of Annexation

The principal focus of this study is on the fiscal impacts associated with day-to-day operation. However, there will be some additional costs to the City from new capital expenditures that will need to occur in the annexed areas. Capital impacts will mostly fall under the purview of Public Works and include:

- **Stormwater**. The City will be taking over residential stormwater assets (such as retention/detention facilities) in the notch area (PAA4) that are currently maintained by the County. These will likely necessitate some upgrades as well as potential deferred maintenance to bring them up to City standards. These improvements would not be covered by fees since it is an existing deficiency.

  The City does not take over full maintenance responsibilities for existing commercial systems, but will have costs associated with managing oversight of those systems to ensure they are being properly maintained by the responsible party. New facility development would be covered by fees going forward.

- **Streets**. Given that the PAAs are not currently built out, developers will be responsible for building initial street infrastructure as development comes online. The City will be responsible for the long-term maintenance of all new infrastructure, but not its construction. The City can collect traffic impact fees on new development to help defray the costs of capital improvements to mitigate the impacts of the development on existing roads that won't be directly funded by the developers.

- **Parks**. As the annexation areas develop, the increase in population will drive an increase in the need for new park acres. The City can assess a fee-in-lieu on new residential development that can pay for parks capital costs, such as land acquisition, park design, and construction. This fee is charged in lieu of requiring a developer to install appropriate parks infrastructure to accompany residential development, such as parks, recreation, and playground improvements.

If the City annexes either of the PAAs, it would be advisable to conduct a full assessment of capital needs in the area with an eye to the City's overall service goals.

Real Estate Excise Tax (REET)

This analysis also estimated real estate excise tax (REET) revenues available for capital expenses after annexation. If Covington were to annex the contemplated study area, the City would expect to receive REET on an annual basis. REET revenues are levied in two halves: The first half (0.25% of the taxable value of a real estate transaction) may be used for a variety of capital uses, including development of parks. The second half (the second 0.25%) must be used on a more constrained list of projects—a list that includes improvements to roads and roadways, but excludes investments in parks.

Since REET is based on the total value of real estate transactions in a given year, the amount of REET revenues a city receives varies substantially from year to year based on the normal fluctuations in the real estate market. During years when the real estate market is active, revenues are higher, and during softer real estate markets, revenues are lower.

For the purposes of this analysis, it is assumed that 2.5% of residential property and 2.0% of commercial property turn over in any given year while the weak housing market continues (assumed in this analysis through 2015). When housing costs recover, it is assumed that 5.0% of residential property and 3.5% of commercial property turn over in any given year. REET revenues from the annexation are estimated to total about $205,000 (YOE$) from 2014-2023:

- About $140,000 of this amount will be generated from PAA4 (the notch).
- About $65,000 will be generated from PAA1 (the mine).

Appendix H:
Northern Gateway Area Study Analysis of Available Information - Policy Analysis
BERK, August 8, 2012

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MEMORANDUM

DATE: August 8, 2012

TO: Bill Stalzer, Stalzer and Associates

FROM: Lisa Grueter, AICP, Manager

RE: Northern Gateway Area Study Analysis of Available Information - Policy Analysis

1.0 INTRODUCTION

This document provides a policy analysis of key King County policies and requirements identified as essential to moving forward with an Urban Growth Area (UGA) expansion amendment request for the 275-acre north study area called Potential Annexation Area 4 (PAA4) in the City of Covington Comprehensive Plan. The City has identified the north study area as a desired PAA addition. At this time, PAA4 is not located within the King County Urban Growth Area (UGA) and is presently designated for rural uses. See Exhibit 1.This policy paper is structured as follows:

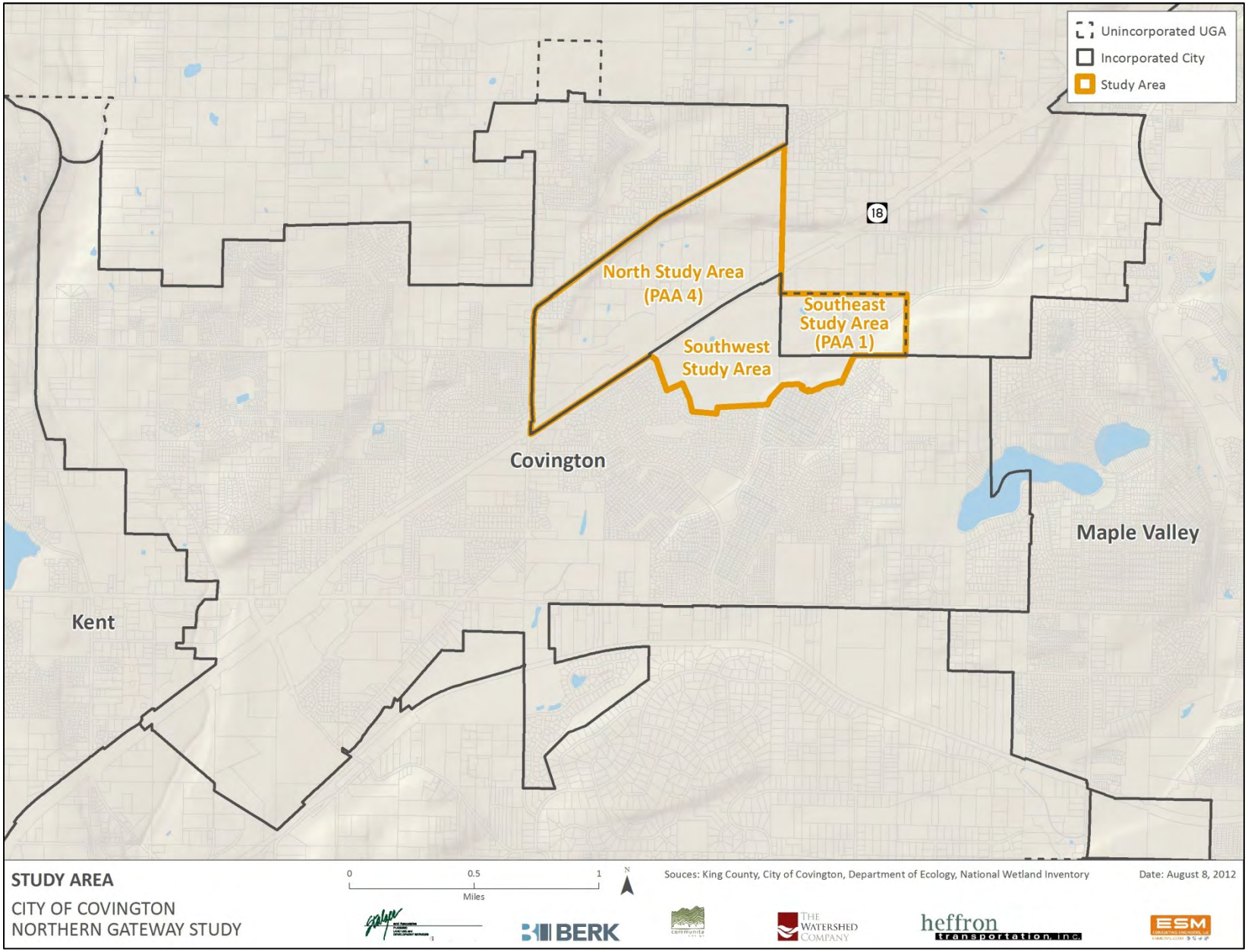
- Section 1.0 – Introduction
- Section 2.0 – Background Information
- Section 3.0 - Policy analysis of state, County, and City growth management policies regarding UGA expansion

2.0 BACKGROUND INFORMATION

This policy analysis is based on the following technical memos, and these should be consulted for the referenced information:

- Covington Northern Gateway Study – Wetland & Stream Reconnaissance Summary, The Watershed Company, August 6, 2012
- Northern Gateway Area Study Analysis of Existing Conditions: Public Services Capacity Analysis (Parks, Schools, Fire/EMS), BERK, August 8, 2012
- Analysis of Existing Conditions: Transportation, Heffron Transportation, Inc., August 6, 2012
- Northern Gateway Study Evaluation of Existing Infrastructure, ESM Consulting Engineers, LLC, August 3, 2012
- City of Covington Northern Gateway Area Study: Buildable Lands Capacity and Build-Out Analysis and Market Analysis, BERK, August 10, 2012
- City of Covington Northern Gateway Area Study: Preliminary Fiscal Analysis of Annexation, BERK, August 8, 2012

Exhibit 1 Study Area



Source: BERK 2012

3.0 POLICY ANALYSIS

This policy analysis reviews Growth Management Act (GMA) goals and requirements for UGA expansion, King County Countywide Planning Policies (CPPs), King County Comprehensive Plan Policies, King County subarea and basin plans, and City of Covington Comprehensive Plan Policies.

3.1 Summary of Policy Analysis

Generally, there are several key policy issues that will determine the inclusion of the north study area in the King County UGA – the character of urban and rural growth, the capacity for growth targets, presence of urban services, absence of resource lands, and adequate protection of critical areas. Each topic is summarized below, and fully addressed in Sections 3.2 to 3.6 in the remainder of this policy analysis.

Urban Growth and Growth Targets: GMA, CPP, and County policies promote UGAs characterized by urban growth or adjacent to lands characterized by urban growth. These policies also promote a UGA that is sized to meet a 20-year growth target. The north study area contains a mix of urban and rural densities and is adjacent to territory characterized by urban growth. While the existing City land supply can meet growth targets, the pace of permitted lots and jobs together with a market study show there is demand for more growth, and growth targets should be revisited. With the adoption of the Downtown Plan in 2009, the City has accomplished reasonable measures to increase its development capacity in advance of considering the inclusion of the north study area.

Urban Services: GMA, CPP, and County policies promote UGA territory that is served or can be served with urban services. A full range of urban services and utilities exist or can be made available to the north study area. A service that is particularly identified with urban growth is sewers, and the Soos Creek Water and Sewer District Comprehensive Plan includes sewer extensions to the area.

Resource Lands: GMA limits how resource lands of long term commercial significance for agriculture or forestry or mineral may be de-designated for inclusion in a UGA. The north study area does not meet the criteria for designated resource lands.

Environmental Conditions: CPP and County policies prefer to avoid inclusion of territory that is highly environmentally sensitive or would result in expansion across natural watershed boundaries. The north study area is in the same watershed as the City of Covington – the Soos Creek Basin. The topography of the north study area includes steep slopes along the north side, similar to the city limits to the north along SE Wax Road. The north study area contains wetlands and streams. The City has critical area regulations to protect the functions and values of these habitats. By requiring buffers on streams and wetlands and protective stormwater standards, the City would ensure that development in the north study area is clustered away from critical areas.

3.2 Growth Management Act Goals and UGA Requirements

GMA Goals

GMA goals guide the development and adoption of comprehensive plans and development regulations and are appropriate to consider for UGA expansions that require Comprehensive Plan Amendments. An analysis of GMA goals is included in Exhibit 2.

Exhibit 2
Growth Management Act (GMA) Goals

GMA Goal	Discussion
(1) Urban growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.	A full range of urban services and utilities exist or can be made available to the north study area. See Northern Gateway Area Study Evaluation of Existing Infrastructure, June 26, 2012, ESM Consulting Engineers.
(2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.	The development pattern in the north study area is mixed with some urban development along the west and north edges. The north study area is completely surrounded by the City on three sides. The lot pattern of larger and smaller lots is not significantly different than the lot pattern of the city limits to the north, or to the gravel extraction mine located in the southwest and southeast study areas (a location of larger lots). If annexed to the City, a minimum 4 units per acre residential density would be required in the north study area. Some commercial uses could also be allowed around the interchange. Densities of a sprawl nature would not be allowed.
(3) Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.	The north study area is served by minor arterials and an interchange at SR 18. As the area develops a local road network would be expanded. The City has planned a trail network in its parks and recreation plans. Transit service is available in Covington to the west of the north study area.
(4) Housing. Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.	The City has zoned a variety of densities in the City and would also apply a range of densities in the north study area with lower densities where critical areas are present and moderate densities and mixed uses where there are fewer constraints and greater road access such as at the interchange.
(5) Economic development. Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.	The City has a variety of commercial and mixed use zones and has attracted retail and office uses to its Downtown and industrial parks. The City would consider commercial zoning in the study area such as near the interchange. The City has more than met its employment target and there is demand for more employment uses in the Covington market area, such as large format retail and medical office.
(6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.	This goal is not applicable to the UGA expansion.
(7) Permits. Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.	This goal is not applicable to the UGA expansion.
(8) Natural resource industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.	The north study area is not designated for resource land uses.

GMA Goal	Discussion
(9) Open space and recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.	The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The north study area contains no formal parks or recreation facilities. There are City and County parks and recreation facilities that are in proximity. The City has planned trail facilities in the study area along Jenkins Creek and SR 18.
(10) Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.	The City has adopted stormwater standards to protect water quality. Puget Sound Clean Air Agency rules apply in the City and north study area.
(11) Citizen participation and coordination. Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.	To date, the City has solicited public comments at an information meeting and through stakeholder interviews. The City intends to participate in the GMPC process and coordinate with King County.
(12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.	See Northern Gateway Area Study Evaluation of Existing Infrastructure, June 26, 2012, ESM Consulting Engineers. The north study area is served by two fire districts, the Kent Regional Fire Authority (encompassing the City of Kent Fire Department and Fire District 37) and Fire District 43, Maple Valley Fire and Life Safety. The Kent School District serves all of the Northern Gateway Study Area.
(13) Historic preservation. Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.	This goal is not applicable to the UGA expansion.

GMA Urban Growth Area Requirements

GMA provides requirements for designating UGAs in RCW 36.70A.110, excerpted in Exhibit 3. GMA allows UGAs to be applied to areas characterized by urban growth or next to areas characterized by urban growth, where there are adequate services or such services can be extended. UGAs are to be sized to meet population growth as well as to accommodate a wide range of employment and institutional uses.

“Urban growth” and “rural growth” are considered in determining UGA boundaries and are defined as follows:

- "Urban growth" refers to growth that makes intensive use of land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources, rural uses, rural development, and natural resource lands designated pursuant to RCW 36.70A.170. … When allowed to spread over wide areas, urban growth typically requires urban governmental services. "Characterized by urban growth" refers to land having urban growth located on it, or to land located in relationship to an area with urban growth on it as to be appropriate for urban growth. RCW 36.70A.030(19)
- "Rural development" refers to development outside the urban growth area and outside agricultural, forest, and mineral resource lands designated pursuant to RCW 36.70A.170. Rural development can consist of a variety of uses and residential densities, including clustered residential development, at levels that are consistent with the preservation of rural character and the requirements of the rural element. Rural development does not refer to agriculture or forestry activities that may be conducted in rural areas. RCW 36.70A.030(16)

Exhibit 3
UGA Requirements

UGA Requirements	Discussion
An urban growth area may include territory that is located outside of a city only if such territory already is characterized by urban growth … or is adjacent to territory already characterized by urban growth.	The development pattern in the north study area is mixed with some urban development along the west and north edges. The lot pattern of larger and smaller lots is not significantly different than the lot pattern of the city limits to the north, or to the gravel extraction mine located in the southwest and southeast study areas (a location of larger lots)The north study area is surrounded on three sides by the City of Covington. It is adjacent to territory already characterized by growth.
Based upon the growth management population projection made for the county by the office of financial management, the county and each city within the county shall include areas and densities sufficient to permit the urban growth that is projected to occur in the county or city for the succeeding twenty-year period... As part of this planning process, each city within the county must include areas sufficient to accommodate the broad range of needs and uses that will accompany the projected urban growth including, as appropriate, medical, governmental, institutional, commercial, service, retail, and other nonresidential uses.	The County and cities have developed growth targets in the CPPs. The City of Covington's current growth targets are as follows for the years 2006-2031: • Net New Housing Units 2006-2031: 1,470 • Net New Jobs: 1,320 The City has sufficient capacity to accommodate the residential target though it has already permitted development to achieve 48% of its target in the first 6 years of the 26-year planning period. The City has more than met the 20-year employment target in the first 6 years of the planning period. Market demand is present for more residential and employment uses, and would support higher growth targets.
Each urban growth area shall permit urban densities and shall include greenbelt and open space areas.	The City zoning code has a range of urban densities. Urban densities would be permitted but development would not be allowed to disturb habitat due to critical area regulations. The City has a Parks, Recreation, and Open Space Plan (2010) and intends to provide for trails.
Urban growth should be located first in areas already characterized by urban growth that have adequate existing public facility and service capacities to serve such development, second in areas already characterized by urban growth that will be served adequately by a combination of both existing public facilities and services and any additional needed public facilities and services that are provided by either public or private sources, and third in the remaining portions of the urban growth areas.	While the area is presently outside the UGA, it is served or can be served by multiple public services and utilities. See Northern Gateway Area Study Evaluation of Existing Infrastructure, June 26, 2012, ESM Consulting Engineers.
The expansion of an urban growth area is prohibited into the one hundred year floodplain of any river or river segment that: (i) Is located west of the crest of the Cascade mountains; and (ii) has a mean annual flow of one thousand or more cubic feet per second as determined by the department of ecology.	There is no river with a mean annual flow of 1,000 cubic feet per second.

3.3 Applicable Countywide Planning Policies

The County Countywide Planning Policies (CPPs) that apply to King County and all cities are in the process of ratification and adoption. Thus CPPs from the two documents are referenced in Exhibit 4:

- King County Countywide Planning Policies Updated December 2010 – currently adopted
- 2011 King County Countywide Planning Policies September 21, 2011, Recommended by the Growth Management Planning Council to the King County Council – recommended pending adoption

Exhibit 4
Countywide Planning Policies

Countywide Planning Policies	Discussion
CURRENT FW-1 STEP 8. a. The citizens and jurisdictions of King County are committed to maintaining a permanent Rural Area. The Growth Management Planning Council or its successor shall review all Urban Growth Areas ten years after the adoption and ratification of Phase II Amendments to the Countywide Planning Policies. The review shall be conducted utilizing monitoring reports and benchmark evaluation and be coordinated with evaluation and reporting requirements of state law. As a result of this review the Growth Management Planning Council or its successor may recommend to the Metropolitan King County Council amendments to the Urban Growth Area. Alternatively, King County may initiate consideration of Urban Growth Area amendments. Amendments shall be based on an evaluation of the following factors: • the criteria in policies LU-26 and LU-27; • the sufficiency of vacant, developable land and redevelopable land to meet projected needs; • the actual and projected rate of development and land consumption by category of land use including both development on vacant land and redevelopment projects; • the capacity of appropriate jurisdictions to provide infrastructure and service to the Urban Growth Areas; • the actual and projected progress of jurisdictions in meeting their adopted 20-year goals and targets of number of households and employees per acre; • the actual and projected rate of population and employment growth compared to adopted 20-year goals and target ranges, and compared to revised projections from the Washington State Office of Financial Management; • the actual and projected trend of economic development and affordable housing indicators, as reported annually through the adopted monitoring and benchmarks program; • indicators of environmental conditions, such as air quality, water quality, wildlife habitat, and others.	King County's total UGA covers 460 square miles, less than one-quarter of the county's total area of 2,134 square miles. The north study area is approximately 276 acres in size and would represent a fraction of the UGA if added (0.1%). The north study area represents an even smaller fraction of the King County rural area. The City of Covington's current growth targets are as follows for the years 2006-2031: • Net New Housing Units 2006-2031: 1,470 • Net New Jobs: 1,320 The City has sufficient capacity to accommodate the residential target though it has already permitted development to achieve 48% of its target in the first 6 years of the 25-year planning period. The City has more than met the 25-year employment target in the first 6 years of the planning period. Market demand is present for more residential and employment uses, and would support higher growth targets. The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. See discussion of Policies LU-26 and 27 below.
CURRENT LU-7 Designated Rural Areas are considered to be permanent and shall not be redesignated to an Urban Growth Area until reviewed pursuant to the Growth Management Act (RCW 36.70A.130 (3)) and policy FW-1. Future growth should be accommodated to the maximum extent feasible by efficient use of	See discussion of FW-1 above. The City makes efficient use of its current territory with its zoning pattern. A recent reasonable measure was the adoption of the Downtown plan promoting mixed uses and higher densities. The inclusion of the north study area in the

Countywide Planning Policies	Discussion
existing urban land within the Urban Growth Area. Annexation of Rural Areas to cities shall be prohibited. When annexation of Rural Areas is necessary to link two Urban Areas, that intervening Rural Area shall be designated as permanent urban separator at low rural densities.	UGA would create a reasonable service delivery boundary as it is surrounded on three sides by the city limits.
CURRENT LU-26 The lands within Urban Growth Areas shall be characterized by urban development. The Urban Growth Area shall accommodate the 20-year projection of household and employment growth with a full range of phased urban governmental services. The Countywide Planning Policies shall establish the Urban Growth Area based on the following criteria: a. Include all lands within existing cities, including cities in the Rural Area and their designated expansion areas; b. The Growth Management Planning Council recognizes that the Bear Creek Master Plan Developments (MPDs) are subject to an ongoing review process …; c. Not include rural land or unincorporated agricultural, or forestry lands designated through the Countywide Planning Policies plan process; d. Include only areas already characterized by urban development which can be efficiently and cost effectively served by roads, water, sanitary sewer and storm drainage, schools and other urban governmental services within the next 20 years; e. Do not extend beyond natural boundaries, such as watersheds, which impede provision of urban services; f. Respect topographical features which form a natural edge such as rivers and ridge lines; and g. Include only areas which are sufficiently free of environmental constraints to be able to support urban growth without major environmental impacts unless such areas are designated as an urban separator by interlocal agreement between jurisdictions.	a. City Comprehensive Plan policies identify the north study area as a desired UGA expansion area. See Section 3.6 of this policy analysis. b. Not applicable. c. The north study area does not meet the criteria for designated resource lands. While rural zoned, it is not designated as such in the CPPs. d. The north study area is surrounded on three sides by the City of Covington. There are 102 parcels. Lot sizes vary from 0.18 acres to 19.0 acres. The pattern is a mix of developed smaller lots and larger lots with wetlands. The lot pattern of larger and smaller lots is not significantly different than the lot pattern of the city limits to the north, or to the gravel extraction mine located in the southwest and southeast study areas (a location of larger lots) A full range of services exist or can be made available to the north study area. See Northern Gateway Area Study Evaluation of Existing Infrastructure, August 3, 2012, ESM Consulting Engineers. e. The north study area is in the same watershed as the City of Covington – the Soos Creek Basin. f. The topography of the north study area includes steep slopes along the north side, similar to the city limits to the north along SE Wax Road. g. The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The CPPs designate urban separators, and the north study area is not an urban separator.
CURRENT LU-27 Urban separators are low-density areas or areas of little development within the Urban Growth Area. Urban separators shall be defined as permanent low-density lands which protect adjacent resource lands, Rural Areas, and environmentally sensitive areas and create open space corridors within and between Urban Areas which provide environmental, visual, recreational and wildlife benefits. Designated urban separators shall not be redesignated in the future (in the 20-year planning cycle) to other urban uses or higher densities. The maintenance of these urban separators is a regional as well as a local concern. Therefore, no modifications should be made to the development regulations governing these areas without King County review and concurrence.	The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The CPPs designate urban separators, and the north study area is not an urban separator.
RECOMMENDED DP-16 Allow expansion of the Urban Growth Area only if at least one of the following criteria is met: a) A countywide analysis determines that the current Urban Growth Area is insufficient in size and additional land is needed to	a. The last countywide buildable lands analysis was completed in 2007, and the next countywide analysis is due in 2014. However, a buildable lands analysis has been prepared under separate cover and the City has

Countywide Planning Policies	Discussion
accommodate the housing and employment growth targets, including institutional and other non-residential uses, and there are no other reasonable measures, such as increasing density or rezoning existing urban land, that would avoid the need to expand the Urban Growth Area; or b) A proposed expansion of the Urban Growth Area is accompanied by dedication of permanent open space to the King County Open Space System, where the acreage of the proposed open space 1) is at least four times the acreage of the land added to the Urban Growth Area; 2) is contiguous with the Urban Growth Area with at least a portion of the dedicated open space surrounding the proposed Urban Growth Area expansion; and 3) Preserves high quality habitat, critical areas, or unique features that contribute to the band of permanent open space along the edge of the Urban Growth Area; or c) The area is currently a King County park being transferred to a city to be maintained as a park in perpetuity or is park land that has been owned by a city since 1994 and is less than thirty acres in size.	sufficient capacity to accommodate the residential target though it has already permitted development to achieve 48% of its target in the first 6 years of the 25-year planning period. The City has more than met the 20-year employment target in the first 6 years of the planning period. Market demand is present for more residential and employment uses, and would support higher growth targets. b. Not applicable. c. Not applicable.
RECOMMENDED DP-17 If expansion of the Urban Growth Area is warranted based on the criteria in DP-16(a) or DP-16(b), add land to the Urban Growth Area only if it meets all of the following criteria: a) Is adjacent to the existing Urban Growth Area and is no larger than necessary to promote compact development that accommodates anticipated growth needs; b) Can be efficiently provided with urban services and does not require supportive facilities located in the Rural Area; c) Follows topographical features that form natural boundaries, such as rivers and ridge lines and does not extend beyond natural boundaries, such as watersheds, that impede the provision of urban services; d) Is not currently designated as Resource Land; e) Is sufficiently free of environmental constraints to be able to support urban development without significant adverse environmental impacts, unless the area is designated as an Urban Separator by interlocal agreement between King County and the annexing city; and f) Is subject to an agreement between King County and the city or town adjacent to the area that the area will be added to the city's Potential Annexation Area. Upon ratification of the amendment, the Countywide Planning Policies will reflect both the Urban Growth Area change and Potential Annexation Area change.	a. The north study area is surrounded on three sides by the City of Covington. There are 102 parcels. Lot sizes vary from 0.18 acres to 19.0 acres. The pattern is a mix of developed smaller lots and larger lots with wetlands. The lot pattern of larger and smaller lots is not significantly different than the lot pattern of the city limits to the north, or to the gravel extraction mine located in the southwest and southeast study areas (a location of larger lots) b. A full range of services exist or can be made available to the north study area. See Northern Gateway Area Study Evaluation of Existing Infrastructure, August 3, 2012, ESM Consulting Engineers. c. The north study area is in the same watershed as the City of Covington – the Soos Creek Basin. The topography of the north study area includes steep slopes along the north side, similar to the city limits to the north along SE Wax Road. The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The CPPs designate urban separators, and the north study area is not an urban separator. d. The land does not meet the criteria for designated resource lands. e. See part c above regarding environmental conditions. While rural zoned, it is not a designated as such in the CPPs. f. There is no interlocal agreement with King County, but City Comprehensive Plan policies identify the north study area as a desired UGA expansion area. See Section 3.5 of this policy analysis.

3.4 Applicable King County Comprehensive Plan Policies

King County policies are similar to CPPs above. King County references these policies in its staff reports to the GMPC and King County Council. Relevant policies regarding UGA expansion are listed in Exhibit 5.

Exhibit 5
King County Comprehensive Plan Policies

King County Comprehensive Plan Policy	Discussion
U-102 The Urban Growth Area designations shown on the official Land Use Map includes enough land to provide the capacity to accommodate growth expected over the period 2001-2022. These lands should include only those lands that meet the following criteria. a. Are characterized by urban development which can be efficiently and cost effectively served by roads, water, sanitary sewer and storm drainage, schools and other urban governmental services within the next 20 years; b. Do not extend beyond natural boundaries, such as watersheds, which impede provision of urban services; c. Respect topographical features which form a natural edge such as rivers and ridge lines; d. Are sufficiently free of environmental constraints to be able to support urban growth without major environmental impacts unless such areas are designated as an urban separator by interlocal agreement between jurisdictions; e. Are included within the Bear Creek Urban Planned Development (UPD) sites; and f. Are not rural land or unincorporated agricultural or forestry lands designated through the Countywide Planning Policies Plan process.	a. The north study area is surrounded on three sides by the City of Covington. There are 102 parcels. Lot sizes vary from 0.18 acres to 19.0 acres. The pattern is a mix of developed smaller lots and larger lots with wetlands. The lot pattern of larger and smaller lots is not significantly different than the lot pattern of the city limits to the north, or to the gravel extraction mine located in the southwest and southeast study areas (a location of larger lots)A full range of services exist or can be made available to the north study area. See Northern Gateway Area Study Evaluation of Existing Infrastructure, August 3, 2012, ESM Consulting Engineers. b. The north study area is in the same watershed as the City of Covington – the Soos Creek Basin. c. The topography of the north study area includes steep slopes along the north side, similar to the city limits to the north along SE Wax Road. d. The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The CPPs designate urban separators, and the north study area is not an urban separator. e. Does not apply. f. The land does not meet the criteria for designated resource lands. While rural zoned, it is not a designated as such in the CPPs.
R-203 King County's Rural Area is considered to be permanent and shall not be redesignated to an Urban Growth Area until reviewed pursuant to the Growth Management Act (RCW 36.70A.130(3)) and Countywide Planning Policy FW-1.	See discussion of FW-1 above.

3.5 Applicable Soos Creek Basin Plan Recommendations

The Soos Creek Basin Plan was prepared by King County in 1990. It is referenced as an adopted functional plan in the King County Comprehensive Plan Capital Facility Technical Appendix. A Master Drainage Plan was adopted in 1991 to implement the basin plan. Exhibit 6 shows elements and recommendations of that plan and discusses City stormwater and other related standards.

Exhibit 6
Soos Creek Basin Plan Recommendations

Soos Creek Basin Plan	Discussion
JENKINS PORTION OF URBAN ACTIVITY CENTER ("COVINGTON CENTER") (AS9) The provisions of AS5 (see Little Soos section) would apply in the Jenkins Creek portion of the Covington Urban Activity Center. Implementing Documents: Soos Creek Community Plan, King County Surface Water and Design Manual and appendices. The Master Drainage Plan Alternative (AS5) allows flow and fisheries impacts to be studied and mitigated on a comprehensive rather than project-by-project basis. Approval of new permits in about 570 acres in the Little Soos Creek Basin would be delayed until approval of a master drainage plan. This more comprehensive mitigation requires that future flow increases can be mitigated to 1985 levels. However, all adverse effects of urbanization cannot be mitigated and thus some habitat damage will occur.	The City has adopted strict surface water regulations and promotes low impact development including: • Washington State Department of Ecology Stormwater Management Manual for Western Washington; • Puget Sound Partnership Low Impact Development Technical Guidance Manual for Puget Sound; Future flows would have to match predevelopment conditions (existing conditions will be modeled as pasture).
BW1 Stream Corridor Management. Undeveloped property within ¼ mile of the ordinary high water mark (OHW) of Class 1, 2, and 3 streams in LSRAs should be zoned for densities of one unit/five acres or less. The location of this stream-corridor boundary should be set at exactly ¼ mile from the OHW, unless a more detailed assessment conducted during Area Zoning adjusts the boundary according to the following criteria: -- Low-density corridor is not applied where affected property is developed to urban densities by virtue of pre-existing urban lot sizes and sewer service on the site. -- If ¼ –mile boundary falls on a Class III Landslide Hazard Area or Erosion Hazard Area as defined in the Sensitive Areas Ordinance, boundary should be moved to include all parts of the sensitive area within ½ mile of the OHW. -- If a portion of the ¼-mile corridor extends outside of the Soos Creek Basin or outside of locally significant subcatchments, that portion should be excluded from the density controls (except as provided by Recommendations AS10 and AS15). If this reduces the corridor to 1/8-mile or less, stream buffers greater then those in Recommendation CW1 may be required.	The use of density to control environmental impacts is not the only tool available to protect environmental functions. The City has applied its largest buffers to fish-bearing streams such as Jenkins Creek. The City has adopted protective stormwater standards as described above, including low impact development stormwater standards – standards that were not available in 1990 when the Soos Creek Basin Plan was prepared in 1990. By requiring buffers on streams and wetlands and protective stormwater standards, development would be clustered away from critical areas. City staff have indicated the City is willing to consider increasing its buffers to match the King County buffers in the north portion of the Study Area. Additionally, an owner of property adjacent to Jenkins Creek has stated a willingness to dedicate land as permanent open space to a land conservancy organization.

3.6 Applicable City of Covington Comprehensive Plan Policies

The north study abuts the Covington city limits, and the City has identified it along with other areas as future PAAs that could help the City achieve its policy to "facilitate long-range planning and decision making consistent with Covington's … long-term growth needs." (LNP 2.8) The City's growth strategy includes a balance of several objectives – meeting the community's vision, minimizing urban sprawl, protecting critical areas, enhancing residents' quality of life, and supporting a healthy economy and employment growth. (LNG 1.0)

A more detailed review of City policies is included in Exhibit 7 below.

Exhibit 7
Covington Comprehensive Plan Policies

Covington Comprehensive Plan Policies	Discussion
2.8.1 Growth Strategy	
LNG 1.0 The City of Covington will encourage a future growth and development pattern that implements the Vision Statement, minimizes urban sprawl, protects critical areas, enhances the quality of life of all residents, and supports a healthy economy and employment growth.	The City has zoned a variety of densities in the City and would also apply a range of densities in the north study area with lower densities where critical areas are present and moderate densities and mixed uses where there are fewer constraints and greater road access such as at the interchange. The City would allow commercial uses that would not interfere with the Downtown goals.
LNP 1.1 Plan for a fair share of King County growth by accommodating urban development while limiting the conversion of undeveloped land into low-density sprawling development.	The City of Covington's current growth targets are as follows for the years 2006-2031: • Net New Housing Units 2006-2031: 1,470 • Net New Jobs: 1,320 The City has sufficient capacity to accommodate the residential target though it has already permitted development to achieve 48% of its target in the first 6 years of the 25-year planning period. The City has more than met the 20-year employment target in the first 6 years of the planning period. Market demand is present for more residential and employment uses, and would support higher growth targets.
LNP 1.2 Direct growth as follows: a) first, to areas with existing infrastructure capacity; b) second, to areas where infrastructure improvements can be easily extended; and c) last, to areas requiring major infrastructure improvements.	A full range of services exist or can be made available to the north study area. See Northern Gateway Area Study Evaluation of Existing Infrastructure, August 3, 2012, ESM Consulting Engineers.
LNP 1.3 Emphasize environmental standards for urban development that allow maximum permitted densities and uses of urban land while protecting critical areas.	The north study area contains wetlands, streams, and steep slopes. The City has critical area regulations to protect the functions and values of these habitats. The City has applied its largest buffers to fish-bearing streams such as Jenkins Creek, and wider buffers for high habitat value wetlands. The City has adopted protective stormwater standards as described above, including low impact development stormwater standards
LNP 1.4 Utilize mitigating measures that serve multiple purposes, such as drainage control, ground water recharge, stream protection, open space, cultural and historic resource protection and landscaping.	See discussion of LNP 1.3 above. The City would apply this policy to new development in the north study area if included in the city limits.
LNP 1.5 Provide areas of low, medium and high-density single family residential development, multifamily residential and mixed-use areas so that existing neighborhoods and open space areas are preserved and transit opportunities are enhanced.	See LNG 1.0.

Covington Comprehensive Plan Policies	Discussion
LNP 1.6 Designate a Town Center that concentrates employment, multifamily residential, mixed-use, infrastructure, and transit improvements.	Future uses allowed in the north study area would include employment and single family. It is anticipated that design and density would be distinct to reduce the potential for interference in the Downtown Plan. Development standards would be further defined in a later subarea planning phase.
LNP 1.7 Review all new development against guidelines of the Vision Statement to preserve community character and neighborhood quality.	This policy would be applied when development occurs.
LNP 1.8 Collaborate with regional agencies and neighboring communities when amending the Comprehensive Plan and implementing regulations in a manner that is consistent with Washington State law.	The City is coordinating with King County and the GMPC on the Northern Gateway Area Study.
2.8.2 Urban Growth Area & Potential Annexation Areas	
LNG 2.0 The City of Covington will designate an UGA and Potential Annexation Area which will define Covington's planning area and projected city limits for the next 20 years.	The City has defined its preferences for its potential annexation area in the Comprehensive Plan area. King County ultimately designates the UGA and potential annexation areas, but considers local preferences. In Vision 2040, Covington is considered a small city. The CPP growth targets are intended to "bend the trend" towards Vision 2040. See the discussion of LNP11.1 regarding growth targets.
LNP 2.1 UGA boundary shall be coordinated with King County and surrounding jurisdictions, and will reflect the regional growth vision as expressed in Vision 2040 and the Countywide Planning Policies.	
LNP 2.2 The UGA shall provide enough land to accommodate at least twenty years of projected growth of households and employment.	See the discussion of LNP11.1 regarding growth targets.
LNP 2.3 Monitor the UGA boundary as build-out occurs and make necessary adjustments in coordination with King County.	Market demand is present for more residential and employment uses, and would support higher growth targets.
LNP 2.4 Refine the Potential Annexation Area, working with King County, adjacent cities and jurisdictions, and citizens in Unincorporated King County.	The City is coordinating with King County and the GMPC on the Northern Gateway Area Study.
LNP 2.5 Coordinate future planning and interlocal agreements for Potential Annexation Areas with the appropriate agencies and jurisdictions.	The City is coordinating with King County and the GMPC on the Northern Gateway Area Study. The purpose of the study is to determine if UGA expansion is feasible.
LNP 2.6 Consider only annexations that are within the Potential Annexation Area. Annexations shall be phased to coincide with the ability of the City and districts serving the area to provide a full range of urban services to areas to be annexed.	
LNP 2.7 Annexation decisions shall not be made until a cost-benefit analysis is completed and reviewed by the City Council.	A fiscal analysis is part of the Northern Gateway Area Study.
LNP 2.8 Designate "Potential Future Annexation Areas" to facilitate long-range planning and decision making consistent with Covington's growth long term growth needs.	See analysis of LNP 2.0 and 2.1 above.

Covington Comprehensive Plan Policies	Discussion
LNP 2.9 Actively pursue extensions of the UGA to include both sides of roads to enable roadway corridor improvements to be consistent on both sides of the corridor.	See analysis of LNP 2.5 and 2.6 above.
LNP 2.10 Actively pursue extensions of the Urban Growth Boundary to include City-owned lands.	See analysis of LNP 2.5 and 2.6 above.

Appendix I:
Covington Northern Gateway Area Study SEPA Approach
August 6, 2012

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MEMORANDUM

DATE: August 6, 2012

TO: Bill Stalzer, Stalzer and Associates

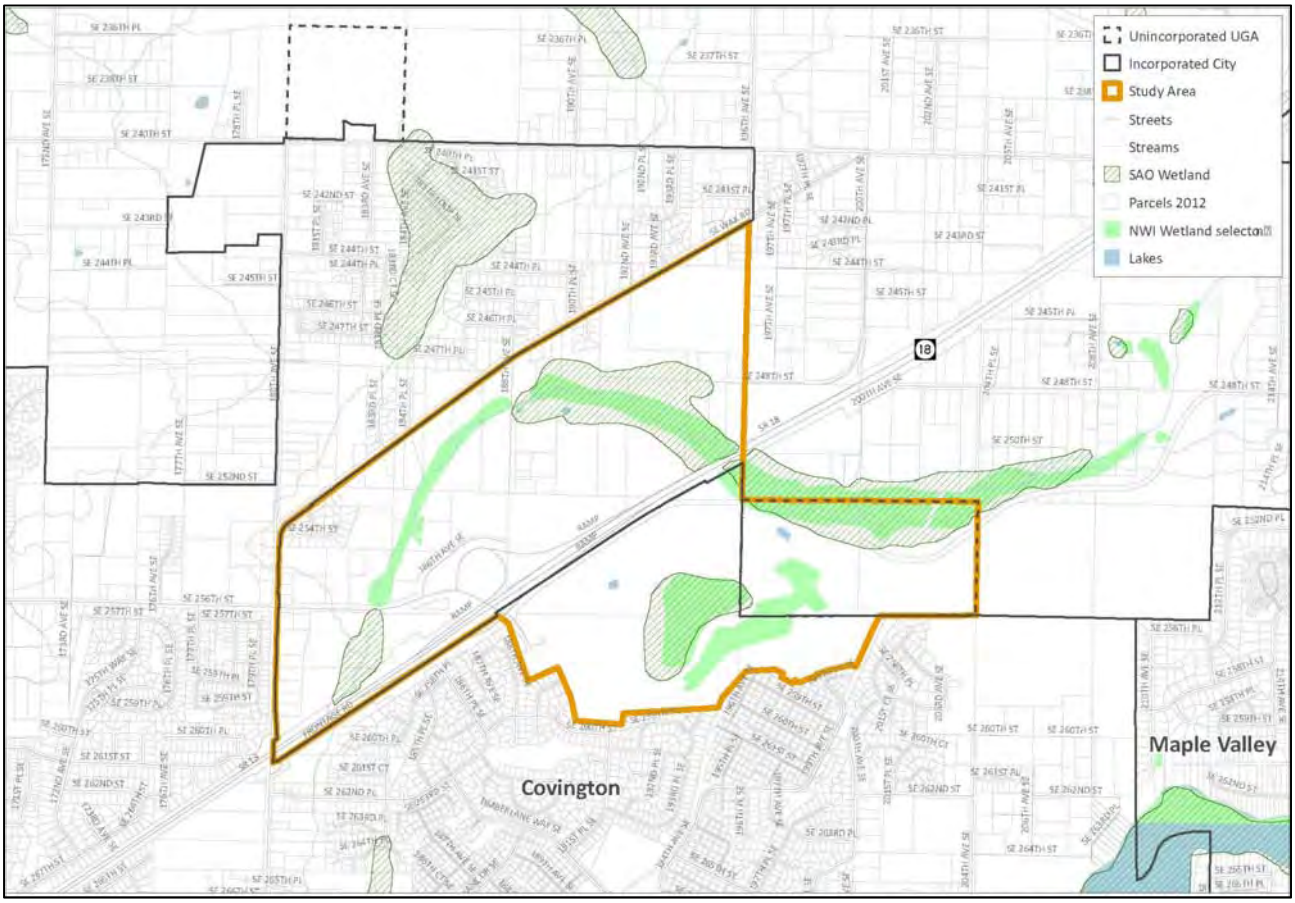
FROM: Lisa Grueter, AICP, Manager

RE: Covington Northern Gateway Area Study SEPA Approach

OVERVIEW AND SEPA OPTIONS

The City is considering what types of environmental review may be appropriate to evaluate future growth and development plans in the Northern Gateway Study Area. See Exhibit 1.

Exhibit 1
Northern Gateway Study Area



Source: BERK 2012

The State Environmental Policy Act (SEPA) requires proposed actions – a decision on a specific project, such as a construction or management activity located in a defined geographic area, or decisions on plans, programs or policies – be subject to environmental review. An environmental document provides information on current study area conditions, potential alternatives, natural and built environment impacts, and mitigation measures. There are generally two levels of SEPA review for proposals that are not exempt:

- **A determination of non-significance** on the basis of a SEPA checklist that either indicates there are no significant adverse environmental impacts or that such impacts can be mitigated to a level that is less than adverse.
- **A determination of significance** and an environmental impact statement (EIS). An EIS is required for new legislation and other major actions significantly affecting the quality of the environment. An EIS is an informational document describing the affected environment, proposed actions and alternatives, potential impacts, and mitigation measures. EIS analysis can vary based on the type of action, e.g. areawide versus site-specific, and how much effort an agency puts into its analysis at the planning stage to facilitate future development.

The purpose of this memo is to advise the City on the advantages and disadvantages of different SEPA options for future programmatic and phased land use proposals. See Exhibit 2 for a general description of the SEPA options advantages and disadvantages.

The City will make a threshold determination based on the proposal and information about likely impacts or mitigation measures (WAC 197-11-330). In addition to considering the appropriate threshold determination, the City may voluntarily decide that it would like to use an EIS tool intended to facilitate public understanding at the planning stage and to facilitate future permitting consistent with the review, for example, a planned action EIS and ordinance, or a programmatic EIS leading to infill exemptions.

COST IMPLICATIONS

The cost for any one type of SEPA document depends on the number of alternatives and the number of environmental topics. Generally, EISs can be more costly than an expanded SEPA Checklist, and planned action EISs are more costly than programmatic EISs. However, the upfront environmental review in an EIS could serve to attract investment in the study area and reduce permitting costs for future development while still meeting City mitigation and code requirements intended to implement the community's vision.

Following the submittal of the Draft Northern Gateway Area Study and associated City review, we can prepare conceptual SEPA review cost estimates for the Northern Gateway Study Area.

Exhibit 2 Table of SEPA Options

Num.	SEPA Document	Purpose/When Used	Typical Level of Detail	Minimum Comment Period	Project-Level SEPA Review	Advantages and Disadvantages
1	Determination of Non-Significance and Expanded SEPA Checklist	Project and Non-Project Actions	Areawide or site specific	14 days	Required for all future actions	Shorter process than EIS Can be less costly due to shorter process; however, this can be offset if the number and type of technical topics is the same as for EIS Less flexible and typically does not streamline the future environmental review process Greater likelihood for challenge if the actions studied are complex or controversial
2	Non-project EIS (WAC 197-11-442)	For plans, regulations, and programs; typically not site specific	Areawide, programmatic	30 days	Required. However, EIS can be adopted, addended, or supplemented.	Can be less costly and simpler More project level review required
3	Integrated Plan/EIS (WAC 197-11-210 to 235)	For plans, regulations, and programs; typically not site specific. Creates streamlined Plan and EIS.	Areawide, programmatic	60 days	Same as #2	Same as #2 Combines the processes, analysis, and documents Reduces duplication if Plan and EIS are prepared together Depending on type of integration, EIS portion can become an out of date appendage
4	Infill exemption with #2 or #3 (RCW 43.21C.229)	Specific area(s) where the density/intensity goals in the Comprehensive Plan are not being met.	Areawide, but with enough specificity to be confident that SEPA authority is not needed to apply future conditions at a project level.	Non-integrated 30 days or integrated 60 days	Residential, mixed use, and non-retail commercial: exempt Retail only: required Development on lands covered by water or critical areas: required. However, EIS can be adopted, addended, or supplemented.	Can rely on programmatic analysis yet still facilitate mixed use and residential development at project level Does not have an expiration date per se New cost recovery mechanism per SB 6406 Now covers commercial uses up to certain size Does not cover retail uses

Num.	SEPA Document	Purpose/When Used	Typical Level of Detail	Minimum Comment Period	Project-Level SEPA Review	Advantages and Disadvantages
5	Planned Action EIS (Section 303 of SB 6406; WAC 197-11-164 to 172)	Upfront environmental review at the planning stage facilitating site-specific development that is consistent with the Planned Action Ordinance to proceed without a new threshold determination.	Small or large areas, but planned action projects should only be designated when the local government can reasonably analyze the site-specific impacts that will occur because of the types of projects designated	30 days	Projects determined to be planned actions do not have to complete project-level review. Projects determined *not* to be a planned action can use the EIS (adoption, addendum or supplemental EIS), but there would be a threshold determination.	Well-trodden path Most flexible for land use types Good as long as EIS information is valid Implemented by ordinance which will guide future projects Gives clear indication of City priorities Requires more specificity than programmatic analysis which may not always be available; however can now defer to project level with added notice New cost recovery mechanism per SB 6406
6	Infill and TDR with #2 (new - RCW 43.21C.420)	Intended to facilitate TDR. Law includes specific cases for use of the tool.	Same as #4 and #5	Depends on if non-integrated (30 days) or integrated (60 days)	Intended to facilitate covered actions without future appeal. See #5.	Programmatic analysis but provides more protection from appeals [1] Cost recovery Limited to Urban Centers or areas within 0.5 mile of transit center – thus this SEPA document does not apply to City or Study Area Requires an additional up-front citizen meeting and detailed noticing Not tried by other cities yet Unclear implementation

[1] Per SEPA Until July 1, 2018, a proposed development that is consistent with the … comprehensive plan or subarea plan policies and development regulations … and that is environmentally reviewed … may not be challenged in administrative or judicial appeals for noncompliance … as long as a complete application for such a development that vests the application … is submitted to the city within a time frame established by the city, but not to exceed ten years from the date of issuance of the final environmental impact statement (EIS). After July 1, 2018, the immunity from appeals … of any application that vests … is still valid, provided that the final subarea EIS is issued by July 1, 2018.