

Chapter 3 The Built Environment – Effects on People and Community Resources

What is addressed in this chapter?

This chapter describes the community's existing built environment and how the alternatives may impact that built environment. This chapter specifically addresses the following elements:

- Land Use
- Transportation
- Noise
- Public Utilities (water supply, wastewater, stormwater)
- Visual
- Historic and Cultural Resources
- Public Services (parks, schools, public safety)
- Fiscal Analysis

Public Services

Parks and Recreation

1 What park and recreation facilities and services are currently in the study area?

Currently, the City has very limited park and recreation facilities and services available to the community. Of the City’s 4,300 acres, 214 is parkland acreage, including the undeveloped Lake Sawyer Regional Park which encompasses 168 of those acres. Exhibit 3-31 below describes the existing park and recreation facilities within the City and Exhibit 3-32 identifies their location.

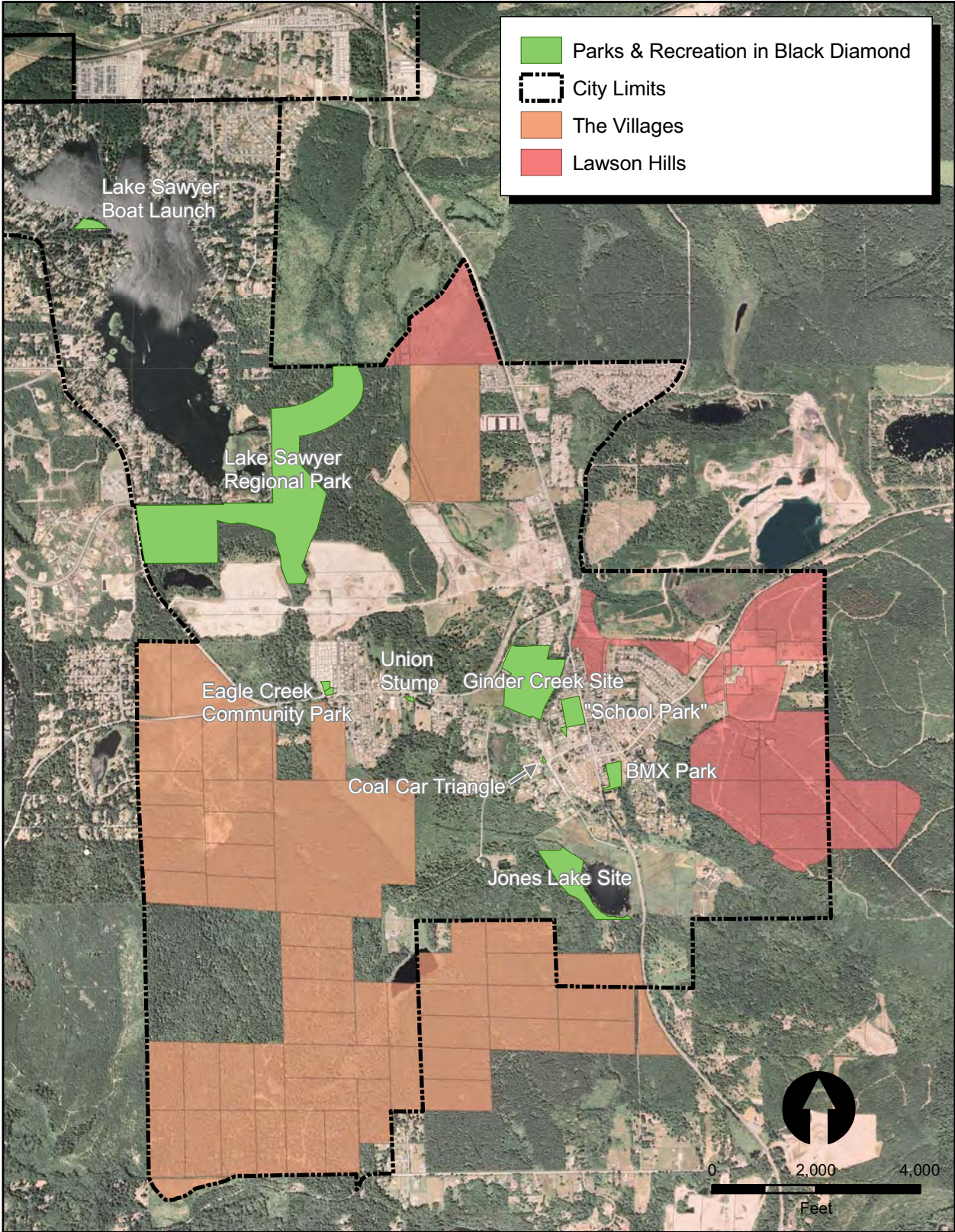


**Exhibit 3-31
Black Diamond Existing Park and Recreation Facilities**

Facility	Type	Acreage	Features
BMX Park	NA	3.1	BMX track, City Maintenance Facility
Coal Car Triangle	Pocket	0.1	Historic; car reminiscent of City’s history
Eagle Creek Community Park	Community	0.43	Basketball court and grassy area; park benches
Ginder Creek Site	Open Space	27.3	Undeveloped
Jones Lake Site	Open Space	14.0	Undeveloped
Lake Sawyer Boat Launch	Boat Launch	1.8	Public access boat launch
Lake Sawyer Regional Park	Regional	168.0	Undeveloped
Union Stamp	Pocket	0.1	Historic; platform during union/mining era
School Park	Community	4.75	Baseball diamond, basketball court, tennis court, and skate park

The Black Diamond area has a great deal of off-road trails and pathways. Most trails are on privately-owned land, and are quite popular among the local mountain bikers. A popular public trail in the area often referred to as “Lake Sawyer Trail” or “Black Diamond Coal Mine Trail” is located on King County park land. It takes riders around the south end of Lake Sawyer, Frog Lake, and Ravensdale Creek. A trail up near Maple Valley is the “Lake Wilderness” trail, which is relatively flat and easily accommodates bikes with bike trailers.

**Exhibit 3-32
Park and Recreation Services and Facilities**



Exhibits in this EIS are intended to provide a general graphical depiction of built and natural environment conditions and may not be accurate to the parcel level.

Per the City’s *Parks, Recreation, and Open Space Plan*, King County retained an easement within the 169-acre piece of land annexed to the City near the south end of Lake Sawyer for a regional trail. The City has included a trail around the perimeter of Jones Lake for future construction.

Other off-road trail information in the Black Diamond area is not readily available, as trails are most commonly found on privately-owned land and are not advertised. Many of the trails are not intended for public use and require trespassing on private land in order to access and ride the trails.

Though Black Diamond does not have any state parks located within city limits, nearby state parks include Hanging Gardens, Kanaskat Palmer, Black Diamond Bridge, and Flaming Geyser.

2 Are Level of Service standards for parks and recreation facilities currently being met?

The City’s *Parks, Recreation and Open Space Plan (December 23, 2008)* defines the Level of Service (LOS) standards for city parks and recreation facilities.

Currently, LOS standards for community parks are met for 52 percent of households. School Park provides a community park within a 1.5-mile radius to most households, though it is not considered an official city park since the City does not own the land. Open space is currently at only 1 percent of the total gross area, short of the 10 percent LOS standard. At this time, the City does not have any recreational trails, although there are numerous privately-owned trails that the public enjoys.

The City also has recreational facility LOS standards to ensure community recreational needs are met. The combination of the recreational facility standards and the park LOS standards serve as a comprehensive guide for park and recreational development for the City. Recreational Facility Standards are summarized in Exhibit 3-34.

**Exhibit 3-33
Black Diamond Park LOS Standards**

Park Types	LOS Standard
Community	90% of population within 1.5 miles of a community park
Neighborhood	75% of population within 0.5 miles of a neighborhood park
Pocket	None
Trail (nonmotorized)	75% of population within 0.5 miles of a trail
Open Space	10% of City’s land area

Exhibit 3-34

Black Diamond Recreational Facility Standards

Facility Type	Minimum Units per Population
Youth Baseball/Adult Softball Field	1:2,000
Soccer Field	1:2,000
Tennis Court	1:2,000
Basketball Court	1:2,000
Adult Baseball Diamond	1:5,000
Gymnasium	1:5,000
Youth Football Field	1:10,000
Track	1:10,000
Community Center	1:10,000
Swimming Pool	1:20,000

3 What park and recreation improvements are planned?

The City's 2009 to 2014 Capital Facilities Plan anticipates over \$6 million in improvements and additions within the City's Park and Recreation Department's area of responsibility. Exhibit 3-35 briefly describes those improvements that are directly related to park facilities.

Exhibit 3-35

Parks Department Capital Improvement Program 2009–2014

Park Name	Total \$ Requested	Year(s)	Purpose
Skate Park	\$25,000	2009	Add swing set, benches, and picnic tables
School Park	\$25,000	2009	
Union Stump Memorial Park	\$35,000	2009–2013	Repair fencing; establish formal parking
Lake Sawyer Boat Launch	\$962,000	2008–2011	Move fence; purchase play equipment; add roping for low impact parking area
Trail System Development	\$340,000	2008–2013	Trail improvements throughout City
BMX Park	\$250,000	2009–2012	Circuit course
Lake Sawyer Regional Park	\$4,647,000	2011–2013	Significant development projects

4 How will the alternatives affect provision of park and recreation facilities and services?

The City is currently not meeting the established standards for park and recreation services and facilities. As each alternative adds residential housing units, the City will need additional park and recreation facilities to achieve standards. Without improving the City's current parks and recreation facilities, growth would increase the deficit in the City's ability to meet the standards.

Alternative 1

Alternative 1 would add 1,300 single family dwellings, which equates to a population of about 3,600. This population creates a need for additional community parks and facilities. However, because Alternative 1 assumes that development will occur incrementally over time and without an overall plan, it is not likely that such facilities would be provided on-site.

Park and recreation facility maintenance is a substantial cost to the City, one that will increase under any of the alternatives. External studies estimate maintenance costs of about \$200 to \$500 per acre per year for open space, \$2,000 to \$3,000 per acre per year for general parkland, \$4,000 to \$6,000 per year for turf areas, and \$8,000 to \$10,000 per acre per year of maintaining playing fields.

Alternative 2

Alternative 2 assumes 1,250 dwelling units, with a population of 3,100 residents. Because it is an MPD, Alternative 2 incorporates substantial open space and recreational opportunities, including pocket parks, trails, and passive open space. Based on the City's parks plan, the MPD should accommodate the following in order to achieve LOS standards:

- Community Parks – One large area in the far northerly portion of the site is designated for a school site that may be of sufficient size to provide the facilities mandated by park standards, including one or more youth/adult baseball/softball fields, soccer fields, tennis courts, or basketball courts. In addition to the facilities mentioned

above, the population increase resulting from Alternative 2 would generate more than half of the need for an adult baseball diamond and a gymnasium and about a third of the need for a youth football field, track, and community center.

- **Open Space and Trails – With the Black Diamond**
Municipal Code’s requirement for MPDs to preserve open space, there will likely be sufficient land available to meet the City’s open space standards and also provide a trail system.

Specific improvements will be identified during subsequent review phases.

Alternative 3

Alternative 3 will have 938 additional dwellings and a population of 2,328. The need for additional park, recreation, and open-space facilities and services is indicated in Exhibit 3-36. This alternative would be designed to provide all required park facilities, except community wide facilities such as a gymnasium, community center, or swimming pool on-site.

Alternative 4

Alternative 4 would have 1,075 additional dwellings and a population of about 2,674. The need for additional park, recreation, and open-space facilities and services is indicated in Exhibit 3-36. This alternative would be designed to provide all required park facilities, except community wide facilities such as a gymnasium, community center, or swimming pool on-site.

Exhibit 3-36**Park and Recreation Facility Needs by Alternative**

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Population	3,591	3,100	2,480	2,674
Facility Type				
Regional	N/A	N/A	N/A	N/A
Community	1	1	1	1
Neighborhood	2	2	2	2
Pocket	2	2	2	2
Trail	2	2	2	2
Open Space	N/A	N/A	N/A	N/A
Youth Baseball/Adult Softball	1.8	1.6	1.24	1.34
Soccer Field	1.8	1.6	1.24	1.34
Tennis Court	1.8	1.6	1.24	1.34
Basketball Court	1.8	1.6	1.24	1.34
Adult Baseball Diamond	.72	.64	.5	.53
Gymnasium	.72	.64	.5	.53
Youth Football Field	.36	.32	.25	.27
Track	.36	.32	.25	.27
Community Center	.36	.32	.25	.27
Swimming Pool	.18	.16	.12	.13

5 What measures could reduce or mitigate impacts on park and recreation facilities and services?

The park and recreation facilities needed to meet new demand from the alternatives could be constructed on- or off-site. This could be done as part of the MPD process or in partnership with the City. The cost of such facilities, including a proportionate share of facilities not fully warranted by the alternatives, could be provided by payment of fees.

The siting of parks involves a range of criteria, especially for parks with specialized facilities such as sports fields. Such parks facilities are often provided together at a single location, and are often co-located with schools. The City will need to review in detail whether on-site conditions are appropriate for various types of facilities and determine whether on-site or off-site locations best meet the long term needs of future residents of the study area, and of the City as a whole.

Maintenance and operations costs are generally borne by the City's general fund, and one of the key factors of effective facilities is the extent to which they can be constructed so as to limit maintenance and operations costs. In some cases, joint maintenance agreements can be reached with homeowners' associations. It is the Applicant's desire to maintain a significant portion of landscaping through a joint maintenance agreement with a homeowners' association. This will be refined during the MPD process, as decisions regarding park and recreation mitigation must be made at the time more specific information about the proposed development is available.

Schools

1 What school facilities and services are currently provided in the study area?

Most of the City of Black Diamond lies within the Enumclaw School District boundaries, with the exception of two areas. One area to the west of Lake Sawyer is served by the Kent School District. A small portion of the City immediately to the east of the lake, including the North Triangle, is served by the Tahoma School District. The Lawson Hills Main Property is served by the Enumclaw School District.

Black Diamond Elementary School is the only school located within the Black Diamond city limits. It has a permanent capacity of 193 students. The District has additional temporary capacity in portable facilities, and is currently housing 325 students. Students in Black Diamond currently attend the schools listed in Exhibit 3-37, depending on their location within the City. All middle school and High School students in the Enumclaw School District are bused to other schools.

Schools

Detailed information regarding the schools analysis is available in Appendix K.

Public Services Map

A map of the school, police, fire, and medical public services is provided under the Police, Fire, and Medical services section of this document.

Exhibit 3-37

Black Diamond Schools

School District	Elementary	Middle	High
Enumclaw	Black Diamond	Thunder Mountain	Enumclaw
Kent	Sawyer Woods	Cedar Heights	Kentlake
Tahoma	Glacier Park	Tahoma	Tahoma

2 What are the Level of Service standards for providing adequate schools in the City?

Level of Service (LOS) standards for school facilities have been adopted by the Enumclaw School District. The following class size standards and school standards are used by Enumclaw School District and described in the District’s Capital Facilities Plan:

- Class size for grades K–4 should not exceed 23 students. School size should be between 400 and 500 students.
- Class size for grade 5 should not exceed 26 students. School size should be between 400 and 500 students.

- Class size for grades 6–8 should not exceed 28 students.
School size for Middle Schools should be between 500 and 550 students.
- Class size for grades 9–12 should not exceed 28 students.
School size should not exceed 1,300 students.

The District generally recommends that elementary school sites be 15 acres, middle school sites be 25 acres, and high school sites be 40 acres. The District also has a variety of standards for specific facilities described in more detail in their Capital Facilities Plan.

3 How will the alternatives affect school facilities and services?

Impacts on schools are a function of the number of students generated and affect three aspects of operation:

- Instruction
- Facilities
- Transportation

These are interrelated since instruction depends on adequate facilities and the ability to get to facilities.

Student generation by new development varies by the type of housing and the market orientation. There is wide variation between districts in the state. Much of this is due to whether new housing is oriented to families in the housing formation stage.

The following student generation rates used in this analysis are based on an average of several local school districts:

- Single-Family:
 - 0.403 Elementary students per dwelling
 - 0.136 Middle school students per dwelling
 - 0.167 High school students per dwelling

- Multi-Family:
 - 0.137 Elementary students per dwelling
 - 0.045 Middle school students per dwelling
 - 0.056 High school students per dwelling

In addition to calculation of the number of students generated initially, a “cohort progression” model was used to track students in each grade as they move through the system. This methodology is used by the Enumclaw School District in preparing their 6-Year CFP. The State Office of the Superintendent for Public Instruction also uses this methodology, because it accounts for students as they move through the school system, and not just a snap shot in time at build out.

Because the student generation rates for elementary students are higher than for middle and high school students, the demand in the higher grades will not occur until several years after the initial development. For this reason, analysis must extend at least 12 years after the new final home is occupied to track students from kindergarten through high school.

Given the assumption of build out by 2025, this period would end in 2037. For convenience, this is rounded to the year 2040 in this Final EIS. The model accounts for the continued generation of new students as homes are sold; however, this is a relatively small factor.

Alternative 1

Development associated with Alternative 1 would generate the following number of students and associated facilities:

- 626 elementary students (increase the existing permanent capacity of the Black Diamond Elementary School and add a second school)
- 435 middle school students
- 532 high school students

Because development occurring in Alternative 1 is not master planned, there is no provision for schools on-site.

Because the student generation rates for elementary students are higher than for middle and high school students, the demand in the higher grades will not occur until several years after the initial development. For this reason, analysis must extend at least 12 years after the new final home is occupied to track students from kindergarten through high school.

Alternative 2

Development associated with Alternative 2 would generate the following number of students and associated facilities:

- 507 elementary students (increase current capacity of elementary school)
- 371 middle school students (generates partial need for middle school)
- 454 high school students (generates partial need for one high school)

In all cases, the addition of students from other growth in the area, other than MPD applications, could reasonably be considered to utilize a facility of the size that meets the District's facility size goals.

As submitted by the Applicant, Alternative 2 proposes a site for a new elementary school, with adequate areas for play areas located in the northern section of the Main Property. However, analysis indicates that a middle school and high school are also warranted, and would need to be accommodated through agreement with the Enumclaw School District. Because the City's MPD ordinance allows for provision of facilities and services through a separate agreement, it is possible that additional school facilities may be located outside of the MPD area. Staff of the District, City, and Applicant have negotiated a mitigation agreement which was undergoing review by the Enumclaw School District at the time this document was prepared. It will also be reviewed by the City Council as part of the MPD review process.

Alternative 3

Development associated with Alternative 3 would warrant the following school facilities:

- 380 elementary school students (increase the existing permanent capacity of the Black Diamond Elementary School)
- 278 middle school students (generates partial need for a middle school)
- 341 high school students (generates partial need for a high school)

Alternative 4

Student generation and school needs would be very similar to Alternative 3.

4 What measures could reduce or mitigate impacts on school facilities and services?

Options for needed facilities for any of the alternatives involve providing additional financial resources to the District beyond the tax revenue generated by the development at existing local tax rates. Options for providing facilities include a range of possible requirements of the development to provide land and to pay some or all of the cost of new facilities.

One common option is the assessment of school impact fees collected at the time dwellings are constructed. The amount of impact fee collected would necessarily be based on a projection of the percent of new school construction borne by the state and by the District as a whole through capital levies. In the worst case, fees could be assessed assuming no state funds and no contribution from the balance of the District. In addition, impact fees are collected as housing is built. Unless bonds are used and impact fees used to pay off bonds, the availability of funding and the provision of facilities will necessarily lag behind occupation of housing.

The City’s MPD regulations (BDMC 18.98.080.A14) state that the requirements of the school provision “may be met by a separate agreement entered into between the Applicant, the City, and the applicable school district.” This allows for some flexibility in how school impacts may be mitigated, and would be further defined at future approval stages.

Police

1 What police facilities and services are currently provided in the study area?

The City of Black Diamond Police Department serves the 4,180 residents of the City of Black Diamond. The Department includes the Chief of Police, a Commander, two Sergeants, and eight patrol officers, for a total of 12 commissioned officers. In addition, the Department includes a records manager and an administrative assistant. The current LOS for police is 3.5 officers per 1,000 residents, with the LOS ratio reduced with each 1,500 to 2,000 increment of population growth, as described in the City’s Capital Facilities Plan and shown in Exhibit 3-38.

Exhibit 3-38

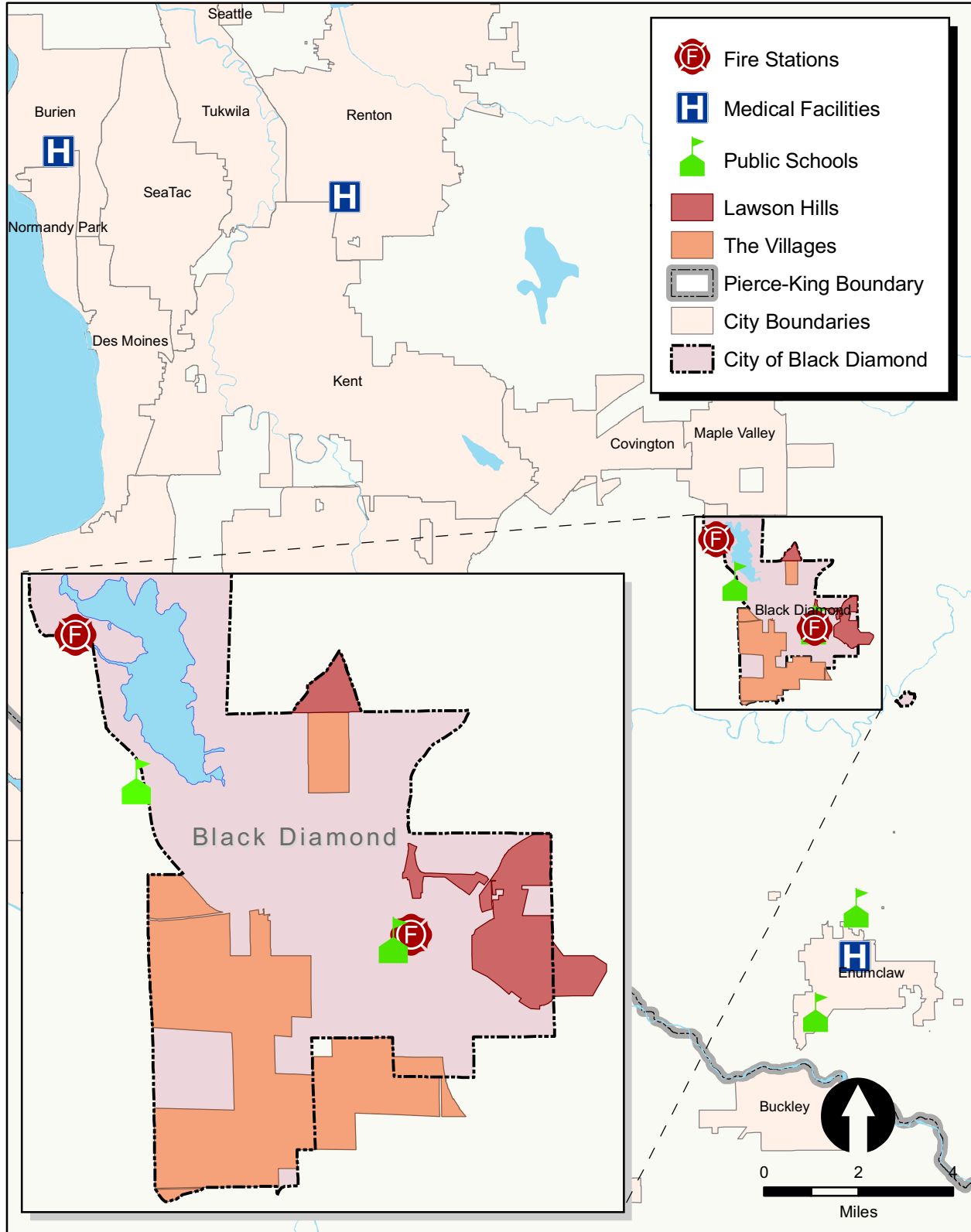
Police Level of Service Standards

Population Level	4,000– 5,000	5,000– 7,500	7,500– 10,000	10,000– 13,000	13,000– 16,000	16,000– 20,000
Police Officers	8	8.2	12.5	14.7	21	29
Sergeants	2.6	2.3	3.25	3.7	4.6	6.25
Administration	1.5	1.6	1.6	2	2.6	4.75
Total Staff:	12.1	12.1	17.35	20.4	28.2	40

Jail services for the City are provided by the Buckley City Jail for misdemeanor offenders and via the Cities of Enumclaw and Issaquah for other jail facility needs.

A map displaying the location of the fire, medical, police, and school services are shown in Exhibit 3-39.

**Exhibit 3-39
Public Services**



Exhibits in this EIS are intended to provide a general graphical depiction of built and natural environment conditions and may not be accurate to the parcel level.

2 How will the alternatives affect police and public safety?

As with any city, population growth may result in a rise in crime, and a perceived need for additional police force to maintain the safety of the City and its residents.

Alternative 1 is anticipated to bring an additional 3,591 residents in the Lawson Hills area, which would bring the total population of the City to around 7,500 residents, and require 12 total police staff to accommodate the total City population. That would require essentially no change in the City's current staff to meet required LOS standards.

Alternative 2 is anticipated to bring an additional 3,103 residents in the Lawson Hills area, which would also bring the total population of the City to around 7,500 residents. Similar to Alternative 1, this alternative would require essentially no change in the City's current staff to meet LOS standards, as the City currently has 14 police staff members serving the City.

Alternative 3 is anticipated to have a population of 2,228 in Lawson Hills which would bring the total population of the City to approximately 6,200 residents, and would again require 12 police staff members to serve the City. This alternative would require essentially no change in the City's current staff to meet LOS standards.

Alternative 4 is anticipated to have a Lawson Hills population of 2,674 which would bring the total population of the City to approximately 6,600 residents. As with the other three alternatives, 12 police staff members would be required and the additional population related to this alternative would require essentially no change in the City's current staff to meet LOS standards.

Fire and Medical

1 What fire and medical facilities and services are currently provided in the area?

Fire, medical, and emergency services for the City of Black Diamond are provided by Mountain View Fire and Rescue (also known as King County Fire District No. 44). Mountain View Fire and Rescue and Black Diamond Fire are run as one organization, so all Black Diamond firefighters and volunteers are employees and volunteers of Mountain View Fire.

Currently, two fire stations provide service to the residents of the City of Black Diamond. Station 98 is staffed 12 hours per day by career personnel and at night by two volunteer fire fighter/Emergency Medical Technicians (EMTs), though located outside of the city limits. Station 99 is manned solely by volunteers responding from home for those same 12 hours. Outside of Station 98 and 99's 12 primary service hours, services are provided by nearby Stations 92, 93 (SE Covington Sawyer Road), 97 (Green Valley Road), and 94 (near Krain Corner). The 2007 staffing level within the City of Black Diamond was 0.5 on-duty firefighters per 1,000 people.

Per Policy CF-17, the Level of Service standard for the City of Black Diamond is 1.4 career firefighters on duty per 1,000 residents until the City reaches a population of 10,000. Thereafter, the ratio of on-duty career firefighters per thousand residents will decrease incrementally to no less than 0.89 on-duty firefighters per 1,000 people. The City also takes reasonable action to assure that new development is within 1.5 travel miles of a fire station.

Three hospital/medical care facilities operate near the City of Black Diamond, including Enumclaw Community Hospital in Enumclaw, Valley Medical Center in Renton, and Auburn General Hospital in Auburn. Advanced Life Support services are provided by King County Medic, and funded through a separate county-wide tax assessment.

2 How will the alternatives affect fire services?

Mountain View Fire and Rescue is contracted with the City to provide fire protection, fire prevention, rescue, emergency medical, and other services that protect life and property. It is anticipated that with future growth, the District will need to increase the number of both volunteer and career fire fighters to accommodate the increase in population.

Alternative 1 is anticipated to bring an additional 3,591 residents to the Lawson Hills study area. Based on the City's LOS standards, the new population would trigger the need for additional staffing of 4.9 on-duty firefighters. This alternative would keep the total population below the 10,000 threshold that allows for decreased staffing levels.

Alternative 2 is anticipated to bring an additional 3,103 residents to the Lawson Hills study area. The new population would require additional staffing of 4.34 on-duty firefighters. Similar to Alternative 1, the total population for the City would remain below 10,000 people.

Alternative 3 is anticipated to add 2,228 people to the City of Black Diamond. The additional population generated by this alternative requires additional staffing of 3.1 on-duty firefighters. This alternative would also keep the City's population below 10,000.

Alternative 4 is anticipated to bring about 2,674 people to the City of Black Diamond. The additional population would require an additional 3.7 on-duty firefighters. This alternative would also keep the total population well under 10,000 people.

Other Public Services

1 What other facilities and services are currently provided or planned in the area?

A local United States Post Office located within the city limits provides mail carrier service to all residents of Black Diamond.

Allied Waste provides critical solid waste collection and disposal as well as recycling collection and processing services to the residents of Black Diamond.

Telecommunication services are provided by Qwest Communications and cable is provided by Comcast.

Energy services are provided in Black Diamond by Puget Sound Energy, based out of Bellevue, Washington, and include electricity and natural gas.

What are “other public services”?

- Mail
 - Solid Waste Disposal
 - Telecommunications
 - Cable
 - Energy
-

2 How will the alternatives affect other public facilities and services?

Increases in population size due to any new development will create an increase in the service area for those providers. As private, for-profit enterprises provide solid waste disposal, electricity, and gas, it is the responsibility of those providers to make any improvements/additions to serve the population as necessary.

Puget Sound Energy is committed to serving the needs of the community in Black Diamond, though it is unknown at this time to what extent improvements in their facilities and infrastructure will be needed to accommodate the future developments.



3 What measures could reduce or mitigate impacts on other public facilities and services?

New development and increased population will create an increase in the service area for providers, possibly requiring updated facilities, increase in staff and infrastructure to provide services.