City of Black Diamond Comprehensive Plan

June 2009

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Abbreviations and Acronyms

AgC	Alderwood gravelly sandy loam, 6-15% slope
AgD	Alderwood gravelly sandy loam, 15-30% slope
AgF	Alderwood gravelly sandy loam, with Kitsap Silty Loam
AkF	Alderwood and Kitsap soils, 25% to 70% slope
ALEA	Aquatic Land Enhancement Account
ALS	Advanced Life Support
BDAOSPA	Black Diamond Area Open Space Protection Agreement
BDUGAA	Black Diamond Urban Growth Area Agreement
BeC	Beausite gravelly sandy loam, 6 - 15% slope
BeD	Beausite gravelly sandy loam, 14 to 30% slope
Bh	Bellingham silt loam, 0% slope
Bu	Buckley silt loam, 0% slope
CAO	Critical Areas Ordinance
CDs	compact discs
cfs	cubic feet per second
City	City of Black Diamond
CMS	Concurrency Management System
CPPs	Countywide Planning Policies
CSPA	Coalition of Small Police Agencies
D.A.R.E.	Drug Abuse Resistance Education
DNR	Department of Natural Resources
Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
EMT	emergency medical technician

EvB	Everett gravelly sandy loam, 0- 6% slope
EvC	Everett gravelly sandy loam, 6-15% slope
EvD	Everett gravelly sandy loam, 15- 30% slope
FAZ	Forecast Analysis Zone
FERC	Federal Energy Regulatory Commission
FTE	full-time equivalent employee
FWHCAs	fish and wildlife habitat conservation areas
GIS	geographic information systems
GMA	Growth Management Act
HB	House Bill
HOV	high-occupancy vehicle
HSS	Highways of Statewide Significance
ILA	inter-local agreement
IMap	Interactive Map Folio
JPA	Joint Planning Area
LIDs	Local Improvement Districts
LOS	level of service
Ma	Mixed Alluvial, less than 2% slope
MG	million gallons
MPD	Master Planned Development
mph	miles per hour
MVFT	Motor Vehicle Fuel Tax
NFPA	National Fire Protection Association
No	Norma sandy loam
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service

NWPPC	Northwest Power Planning Council
OFM	State of Washington Office of Financial Management
PAA	Potential Annexation Area
PCC	Palmer Coking Coal
PM^{10}	Particulate Matter
pph	persons per household
PRVs	pressure-reducing valves
PSAPCA	Puget Sound Air Pollution Control Agency
PSE	Puget Sound Energy
PSRC	Puget Sound Regional Council
PWTF	Public Works Trust Fund
Qvt	Vashon Till
RCW	Revised Code of Washington
RdC	Ragnar-Indianola
RECD	Rural Economic Community Development
REET	Real Estate Excise Tax
RM	river mile
SAO	Sensitive Areas Ordinance
SCS	Soil Conservation Service
SDCs	System Development Charges
SEPA	State Environmental Policy Act
Sk	Seattle muck, less than 1% slope
Sm	Shalcar muck
SMA	Shoreline Management Act
SMP	Shoreline Master Program
SOV	single-occupancy vehicle

SR	State Route
SRF	State Revolving Fund
SSPL	Second Supply Pipe Line
TDM	Transporation Demand Management
TDR	Transfer of Development Rights
TIA	Traffic Impact Analysis
TIP	Traffic Improvement Program
TSM	transportation system management
UGA	Urban Growth Area
Ur	Urban land
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WTU	Wholesale, Transportation, Utilities
WUTC	Washington Utilities and Transportation Commission

Chapter 1. Overview

1.1. The Vision

The City of Black Diamond (City) was originally founded in the 1880s as a resource-based residential community, and it is currently in transition to a rural village center in southeast King County. The City has a unique development pattern as a result of its origin and development as a coal company town. The City is composed of several single-family residential areas, separated by rolling topography, streams, forested lands in various stages of regrowth and open meadows. Small commercial uses are situated in three general areas. The overall development pattern is similar to a small European or rural east-coast village rather than traditional west-coast small towns which are developed around a central commercial core with a grid street pattern.

The City implemented a moratorium on formal subdivisions and Master Planned Developments (MPDs) several years ago to provide an opportunity for the updating of the City of Black Diamond Comprehensive Plan and development regulations. As a result, little economic growth has occurred in recent years, though residential in-fill development has been steady since the mid 1990s as land prices have escalated in Southeast King County. However, the moratorium is expected to be lifted in 2009 and the City's objective is to prepare for and manage its growth so it protects its natural resources but also becomes a fiscally balanced community, with more jobs for local residents and a better tax base to support City government and high quality services.

Regional land use policies, and growth of the regional economy, suggest that significant growth will occur over the next twenty years. Urban areas surrounding the City have been steadily adding new residents and jobs. The cities of Covington

and Maple Valley both incorporated in the 1990s and today contain approximately 37,200 people. King County projects that by 2022, South King County will contain more than 600,000 people, approximately one-third of the county's total population. The south county area is also projected to contain almost one-third of new countywide jobs. In the face of this anticipated growth, the citizens of the City want to ensure that the quality of life is maintained and enhanced, and that City government continues to be financially sound. The City of Black Diamond Comprehensive Plan is being updated to anticipate these future conditions and to establish desirable patterns of growth.

One of the City's primary concerns is to balance new growth and development with stormwater management and maintenance of surface water quality. Given historical concerns with water quality in Lake Sawyer, protection of surface and groundwater quality within the City's drainage basins will be a key issue into the future.

The City has a rich and long history and strong community identity. A collective vision statement was prepared through a public process when the City's comprehensive plan was adopted in 1996. This vision is carried forward in this updated comprehensive plan through the year 2025. The City's vision is:

> *In the year 2025, Black Diamond will be a beautiful, friendly community based on a rich historic heritage and exceptional natural setting, and with a small-town atmosphere. Forested areas and open space remain, while development maintains a healthy balance of moderate growth and economic viability.*
>
> *The economic base will be a mix of retail, industrial/business park, office, tourist and local cottage industries. Residential development will be a mix of types, sizes and densities, clustered to preserve maximum open space and to access a system of trails/bikeways/greenbelts which connect housing, shopping, employment and recreation areas with nearby regional parks and recreational facilities.*
>
> *Citizens actively participate in an effective and open government decision-making process that reflects community values. There will be good cooperation among nearby jurisdictions, and adequate public services and environmental protection to provide a safe and healthy quality of life for all citizens, from children to seniors.*

The comprehensive plan is intended to reflect the community's vision and to plan to accommodate expected change. Change will require the community to make choices—often hard choices—about its future and to attempt to minimize the adverse

aspects and maximize the positive aspects of expected growth. Through its comprehensive plan, the City intends to effectively manage its future.

The comprehensive planning process should be approached as continuous, with ongoing review and updating as necessary to reflect changes that occur over time. This plan should be reviewed annually and amended as appropriate.

1.2. History of the City of Black Diamond

The City lies in the heart of the Green River Region, about 30 miles southeast of Seattle on a flat bench of gravel and glacial till. Millions of years ago, an array of geologic occurrences converged on this area to create pitching and expensive-to-mine coal beds, and limited possibilities for farming and forestry. Over its 100-year history, the City has evolved from one of the earliest and largest towns and employment centers outside Seattle, to a local center for resource activities (primarily resource extraction), to its current status as a residential center and bedroom community for the new employment centers located to the north and west.

The City was founded, developed and operated as a coal company town for almost fifty years. As an isolated company town, with a company store and surrounded by large land holdings, the City never developed as a commercial center for nearby farming and residential areas as did other small King County towns. This history resulted in development pattern of small dispersed residential and commercial areas with linear residential development along road corridors.

The City's history coincides with the growth of the Puget Sound region and begins with the Black Diamond Coal Company of Nortonville, California in 1864 and the Green River Coal Company in 1873. The City's present day location was established in 1880 with the location of the rich McKay coal vein which stretched from Franklin to Ravensdale, with the City in the middle. By 1882, the pattern of the "Green River field" was determined when the Black Diamond Coal Company and Oregon Improvement Company, along with the Northern Pacific Railroad, developed the mines and dominated the Green River field throughout its history.

The first miners in the area (1885) were Welsh miners from the Black Diamond Coal Company's depleted Mt. Diablo mine in Nortonville, California. Soon, miners came from many nations including Italy, Austria, Yugoslavia, Finland, Belgium, France and Poland. A sign found lying outside an abandoned mine had a message written in sixteen different languages.

The first shipment of high quality coal left the City for Seattle's port in March 1885. This high quality coal was difficult to mine, however. Gas, faults, dust, and steeply pitched beds added to production costs. The major market for coal was San

Francisco, and transportation costs were high. International competition was also significant. By the mid-1890s, the entire Green River field had a reputation for failure. The peak years were, however, yet to come.

At the turn of the century, the City's population was estimated at 3,500 people. With the rapid growth of Seattle, a local market for the City's coal became available. Pacific Coast Coal Company began purchase of the mines in 1896 and 1897, and infused east-coast capital into the mines, allowing more efficient workings. The year 1907 was the peak year of coal production with over 907,000 tons produced. In 1915, 1,400 workers were employed at the mines. High levels of production continued until the early 1920s, with 1919 being another peak production year. These levels of production and employment were never reached again.

Numerous coal mines were located in town, with the Franklin mines about three miles to the east. Black Diamond's Mine #11 was over 1 mile deep before bumps and intense pressures in the lower levels forced its closing in 1927. In 1926, Mine #11 was reputed to be the deepest underground coal mine in the United States.

During World War I, substantial wage increases were achieved by the miners, and the Black Diamond area became even more susceptible to national economic trends. Nationwide coal strikes together with replacement of coal by oil and electricity contributed to both a declining market and weakening of the United Mine Workers Union. The 1920s witnessed some of the most tragic and violent labor disputes in the history of Washington. In 1921, striking miners in the Black Diamond area were evicted from their homes and would have been forced to leave altogether had it not been for Tim Morgan, a local farmer, who supplied the workers with land that was developed with over 200 homes. This area is still known as Morganville and lies in the western portion of the City.

Mine #11 was closed in 1927, and the new Indian mine was opened about 6 miles south of Renton. Many of the miners transferred to that area. By the late 1930s, over half the homes in the City were empty. Highway 169 was built through the City at this time, possibly saving the community from extinction.

In the late 1930s, the Pacific Coast Coal Company sold the City's land and its residences, bringing to an end the total domination of the community's economic and social life. Miners were given the opportunity to purchase their homes. If they did not choose to buy, the homes were sold to any interested party. The town's infrastructure (water system, roads) was given over to the town's residents by the coal company. In the late 1940s and early 1950s, the remaining Pacific Coast Coal Company land holdings were acquired by the Palmer Coking Coal Company (Palmer). Some of this land was sold to local residents, but much was retained by Palmer for mining and investment purposes. A portion of these lands located within the City have recently been sold to private development interests.

A small coal boom during and after World War II kept the coal mining tradition alive. Coal mining then continued a gradual decline until 1986 and the opening of the John Henry Mine, just northeast of the City.

Following the end of the company town period at the completion of major mining activities, community services were provided by King County and the community residents.

City residents initiated an incorporation petition and presented this petition to King County in 1958. The incorporation was approved by a favorable vote on January 20, 1959 and the first Black Diamond City Council meeting was held March 3, 1959.

In 1998, the City significantly increased its size and population through the annexation of the Lake Sawyer neighborhood. This annexation increased the City's size by approximately 786 acres, and its population by approximately 1,480 people.[1] Additional annexations of large parcels within the City's Urban Growth Area (UGA) occurred in 2005 in accordance with the Black Diamond Urban Growth Area Agreement (BDUGAA) and the related Black Diamond Area Open Space Protection Agreement.

1.3. City Planning Area

The planning area encompassed by this comprehensive plan includes the land within the City limits and the designated UGA of the City.

In the decade since the City completed its 1996 comprehensive plan, the City and King County came to an agreement on designation of an UGA with the BDUGAA. This agreement outlines mutually acceptable urban growth boundaries and conditions under which these areas may be annexed to the City. The UGA approved in this agreement includes several of the large ownership parcels which surround the City, providing opportunities for creating a fiscally balanced city while maintaining the City's unique character.

Designation of a UGA is a key element in the City's long-term planning. The City is located at the edge of the King County Urban Growth Boundary. Per county policies, and the approved BDUGAA, unincorporated lands not included in an UGA may be developed for low density (5-acre tracts or larger) rural/ residential uses, or preserved for commercial resource activities (agriculture, forestry and mineral extraction). Consistent with the BDUGAA, the City annexed its "West Annexation

[1] Washington State Office of Financial Management; Annexations Approved by the Office of Financial Management from 01/01/90 through 12/31/99.

Area" and the "North Triangle Annexation" in December 2005. The "South Annexation Area," the "East Potential Annexation Area", and the Lake 12 Annexation Area are the remaining areas that will be considered for annexation in the future subject to compliance with the BDUGAA.

1.4. Planning Authority

1.4.1. Growth Management Act

The City of Black Diamond Comprehensive Plan meets the requirements of the Growth Management Act (GMA), which was adopted by the Washington State Legislature on March 9, 1990 (Substitute House Bill 2929, Chapter 17, 1990 Laws of Washington), and as subsequently amended. The GMA required the state's fastest growing counties and cities within those counties to prepare comprehensive plans which guide conservation and development for a 20-year period.

The GMA makes the City's comprehensive plan the legal foundation and guide for all subsequent planning, zoning and development, all of which must be consistent with and implement the plan. The comprehensive plan must be both internally consistent and consistent with the plans of other jurisdictions which share either a common boundary or related regional issues. The GMA also requires that appropriate public facilities and services must be in place, or funds committed for their provision, "concurrent" (within 6 years) new development.

The GMA requires counties, in cooperation with cities, to designate UGAs. All cities are to be within an UGA, which is to include areas and densities sufficient to accommodate urban growth expected to occur in the City over the next 20 years. The GMA guidelines for defining urban boundaries state that urban growth is to be "…located first in areas already characterized by urban growth that have existing public facility and service capacities to serve such development, and second in areas that are provided by either public or private sources." The UGA 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." Finally, UGAs "…shall include greenbelt and open space areas."

The GMA establishes mandatory elements for local comprehensive plans. Required elements of comprehensive plans include land use, housing, capital facilities, utilities and transportation. Optional elements of comprehensive plans include solar energy, conservation, recreation, economic development and sub-area plans. The state legislature added Economic Development and Parks and Recreation as additional required elements once funding has been put in place for cities to develop these elements. Such funding has not been authorized as of this update.

The GMA also establishes 14 goals to guide local governments in preparing comprehensive plans. These goals are as follows:

GOAL 1. Urban Growth. Encourage development in urban areas where adequate public facilities and public services exist or can be provided in an efficient manner.

GOAL 2. Reduce Sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

GOAL 3. Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.

GOAL 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.

GOAL 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, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services and public facilities.

GOAL 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.

GOAL 7. Permits. Applications for both state local government permits should be processed in a timely and fair manner to ensure predictability.

GOAL 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.

GOAL 9. Open Space and Recreation. Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

GOAL 10. Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

GOAL 11. Citizen Participation and Coordination. Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to resolve conflicts.

GOAL 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.

GOAL 13. Historic Preservation. Identify and encourage the preservation of lands, sites and structures that have historical or archeological significance.

GOAL 14 Shoreline Management. For shorelines of the state, the goals and policies of the shoreline management act as set forth in the Revised Code of Washington (RCW) 90.58.020 are added as one of the goals of the GMA as set forth in RCW 36.70A.020 without creating an order of priority among the fourteen goals. The goals and policies of a shoreline master program for a county or city approved under chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan. All other portions of the shoreline master program for a county or city adopted under chapter 90.58 RCW, including use regulations, shall be considered a part of the county or city's development regulations.

The GMA directs the City to identify the concerns and goals of the community, to prioritize these goals, and to plan for how these goals will be achieved. The law gives the City the authority and discretion to make the key decisions relating to its future growth; the outcome of the planning effort is in the City's hands, consistent with state requirements. To accomplish this mandate, the City is creating a comprehensive plan that establishes a clear intent and policy base, which can be used to develop and interpret City regulations, and which is consistent with the purpose and intent of the GMA.

The comprehensive plan seeks to balance the GMA's 14 planning goals cited above. The plan proposes a "village" environment, residential and economic development (including job opportunities for local residents and a long-term tax base for the City), while retaining those significant features of the natural environment which constitute environmentally sensitive areas and contribute to the City's quality of life and identity. The plan also uses *innovative techniques* -- including density bonuses,

cluster housing, MPDs and the transfer of development rights, as encouraged by the GMA (RCW 36.70A. 090) – to creatively address local concerns and issues.

1.5. Consistency with County Plans and Policies

1.5.1. King County Countywide Planning Policies

The GMA mandates that counties, in cooperation with cities, adopt the King County Countywide Planning Policies (CPPs). The GMA defines CPPs as written policy statements used for establishing a countywide framework from which county and city comprehensive plans are developed and adopted. That framework is to ensure that city and county comprehensive plans are consistent with each other. At a minimum, the CPPs must address:

- implementation of UGAs,
- promotion of contiguous and orderly development and provision of urban services,
- siting of public capital facilities,
- transportation facilities and strategies,
- affordable housing,
- joint county and city planning within UGAs,
- countywide economic development and employment, and
- analysis of fiscal impact.

For King County, the CPPs established a UGA. Most future growth and development is to occur within the UGA to limit urban sprawl, enhance open space, protect rural areas and more efficiently use human services, transportation and utilities. The intent of these policies is to reduce future infrastructure costs and maintain a high quality of life by encouraging concentrated development in those areas where services already are or are planned to be provided. Cities are expected to absorb the largest share of future growth. Each city has the authority to make decisions regarding its local character and density.

The City finds that this comprehensive plan is consistent with the purpose and intent of the King County CPPs. The City includes the UGA agreed upon in the BDUGAA, and is consistent with the King County CPPs updated in July 2006. The City is also updating its population and employment targets to reflect growth that is anticipated over the next 20 years.

1.6. Comprehensive Plan Features

The City of Black Diamond Comprehensive Plan is based upon the premise that sustainable development is based upon a trilogy of ecology, sociology and economics. The plan embodies a holistic approach to treatment of nature and the human spirit. The extensive natural beauty and intricate ecosystem that comprise the planning area have been considered in determining lands that are appropriate for development at different intensities.

Planning for natural resources and open space are the cornerstone of the City of Black Diamond Comprehensive Plan. The plan supports recognition and protection of quality habitat including: the protection of key riparian corridors, wetlands, wildlife habitats and the design of green spaces between habitats; water quality protection measures and support for an environmental education area and program to build a strong community commitment to conservation and habitat improvement. Stewardship of the environment is supported by the plan.

The City's developed areas will be compact, preserving 35% to 40% of the entire City as open space. Interspersed among the built areas will be large connected areas of open space that act as a green necklace. Creeks, wetlands and significant wildlife habitat will be protected as part of the open space network. Trails, parks, community facilities will also define the open space network.

By the year 2025, the City is planning to be able to accommodate a population of 16,980 people. The community will also contain areas for retail and personal services, community parks, schools, churches, community buildings, other public services, and business and industrial parks. The plan emphasizes the need for a balance of jobs and housing, and sustainable economics for the growing community. Job growth is an essential part of the plan. Employment opportunities will grow as new companies and their support services are attracted to the City, and as existing companies expand.

Amidst this change, the City will also preserve the best of its past, including historical buildings and treasured community places. The essence of the historical community will be perpetuated through the use of design guidelines for new development. A village center concept has been included to bring together a visual, social and geographic center of the City. An innovative transfer of development rights program will used to help preserve open space and direct new development to where it is best suited.

The creation of a pedestrian friendly environment is central to the success of the City's plan, and will be implemented by the plan's concept of the "ten-minute walk" The goal is for 80% of City residents have no more than a 0.50-mile walk from a cluster of commercial services, employment, or access to transit.

Phasing of development over time will be essential to achieve the plan's vision. Capital facilities are identified for both the short and long term growth anticipated by the plan. The City will use the Capital Facilities and Land Use Elements to manage development.

1.7. Master Planned Developments

An MPD is another key concept that the City is using to implement its vision for the future. A significant portion of the City's land area is within several large parcels and their planned development presents unique opportunities and challenges. In 2005, consistent with direction in the BDUGAA, the City adopted MPD regulations (Black Diamond Municipal Code Chapter 18.98) to provide flexibility in attaining City goals, to protect the environment and preserve open space, to maintain adequate facilities, to achieve a balance of jobs and housing, and to maintaining fiscal health. The specific purposes of the MPD regulations are to:

- Establish a public review process for MPD applications;
- Establish a comprehensive review process for development projects occurring on parcels or combined parcels greater than 80 acres in size;
- Preserve passive open space and wildlife corridors in a coordinated manner while also preserving usable open space lands for the enjoyment of the City's residents;
- Allow alternative, innovative forms of development and encourage imaginative site and building design and development layout with the intent of retaining significant features of the natural environment. Allow flexibility in development standards and permitted uses;
- Identify significant environmental impacts and ensure appropriate mitigation;
- Provide greater certainty about the character and timing of residential and commercial development and population growth in the City;
- Encourage environmentally sustainable development;
- Provide needed services and facilities in an orderly, fiscally responsible manner;
- Promote economic development and job creation in the City;
- Create vibrant mixed-use neighborhoods, with a balance of housing, employment, and recreational opportunities;
- Promote and achieve the City's vision of incorporating and/or adapting the planning and design principles regarding mix of uses, compact form, coordinated open space, opportunities for casual socializing, accessible civic spaces, and

sense of community; as well as such additional design principles as may be appropriate for a particular MPD, all as identified in the book *Rural By Design* by Randall Arendt; and

- Implement the City's vision statement, comprehensive plan, and other applicable goals, policies and objectives set forth in municipal code.

The MPD ordinance outlines specific public benefit objectives, application requirements, public review process, and criteria for approval.

The Comprehensive Plan Future Land Use Map contained in Chapter 5 includes an MPD overlay to identify those areas in which development proposals are expected to use the MPD zoning process to guide their future development.

Chapter 2. Urban Growth Area

The Urban Growth Area (UGA) Element of the City of Black Diamond Comprehensive Plan was initially adopted in 2001 as an amendment to the City of Black Diamond's (City's) 1996 plan. It identified the City's UGA, which was determined based on a joint planning process and formal agreement (the Black Diamond Urban Growth Area Agreement [BDUGAA]) between the City, King County and several large property owners. It is intended to guide future land use and annexations in the Urban Growth Area consistent with the Growth Management Act (GMA). Although major portions of the UGA have been annexed as of the 2008 City of Black Diamond Comprehensive Plan Update, the UGA Element will continue to provide guidance and useful historical information until the balance of the UGA is annexed. The UGA Element has been incorporated unchanged into the 2008 Update.

2.1. Introduction

The City and its residents worked with King County to define a UGA for the City since the latter part of the 1970s. For the City, the chief goals of these efforts reflect the plan vision of a healthy economy, improved housing, protection of the treasured natural resources in and around the City, and a better quality of life. The county's objectives were to limit urban sprawl and protect rural resource lands.

The GMA was the final impetus in deciding the Black Diamond UGA. The GMA established a framework for coordinated and comprehensive planning to help local communities manage their growth. It also led to the creation of the Black Diamond-King County Joint Planning Area (JPA). The 1996 comprehensive plan identified the Black Diamond UGA as an issue that was not resolved before the plan was adopted. Hence, Chapter 2 was reserved to address the UGA when it was determined.

2.1.1. Establishing an Urban Growth Area

The City and King County formed a JPA in 1991 to identify a UGA for the City. Several alternative combinations of county lands were evaluated in that process, including the proposal identified in Figure 2-1. This option proposed to annex six subareas to the historic central portion of the City. These subareas are referred to as the: North, John Henry, Lake 12, West, South, Black Diamond Lake, and East. However, due to the large amount of land involved in this proposal, the county did not view it as consistent with the GMA and its objectives of protecting rural land and avoiding the annexation of excessively large areas for future growth.

In its 1995 Joint Planning Ordinance, the King County Council addressed this issue by requiring use of the county's Four to One Program concept as a guide in determining Black Diamond's UGA. This concept is a way to determine a balance between annexed areas and protected open space in the county. It requires that for every acre included in an urban area, four acres are to be dedicated to permanent open space or natural resource land. In this decision, the King County Council also directed the City, county, and the property owners of the land involved to draft an agreement for the King County Council to consider in establishing the Black Diamond UGA. This effort resulted in BDUGAA that the King County Council approved on December 5, 1996 (Ordinance 12534). While awaiting this decision, the City chose to adopt the completed portions of the City of Black Diamond Comprehensive Plan. In doing so, they included one subarea of the JPA, the Black Diamond Lake subarea, within the City.

The BDUGAA covers 792 acres of land. Following annexation, 593 of these acres could be developed and 189 acres would be preserved as open space. The area involved in the agreement is also referred to as the Potential Annexation Area (PAA) to distinguish it from the Lake Sawyer and the Black Diamond Lake areas, also in the City's UGA. A copy of the BDUGAA is located in the City UGA Comprehensive Amendment file.

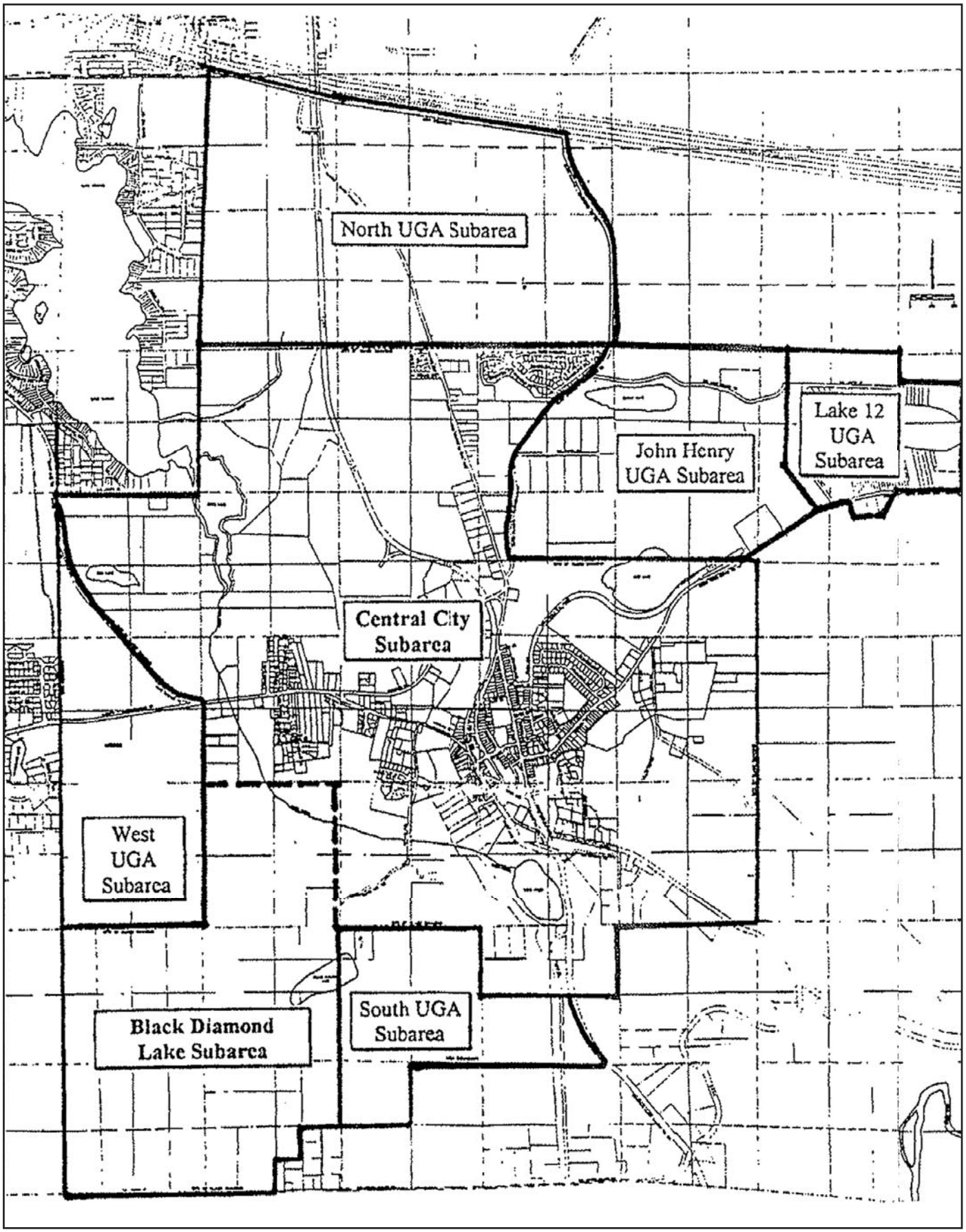


Figure 2-1
Black Diamond / King County 1991 Joint Planning Area

2.2. Black Diamond Urban Growth Area Agreement

2.2.1. Background

The BDUGAA is a comprehensive document outlining the process and requirements for the City to annex the PAA. The Agreement represents a non-traditional approach to establishing UGAs, which typically are drawn based on 20-year population forecasts prepared by the State of Washington Office of Financial Management (OFM) and estimates of the land required to accommodate the projected growth. It is also unique because it was cooperatively crafted by the county, the City, and the affected property owners: Palmer Coking Coal Company, Plum Creek Timber Company, and residents of the Lake 12 area.

2.2.2. Goals and Concepts

The BDUGAA is guided by four main goals:

- Protect the Rock Creek/Lake Sawyer Watershed and the Rock Creek/Lake 12 Basin
- Protect and Maintain the Community Character
- Provide A Healthy Jobs-Housing Mix
- Make Efficient Development A Priority

The following is a discussion of the City's rationale and intent in using these criteria to define its UGA.

Protect the Rock Creek/Lake Sawyer Watershed and Rock Creek/Lake 12 Basin

The principal drainage in the City is Rock Creek (09-0085) which flows northwest into Lake Sawyer. Ginder Creek, Lawson Creek, and three smaller creeks also drain into this system. Existing development in the City is situated in the central portion of the basin.

Historically, this creek received drainage from the City's septic tank drain fields, cesspools and surface runoff. With construction of the sewer plant and marsh treatment system in 1983, septic tanks within the City were eliminated, but Rock Creek (and ultimately, Lake Sawyer) was the receiving water from treated effluent discharged from the facility. Beginning in 1984, phosphorus concentrations and large blooms of blue-green algae occurred regularly in Lake Sawyer. After determining

the marsh treatment system was not functioning as designed and that the sewage effluent was contributing to the algae blooms in Lake Sawyer, the City conducted a lengthy study (e.g., Comprehensive Sewage Plan) to identify solutions to the problem. As part of this process, and through the development of the Groundwater Management Plan (part of the South King County Coordinated Water System Plan), the City committed to maintain surface and groundwater quality within the Rock Creek/Lake Sawyer watershed. The plan required that all development within the Rock Creek/Lake Sawyer drainage (including that area outside the existing City limits) needed to be served by public sewer Land use control within the basin was also deemed critical in order to promote the clustering of residential units and preservation of significant tracts of open space to maintain the City's identity.

In contrast to the majority of water bodies in the City that flow westward into Lake Sawyer, Lake 12 drains north to the Cedar River via another Rock Creek (tributary 08-0833), the Rock Creek/Lake 12 watershed. Lake 12 is a 44 acre water body that drains approximately 500 acres. Historically, it had good water quality. However, due to septic system failures around the lake, unacceptably high fecal coliform levels have resulted (Seattle-King County Department 1997) Additional phosphorus inputs entering the lake from stormwater runoff, are also expected to increase algal growth and lower water quality (Metro, 1994). These circumstances necessitate the extension of sewer, water, and stormwater facilities around the lake, if it is to meet or exceed state water quality standards.

Protect and Maintain Community Character

Residential growth in unincorporated King County has increased significantly along the State Route (SR) 169 and SR 516 corridors. As new large subdivisions have been built in areas from Maple Valley to Enumclaw, the City has been affected by increased traffic and new construction in the surrounding area. The City desires to have more control over development decisions in the area and thereby shape the kind of land use between the City and rural lands into the future.

By encouraging an environment for quality development, the existing character of the historic villages (as found in Morganville and the Black Diamond townsite) would be repeated throughout the City and into the UGA. Development of clustered small scale neighborhood villages is also encouraged to promote a sense of community while encouraging pedestrian and bicycle mobility and reducing the number and length of shopping trips. Community shopping opportunities and community employment are planned to support the residential growth.

In identifying a substantial UGA, the City is attempting to resolve significant and long-standing concerns about the future and preservation of its unique identity. The City of Black Diamond Comprehensive Plan reflects community choices by addressing local circumstances and traditions. Because of the City's origin as a

company town and little subsequent growth, the City has never evolved into a balanced community. As resource-related activities change and mineral extraction diminishes, these activities provide less of an economic/employment base. Also, development as a commercial center has to date been precluded by the commercial development in Maple Valley. In order for the City to remain viable in the future, additional commercial growth and development is necessary in order to create a healthy tax base and sustainable revenues for the City that are needed to fund community services and amenities.

Provide a Healthy Jobs-Housing Mix

The City needs to achieve a healthy job-housing mix, where the population is sufficient to support community shopping, services, and business activities. In turn, an increased population base is better able to contribute to a more self-sufficient economy. Achieving a healthy housing mix is expected to result from the eventual addition of medium to high income housing in the PAA. This will balance with the existing low and moderate income housing available in the City.

Development of higher income housing inside the City has historically been slow, but has increased with the annexation of the Lake Sawyer area. New in-city housing in other areas is expected to provide for a wider range of housing types for more income levels. The UGA provides the opportunity for planning medium and high income housing developments. There the amenities of greenbelts, neighborhood parks and schools can be planned and provided. Residential development targeted to higher income levels is also seen as the support for and the trigger to stimulate the commercial and industrial employment sectors, so that economic self-sufficiency can be achieved.

Growth within the City is expected to provide both employment and shopping opportunities in addition to expanding the residential housing mix. The City recognizes that its economic health will be achieved through the development of commercial, business and industrial uses that will add jobs and broaden its tax base. Increased tax revenue will support new City services for the expanding population.

Make Efficient Development A Priority

Efficient use of resources will result from the appropriate location of development so that public water, sewer, storm drainage, police and fire protection service costs are minimized. Clustering development rather than spreading it over large areas will not only save utility costs, it will also preserve open space, both of which are cornerstone goals of this plan.

As documented in the financial analysis of the 1996 plan, the economic vitality of the City will depend largely on its ability to attract industrial and business park

developments to the vacant land in industrial and business park areas. The plan will need to provide a sufficient supply of industrial land to support its future revenue needs.

Additional population in the City will help to achieve the economies of scale needed for system-wide utility improvements. By phasing growth, development can proceed in an orderly fashion. Public services and facilities would not be over-burdened and constantly at or exceeding their capacity. Fewer roads would be needed, while local residential roads would be downsized to save costs and meet the neighborhood scale. Nearby trails would also be accessible to link residential areas with employment, civic, business, and recreation areas elsewhere in the City.

2.2.3. Terms of Annexation

The UGA Agreement required that the City, King County, and the landowners meet specific conditions before any portion of the PAA was brought into the City. These provisions ensured that annexations conformed to the City and county comprehensive plans and the GMA.

Open Space

Three types of open space are identified in the BDUGAA: County Open Space, UGA Open Space, and In-City Open Space. Figure 2-2 shows the open space and natural resource lands associated with the PAA. These lands provide for trails and natural resource areas, such as critical wildlife corridors. County Open Space would remain in unincorporated King County after annexation. UGA Open Space was/will be included in the annexed areas. In-City Open Space includes the Primary Open Space and Secondary Open Space land shown in Figure 2-3.

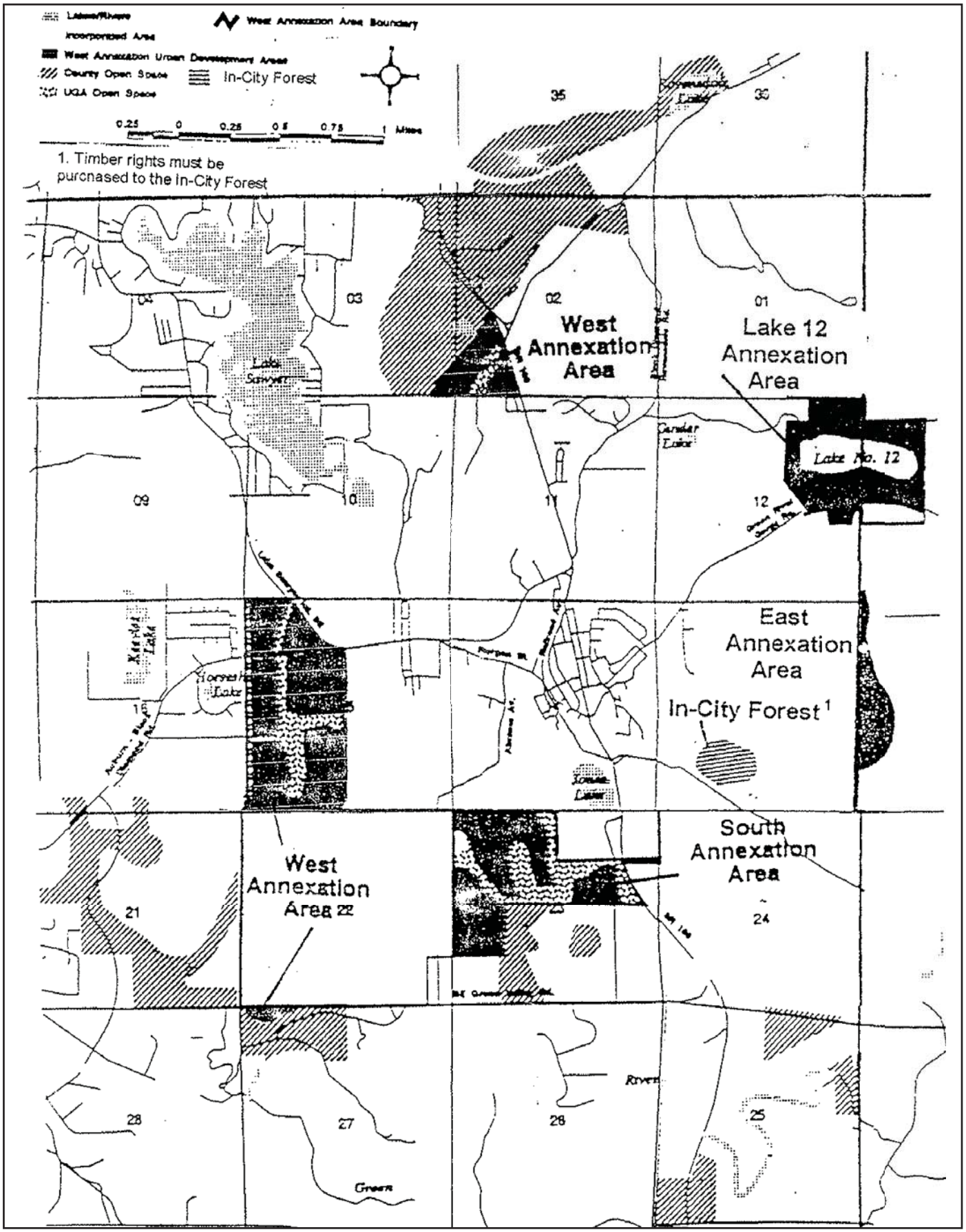


Figure 2-2
PAA City and County Open Space

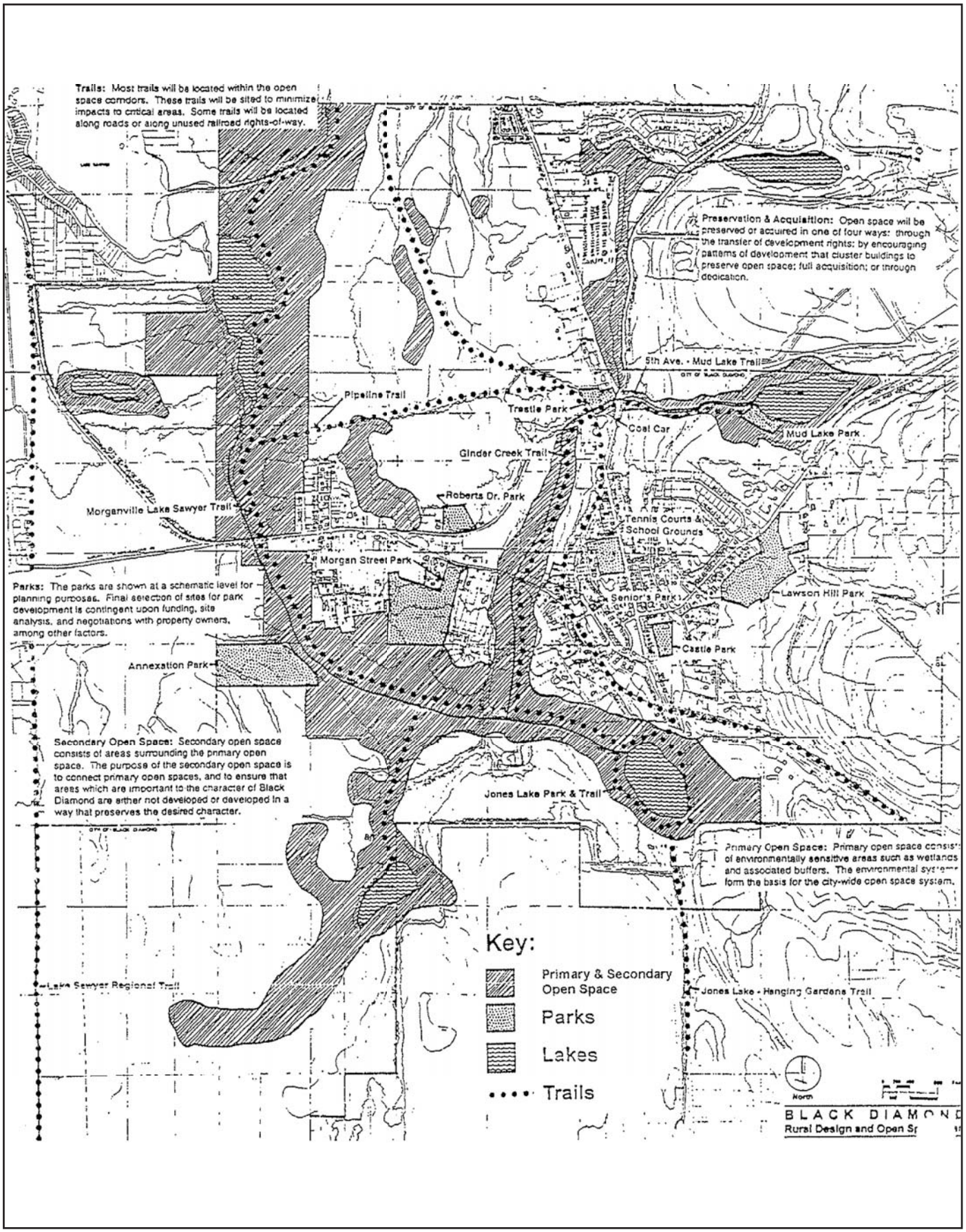


Figure 2-3
Black Diamond Primary and Secondary Space

Open space requirements differed among the annexation areas. The open space needed for the West and South Annexation Areas was generally based on King County's Four-to-One concept. To achieve densities exceeding the base density of two units per acre, developers must purchase the equivalent development credits from the Primary and Secondary Open Space land through the City's Transfer of Development Rights (TDR) Program. The credits would then be transferred to the designated receiving lands for the added density. In turn, the City's designated open space would be permanently preserved.

As Table 2-1 shows, there are a total of 1,765 acres of open space distributed among the three types of open space created by annexing the various areas within the PAA. Bringing the 275 acres in the West Annexation area into the City resulted in 1,056 acres of new open space. The South Area has 152 acres of developable land that would yield 616 acres of City and county open space. In exchange for developing the East Area, Palmer was required to set aside 50 acres for an in-city forest. Palmer could not harvest the timber on the site for five years (until December 2001) while the City and the county sought funds to purchase its timber rights.

The UGA Agreement does not include an open space requirement for developing the Lake 12 Annexation Area since the purpose of this annexation would be to relieve a public health problem due to poor water quality.

Table 2-1. PAA Acreage and Open Space Allocation

Site	Developable Acres	Public Open Space/ Natural Resource Land			
		UGA	In-City	County	Total
South Annexation Area	151.9		195.0	339.0	615.7
East Annexation Area	50.0	0	50.0	0	50.0
Lake 12 Annexation Area	116.0	44.0	0	0	44.0
Totals	317.9	189.0	245	338.5	709.7

The 10 acres in the Boundary Adjustments does not require an open space contribution since it may be annexed for utilities or services.

Conservation of the in-city open space, referred to as the In-City Forest is subject to the City acquiring the timber rights.

The UGA Agreement does not require open space acreage for the Lake 12 Annexation Area. The lake is 44 acres, but would be private open space.

Lake 12 Annexation Area

The Lake 12 Annexation Area can only be annexed after the following steps are completed:

- The City may extend sewer and water service to the Lake 12 Annexation Area before it is annexed provided that City funds are not required to do so and that this action does not affect the City's ability to provide these services within the existing City limits;
- The lake meets or exceeds state water quality standards (pursuant to Washington Administrative Code [WAC] 173-201A-030 (5)(c)); and
- The City completes a traffic study to determine the City road standards needed to improve the Green River Gorge Road.

Sequence of Annexations

When the conditions of annexation were achieved, annexation of the PAA began, in the following sequence:

- West Annexation Area (completed December 8, 2005)
- East Annexation Area
- South Annexation Area
- Lake 12 Annexation Area

Two or more of these areas may be annexed simultaneously, except that the East Annexation Area could not be annexed unless the West Annexation Area was annexed, the South Annexation Area could not be annexed unless the West Annexation Area and East Annexation Area were annexed, and the Lake 12 Annexation Area could not be annexed unless the West Annexation Area was annexed. Pursuant to these terms, the annexation of the South Annexation Area and Lake 12 Annexation Area may now occur when conditions are favorable.

2.2.4. Consistency with the Plans and Policies

In accordance with the GMA, the UGA must be consistent with other related plans and policies and the City of Black Diamond Comprehensive Plan. The following discussion analyzes the Agreement in light of the relevant plans; the King County Comprehensive Plan and the City of Black Diamond Comprehensive Plan.

King County Comprehensive Plan and Policies

In adopting the BDUGAA, the King County Council found that the Agreement was consistent with the Joint Planning Ordinance and other applicable county plans and policies, as described below in that the BDUGAA:

- substantially includes all areas specified, except the John Henry Mine site;
- allows for minor adjustments in designated areas consistent with the agreement;
- requires amendments to the City of Black Diamond Comprehensive Plan to meet objectives for affordable housing, economic development, natural resource management, clustering development, and preserving open space;
- provides for the extension of City infrastructure to the PAA; and
- includes a mechanism for phasing growth.

Countywide Planning Policies

In adopting the PAA, the King County Council found that it conforms to the applicable policies of the King County Countywide Planning Policies (CPPs): CCP LU-38 and CCP R-301. The policies, as stated below, implement the GMA when establishing UGAs in the county.

King County CCP LU-38

> "In recognition that cities in the rural area are generally not contiguous to the countywide Urban Growth Area, and to protect and enhance the options cities in rural areas provide, these cities shall be located within Urban Growth Areas. These Urban Growth Areas generally will be islands separate from the larger Urban Growth Area located in the western portion of the county. Each city in the Rural Area and King County and the Growth Management Planning Council shall work cooperatively to establish an Urban Growth Area for that city. The Urban Growth Areas for cities in the Rural Area shall:
>
> - Include all lands within the existing city in rural areas;
> - Be sufficiently free of environmental constraints to support rural city growth without major environmental impacts;
> - Be contiguous to city limits;
> - Have boundaries based on natural features such as wetlands, topographic features and edge of areas already characterized by urban development;

- Be maintained in large lots at densities of one unit per five acres, or less, with mandatory clustering until the City annexes it;
- Be implemented through inter local agreements between King County, the cities and special purpose districts, as appropriate, to ensure that annexation is phased, nearby open space is protected and development within the Urban Growth Area is compatible with surrounding Rural and Resource areas; and
- Not include designated forest or Agricultural District lands unless conservation of those lands and continued resource-based use, or other compatible use, is assured."

King County Comprehensive Plan Policy R-307

"Rural cities and their agreed-upon Urban Growth Areas shall be considered part of the UGA for purposes of planning land uses and facility needs. King County should work with rural cities to plan for growth consistent with long term protection of significant historic resources, the surrounding Rural Area, and Natural Resource Lands."

King County Growth Targets

King County CPPs establish growth targets for the City. In 1998, the county adopted growth targets for all cities in the county, in accordance with the GMA. These were subsequently updated in 2005. The targets establish the upper limits of growth which the City must plan to accommodate in 2022.

The 2022 target is 1,099 additional households, which equates to 2,945 individuals. However, the population and household allocation does not take into account the large Master Planned Developments (MPDs) anticipated to occur within the City during that time frame. The City expects to significantly surpass its household and population targets. This is discussed in greater detail in the Land Use Element of the plan.

2.3. UGA Policies

The objectives and policies identified in this section will be used to guide decisions that determine the pattern, timing, and impact mitigation of development in the UGA. They are intended to supplement the relevant policies and objectives elsewhere in this plan.

UGA Natural Environment Objectives and Policies

UGA Objective NE 1: Preserve the diversity and distribution of habitat types in sufficient quantities to sustain species populations, especially rare or unusual habitats.

UGA Objective NE 2: Incorporate the mitigation measures identified in the Final Environmental Impact Statement (EIS) for the PAA to protect environmentally sensitive areas.

Water Quality

UGA Policy NE 3: Protect, and where appropriate, enhance ground and surface water quality to meet or exceed state water quality standards within the drainage basins that may be affected by development in the UGA.

UGA Policy NE 4: Prior to annexation of the Lake 12 Annexation area, Lake 12 water quality must meet or exceed state water quality standards pursuant to WAC 173-201A-030 (5)(c).

Critical Areas

UGA Policy NE 5: Naturally occurring processes such as runoff, stream channel migration, etc., should be maintained by designing stream crossings to pass floods and debris, as well as fish.

UGA Policy NE 6: Development of headwater catchments should be limited to protect streams from temperature increases, sediment, and fish habitat degradation.

UGA Policy NE 7: Where linkages between habitats have been severed or interrupted, connections should be restored by replacing culverts with bridges, revegetating riparian areas, and improving in-stream habitat.

UGA Policy NE 8: Developed portions of all annexation areas, especially in the Lake 12 Annexation Area, should protect the maximum amount of native vegetation to enhance stormwater management.

UGA Policy NE 9: New residential development in the Lake 12 Annexation Area should be sited and clustered away from the adjacent rural and resource lands and sensitive areas.

UGA Policy NE 10: Coordinate with King County and the Muckleshoot Indian Tribe to develop management plans that preserve County Open Space identified in the BDUGAA primarily for its open space values, as opposed to timber values.

UGA Policy NE 11: Mitigation measures identified in the City of Black Diamond Potential Annexation Area Final EIS and Comprehensive Plan Amendments should be used, with other city requirements, as development standards for the UGA.

UGA Land Use Objectives and Policies

Land Use

UGA Objective LU 1: Accommodate projected growth, protect the critical drainage areas from inappropriate development, protect and retain the community character, and efficiently provide urban services within UGA lands.

UGA Objective LU 2: Ensure that the site development process for the UGA provides flexibility in locating uses, establishes a unified development plan for each site, and adequate opportunities for public involvement.

UGA Objective LU 3: Insure that the City maintains an overall and fiscally sound balance between revenues and expenditures during each phase of development of the UGA.

Open Space

UGA Policy LU 4: The TDR Program should transfer development rights from the priority open space areas identified in the City Open Space Program for use in designated "receiving areas" within the UGA.

UGA Policy LU 5: Prior to annexation of any portion of the surface mining pits, landowners will be required to confirm to the City that the PAA and County Open Space Areas have been permanently protected under the City and County Open Space programs, as appropriate.

UGA Policy LU 6**:** Approval of the annexation of the Lake 12 Annexation Area should include permanent public access to the lake.

UGA Policy LU 7: Approval of the annexation of the East Annexation Area should include provision of permanent public access to the in-city forest.

Commercial and Mixed Use Development

UGA Policy LU 8: Prior to annexation of any portion of the PAA., the City should adopt a development agreement with the PAA landowners to establish zoning and vested rights, to determine the process by which the site plans for developing the area are reviewed and approved, and to identify the roles and responsibilities of each party in providing capital facilities and public services.

UGA Policy LU 9: Utilize am MPD process in the UGA to determine the specific location of structures and uses, phases of development, and the design features of each site and its structures. If the Lake 12 Annexation Area continues to develop by individual lot ownership, it should not be subject to an MPD process.

UGA Policy LU 10: The affect of the new commercial activity in the UGA should be evaluated to minimize possible negative financial impacts on the City's existing business sector.

Phasing Development

UGA Policy LU 11: The growth-phasing schedule of the capital improvement program should determine the timing and sequence of development in the UGA.

UGA Policy LU 12: The City should determine the as-built cumulative impact of UGA development on the City's capital improvement program, its fiscal position, and its natural resource policies when each phase is completed. Ensure that adverse impacts are mitigated before the beginning of a subsequent phase.

Community Design and Character

UGA Policy LU 13: Utilize the Black Diamond Design Guidelines and Standards as the standards to determine the design features of commercial, office, and industrial uses and as guidance in designing residential development in the UGA.

UGA Policy LU 14: In developing the UGA, protect significant view corridors, especially views of Mt. Rainier.

Housing

UGA Policy LU 15: Residential development in the UGA shall contribute to meeting the City’s fair share of affordable housing in accordance with current King County Affordable Housing Policy.

Fiscal Management

UGA Policy LU 16**:** Revenues shall exceed expenditures for each development phase of the UGA to provide a sufficient fiscal reserve for financial circumstances.

UGA Policy LU 17: Prior to annexation of any portion of the PAA, its landowners shall, at a minimum, confirm that they have made commitments to carry out construction contracts for extending water, sewer, stormwater, and major road facilities to these areas.

UGA Parks and Recreation Objectives and Policies

UGA Policy PR 1: Provide park and recreation facilities in the UGA concurrent with the development of this area and consistent with the standards of the Parks Plan.

UGA Policy PR 2: Avoid locating active park and recreation facilities (other than trails and viewing areas) in environmentally sensitive areas. Where it is necessary to do so, substantial buffers should be maintained to minimize human disturbance of these resources.

UGA Utilities and Public Services Objectives and Policies

UGA Objective U 1: Integrate all public facility and service plans for the UGA into appropriate City plans and programs.

UGA Policy U 2: The mix of residential and employment land uses in the UGA, should achieve the "economies of scale" needed to support quality public services and schools in a cost-efficient manner.

UGA Policy U 3: City revenues should not be used to fund private facility extension in the UGA.

UGA Policy U 4: The City Capital Improvement Program should integrate public facility and service extensions for water, sanitary sewers, roads, schools, stormwater management, fiber optic communications, fire and emergency services, police, and parks and recreation infrastructure for all phases of UGA development.

UGA Policy U 5: UGA landowners should provide sufficient land to meet the utility and educational facilities needs projected for this area.

UGA Policy U 6: Water and sewer service should be extended to the Lake 12 Annexation Area only if these service extensions will not adversely impact the ability of the City to provide these services to development within the existing city, and if extending water or other urban services to the area does not require the use of City revenues.

UGA Policy U 7: If the Lake 12 Annexation Area is to be annexed, the City should enter into a pre-annexation agreement with the county to establish a funding package that includes a combination of local improvement district revenues, and federal, state, and county resources.

UGA Policy U 8: Prior to annexing the Lake 12 Annexation Area, a traffic study should be completed to determine the appropriate City road standards that apply to the Green River Gorge Road upon annexation.

UGA Policy U 9: Sewer and water facilities extended to the UGA will not serve adjacent rural or resource lands.

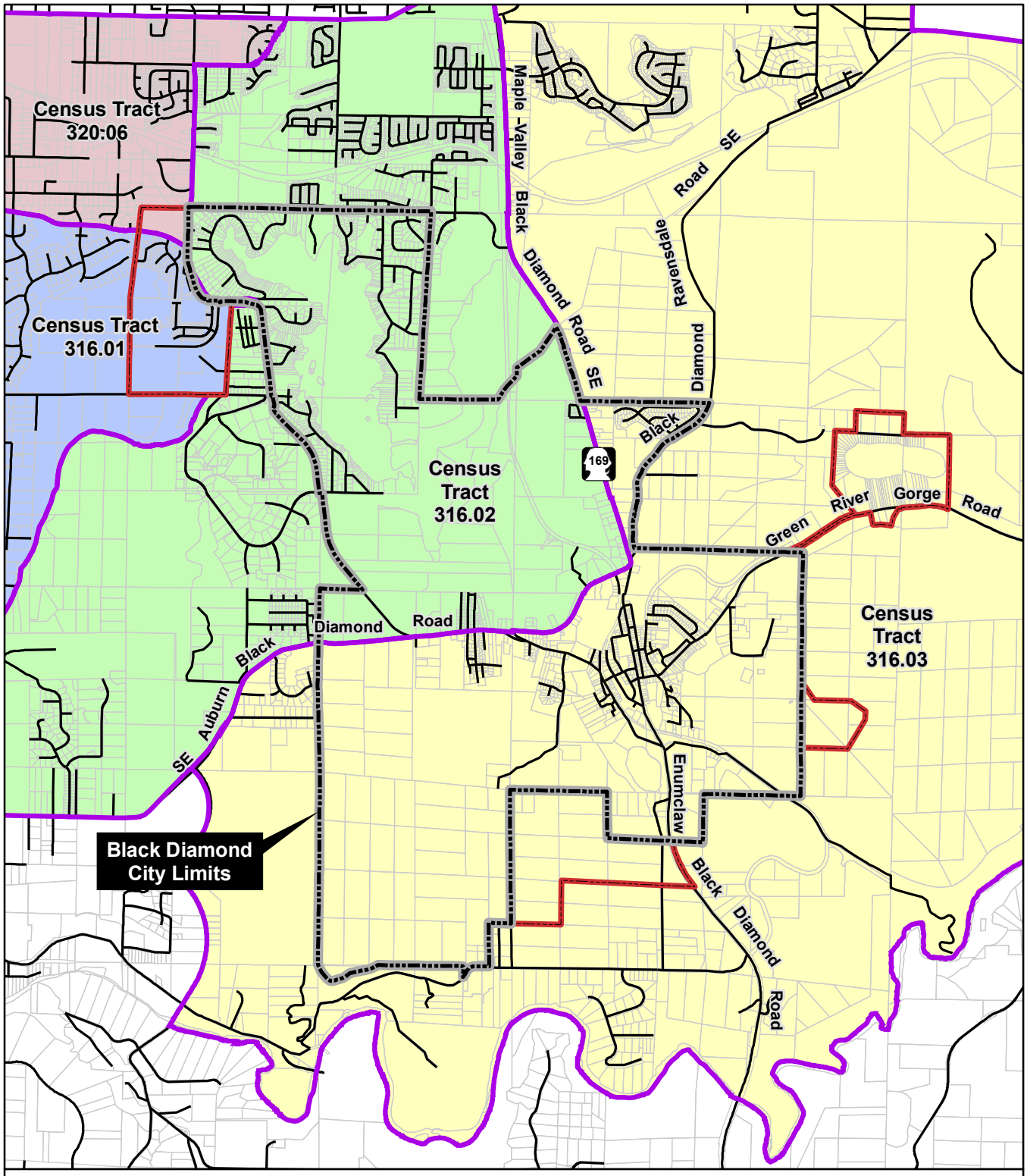
UGA Policy U 10: Identify appropriate programs and technologies to reduce solid waste and conserve supplies and energy resources.

Chapter 3. Population and Employment Character

3.1. Population

At the turn of the twentieth century, the City of Black Diamond (City) was a thriving coal mining town and contained a population of 3,000 persons. In the early years of the twenty-first century, the City has passed that threshold again and is a thriving village community with a population of 4,085 (2007). By 2025, the City is expected to grow to a population of 16,980 residents. Much of the growth will occur as a result of Master Planned Developments (MPDs) in areas annexed to the City in 2005 and areas slated for future annexation consistent with the Black Diamond Urban Growth Area Agreement (BDUGAA).

For the 2000 Census, the Black Diamond area consists of portions of three Census tracts: Tract 316.01, which covers the area surrounding Lake Morton; Tract 316.02, which includes the northwest quadrant of the City, as well as Lake Keevies, Lake Sawyer, and part of Maple Valley; and Tract 316.03, which covers most of the City, as well as territory south, east and north, extending to Ravensdale (Figure 3-1). The collective outer boundary of the tracts coincides with the Puget Sound Regional Council's (PSRC's) Forecast Analysis Zone (FAZ) 3310, and the three tracts continue to be closely tied. (Some discussion in the comprehensive plan refers to them collectively as "Tract 316," and combines data for the three separate census tracts.)



Road
City Limits
Potential Annexation Area
Parcel Boundary
Census Tract (2000) Boundary

Sources: City of Black Diamond (2006); King County (2007)

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ICF Jones & Stokes
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Figure 3-1. Census Tract Map
Black Diamond Comprehensive Plan
May 2009

Much of the increase in population in the City between 1990 and 2000 can be attributed to the annexation of the Lake Sawyer neighborhood in 1998, which added 1,480 residents to the City. However, as can be seen from Table 3-1, development in this portion of the county has also been proceeding more rapidly than the county or state as a whole for the past 30 years.

3.1.1. Current Population

The State of Washington Office of Financial Management (OFM) estimated the April 2008 population of the City at 4,155 people and the population of King County, as a whole, at 1,884,200 people. The combined 2000 population of Census Tracts 316.01, 316.02, and 316.03 was 13,158 people, 3,970 residents which located within the City.

The City was incorporated in 1959. The 1960 population was 1,026. Population growth is shown below in Table 3-1 for years 1970 to 2006. Between 1970 and 1980, the City experienced slow growth of less than 1%. From 1980 to 1990, the City experienced 21.5% growth, followed by a boom in population growth between 1990 and 2000, most of which was due to the annexation of the Lake Sawyer neighborhood in 1998. During this period, the City more than doubled in population, from 1,422 residents in 1990 to 3,970 residents in 2000, an increase of 179%. Growth since 2000 has been slower, with population increasing 2.9% from 2000 to 2006. Development moratoria were in effect for much of this period.

Table 3-1. 1970–2006 Population Growth

	1970	1980 % change	1990 % change	2000 % change	2008 % change
Washington State	3,143,250	4,132,353 31.5%	4,866,669 17.8%	5,894,121 21.1%	6,587,6000 11.8%
King County	1,145,314	1,269,749 9.8%	1,507,319 18.7%	1,737,046 15.2%	1,884,200 8.4%
Census Tract 316/ FAZ 3310	4,185	6,858 63%	9,083 32.4%	13, 158 44.9%	--
Black Diamond	1,160	1,170 0.86%	1,422 21.5%	3,970 179%	4,1554.7%

Source: U.S. Census for 1970-2000. Washington State OFM Estimate for 2008.

2000 Population estimate for Tract 316 represents combined totals for Tracts 316.01, 316.02, and 316.03.

Approximately 46% of City residents lived in the same house in 2000 as they did in 1995, which is comparable to a residency pattern of 48% in King County as a whole.

Sex and Age Distribution

According to the 2000 Census, the City's median age was 36 years, which is equal to the median age for King County as a whole. Tracts 316.01 –316.03 had median ages of 38 years, 33 years, and 35 years, respectively. A comparison of age cohorts in the City and Tract 316 and King County is illustrated in Table 3-2.

Table 3-2. Summary Age Distribution

Age Group	Black Diamond	Census Tract 316	King County
< 18 years	28.5%	30.2%	22.5%
18 - 64 yrs.	63.3%	63.7%	67.1%
65 + years	8.3%	6.2%	10.5%

Source: US Census 2000, Summary File 1.

This age distribution is generally consistent with information from the 1990 census and shows that the City has both a significant percentage of children and elderly persons. The community, thus, encompasses all age groups.

The City and Census Tract 316 have 50.9% to 49.1% male to female composition. King County is 49.8% male and 50.2% female.

Education

According to data from the 2000 Census, 87.5% of City residents have at least a high school diploma (vs. 90.3% of the county as a whole) and 21.8% at least a Bachelor's degree (vs. 40.0% for the county).

Ethnicity

Composition of racial and ethnic groups is illustrated in Table 3-3. Proportionally, the Census Tract and the City are very similar. The predominant ethnic group is White (93.4%) with the next largest ethnic group American Indian/Alaskan Native (1.6%).

Table 3-3. Ethnic Origin

Ethnic Group	King County	Census Tract 316	Black Diamond
White	75.7%	92.7%	93.4%
Black	5.4%	0.5%	0.08%
American Indian, Alaskan Native	0.9%	0.9%	1.6%
Asian and Pacific Islander	11.3%	1.8%	1.1%
Other	2.6%	1.1%	0.9%

Source: US Census 2000, Summary File 1.

Given the history of the City, great ethnic diversity exists within the white population. The City had a history of a wide ethnic population mix that came to work the mines, including Italian, Welsh, Austrian, Yugoslavian, Finnish, Belgian, French, and Polish.

Income

At the time of the 1990 Census, nearly 45% of City households were considered low-income ($24,999 per year or less), and the City's median household income was only 79% of that of King County as a whole. As of the 2000 Census, the percentage of low-income households has dropped to 16.6%, while that of King County is approximately 20%. The median household income in the City has increased dramatically as well, rising 138% from $28,155 in 1990 to $67,092 in 2000. During the same period, King County's median household income increased 47%. Much of this increase can likely be attributed to the annexation of the Lake Sawyer neighborhood in 1998.

3.1.2. Population Forecast

Population forecasting is an integral part of the planning process. The King County Countywide Planning Policies (CPPs) require jurisdictions to estimate the number of new households and jobs that will be accommodated during the 20-year period. The Growth Management Act (GMA) requires jurisdictions to plan for no less than a 20-year period; hence, population and household forecasts for this comprehensive plan extend to 2025, as this plan update process began in 2004. Through the comprehensive planning process, each jurisdiction must, at a minimum, provide adequate land, transportation, capital facilities, and utilities to accommodate this growth target over the 20-year period. The 20-year target, however, is just that—a target that expresses the intent of the comprehensive plan. The plan also recognizes that many variables can cause a somewhat higher or somewhat lower actual population.

King County Overview

King County as a whole contained 1,737,046 residents as of the 2000 Census, and the OFM estimates a 2008 population of 1,884,200. OFM forecasts that King County's population will increase by 460,000 residents by the year 2025. Per the 2004 King County Comprehensive Plan, 96% of this household growth from 2001 to 2022 is expected to locate within the designated Urban Growth Area (UGA), which makes up about one-fifth of the county.[2] How this growth will be distributed within the county will be a function of the King County CPPs, plans of individual jurisdictions, the regional economy, and the private marketplace.

King County CPPs allocated 1,099 new households (for the period 2001–2022) to be built in the City. This represents the amount of growth the City is obligated to plan for during that period of time. However, due to several large development proposals likely to occur during the upcoming 10 to 15 years, this plan assumes greater increases in the number of households and in population (Table 3-4).

Table 3-4. Comparison of New Household and New Employment Allocations and Projections

King County Allocation (2022)	King County CPP Allocation (2022)	Black Diamond Projection (2025)	
New Households	New Employment	New Households	New Employment
1,099	2,525	5,426	2,677

Note: Black Diamond projections are for the year 2025.
CPP = Countywide Planning Policies

City of Black Diamond Building Activity

The City has had a moratorium on subdivisions in place since 2001 in order to update required plans and regulations. Thus, there has been little formal subdivision development in the last five years outside of what was vested prior to 2001. Residential in-fill development has continued over the past ten years, however, as population growth and increases in land prices have occurred throughout southeast King County.

Land for Future Growth

In December 1994, the City annexed 783 acres of land to the southwest of the City limits, near Black Diamond Lake. This annexation area is designated for development as an MPD, including single-family and multifamily residential development, along with a small commercial area, recreation, and a 50% open space

[2] King County, 2004 King County Comprehensive Plan, “Household Growth Targets by Subregion” table, page 2-6.

requirement. In December 2005, the City annexed the West Annexation Area, an area designated in the BDUGAA. This annexation added 338.6 acres of vacant land to the City's land supply which can be developed with a mix of commercial, residential and mixed-use development types through application of the City of Black Diamond Master Planned Development Ordinance and the Pre-Annexation Development Agreements adopted for these properties. MPD, residential subdivision, and building permit activity for the City is anticipated to increase beginning in 2009, following the lifting of the development moratorium. There is significant pent up demand and development potential within these recently annexed areas.

The City of Black Diamond Comprehensive Plan contemplates significant residential growth in the City limits. Growth is seen as a key to creating a balanced and fiscally sound community and will be managed pursuant to the plan and development regulations.

City of Black Diamond Population Forecast

The updated comprehensive plan is based on an extended 20-year planning period. In order to determine a population forecast for the year 2025, the City reviewed the PSRC preliminary 2003 forecasts for FAZ 3310, King County forecasts, existing City plans and policies, and forecasts regarding the long-term state of the regional economy. The City believes that considerable growth could occur within the City in the next 20 years, given its significant amount of developable land, GMA and King County CPPs directing growth to existing urban areas (i.e., cities), and a strong economy. Table 3-5 identifies population counts for 2000 and 2006, and the City's population projections for 2025.

Table 3-5. City of Black Diamond Population Projections

Year	Population	Households	Annual Population Increase
2000	3,970	1,456	---
2006	4,085	1,578 (2.6 pph)	0.47%
2015	10,437	3,740 (2.79 pph)	9.8%
2020	15,770	5,776 (2.73 pph)	7.1%
2025	16,980	6,302 (2.68 pph)	1.2%-

Note: Projections for population and households include 2006 Black Diamond City limits and 2006 Potential Annexation Areas.

pph = persons per household**Error! Bookmark not defined.** for 2015-2025 was derived from the 2006 PSRC FAZ (Forecast Analysis Zones) forecasts.

For purposes of the 2025 projection, the number of persons per household is projected to gradually decline to 2.68 persons per household (pph), and is reflected in the estimate.

The amount of growth the City plans for in its comprehensive plan should be consistent with the CPPs including the household allocation. Section 3.3.1 and Table 3-4 show the relationship between the City's projection and the CPP's household and employment allocation. It should be noted that the CPP projections and targets do not currently reach the year 2025, and the City has derived its own projections for a portion of this time period.

Population growth in the City is encouraged by the comprehensive plan provided it is consistent with the City's vision, respects the natural environment, and pays its "fair-share" of the costs associated with growth. Growth that is managed and occurs consistent with these principles will contribute to a more balanced and fiscally sound community.

There are many uncertainties inherent in population forecasting. In planning for its future growth, the City has intentionally planned for more land than is estimated to be needed for growth over the next 20 years. If substantial growth does occur at a significantly higher or lower rate than anticipated, adjustment of some aspects of this plan (particularly growth phasing) may be necessary.

The City uses a formula for calculating the amount, use, and density of land within the City to ensure that the forecast of population, housing, and employment is met and so that limitations of available land supply will not artificially drive up prices. This is important so that the fluctuations in population and employment growth can be absorbed, and unmet demand for housing and jobs is not displaced into rural unincorporated areas. To accomplish these objectives, King County recommends and uses a land supply factor of 140% (i.e., 40% more land should be provided above that calculated to be needed for projected growth based on land use designations, zoning regulations and household size). Existing comprehensive plan designations would supply enough land for approximately a 9% increase over the forecasted population of 16,980, which is significantly less than the 140% land factor recommended by King County. However, this smaller margin is considered to acceptable for the City due to the fact that substantial developable land in large single-ownership tracts is expected to be coming on the market in the near future, is anticipated to build out during the planning period, and the resulting amount of population and household growth is significantly greater than allocated through the King County CPPs. This supply of land is anticipated to be built-out within the lifetime of this comprehensive plan's planning horizon (2008-2025), which will also remove a larger than usual share of the City's developable land supply from the vacant land inventory.

3.2. Employment

3.2.1. Current Employment

According to Census data, 2,122 City residents were employed as of 2000. The City has little local employment, however. The 2003 King County Annual Growth Report estimated a total of 427 jobs within the City limits in 2000. These jobs were categorized as follows:

Table 3-6. 2000 Employment

Industry	2000 Jobs
Retail	105
Finance, Insurance, Real Estate, Services	42
Governmental & Education	132
Wholesale, Transportation, Utilities (WTU)	*
Manufacturing	*
Agriculture, Forestry, Fishing, and Mining/Construction	113
TOTAL	427

PSRC tally of jobs covered by state unemployment insurance, as reported in King County 2005 Annual Growth Report.

* Sector detail is suppressed to protect confidentiality.

The 427 jobs represent a ratio of approximately 0.3 jobs per household.[3] Given that the City is not in immediate proximity to a major employment center, most residents must travel to the western portion of King County or to Pierce County for work.

The 2000 mean travel time to work for City residents was 38.3 minutes (versus. 26.5 minutes for King County as a whole). This lack of local jobs contributes to lower incomes for City residents, a reduced tax base for the City and increased vehicular commuting.

The 2000 unemployment rate for the City was 1.8% compared to 4.5% for the county as a whole.

In 2000, the jobs-to-household ratios for the City was compared to other King County rural small towns listed below, as well as neighboring Covington and Maple Valley. As shown in Table 3-7, the City currently has a significantly lower ratio of jobs-to- households than neighboring or similarly sized cities.

[3] 2000 U.S. Census: 1,456 households in Black Diamond

Table 3-7. Jobs per Household Ratios

Black Diamond	0.3 jobs per household
Rural Small Towns	
Carnation	0.9 jobs per household
Duvall	0.7 jobs per household
Enumclaw	1.0 jobs per household
North Bend	1.1 jobs per household
Snoqualmie	2.1 jobs per household
Neighboring Jurisdictions	
Covington	0.6 jobs per household
Maple Valley	0.6 jobs per household

Employment Forecasts

Between 2000 and 2020, the PSRC forecasts that employment in King County will increase by 328,000 jobs. The composition of the county economy is shifting as manufacturing employment declines, and employment in the retail, services, and government/education sectors increases.[4]

The City supports local job growth and, through its comprehensive plan, is attempting to achieve a better "jobs-housing balance" for both existing and future residents. The City's goal is to ensure that land use planning allows the achievement of one local job per household for the year 2025 and beyond. These reasons for the anticipated employment growth are elaborated in the Table 3-8.

Table 3-8. Employment Sector Growth

Employment Sector	Reason for job growth
Retail & Services	Services residential areas. Anticipated to grow with residential growth.
Governmental & Education	Jobs will increase as new community facilities are located within the City.
WTU & Manufacturing	The jobs will correspond to the existing industrially zoned land and converted mineral extraction area.

A total of 2,525 new jobs are planned to be accommodated in the City by 2025.

[4] Puget Sound Regional Council 2006 Sub-County Forecasts of Population and Employment, Central Puget Sound Region. (Released October 26, 2006).

Table 3-9. City of Black Diamond Employment Projection

Year	Households	Jobs	Annual Increase
1990	541	177	--
2000	1,456	427 (0.30 jobs/hh)	13.7%
2015	3,740	1,404 (0.38 jobs/hh)	7.7%
2025	6,302	3,147 (0.50 jobs/hh)	7.6%
Buildout	7,105	11,557 (1.62 jobs/hh)	--

Note: Projections for households and jobs include 2006 Black Diamond City limits and 2006 Potential Annexation Areas.

hh = household

3.3. Implications of Population and Employment Growth

3.3.1. Population and Households

The GMA requires that each county accommodate a population allocation which is based upon OFM 20-year growth forecasts. Adequate land must also be identified for commercial and industrial uses to meet local employment needs. The 2004 King County Comprehensive Plan has planned to accommodate 1,993,000 residents in the County by the end of its 2022 planning period. The CPPs allocate 1,099 new households to the City by the year 2022; this is the amount of growth the City is obligated to plan for according to the GMA. The GMA requires that the connection between projections and the plan ensure that adequate urban levels of service for public facilities and services can be provided.

In contrast, the City expects to gain 2,162 new households by the year 2015 and an additional 2,562 new households by the year 2025, for a total of 4,724 households. The City's extended projections would exceed the targets established in the CPPs. However, the CPP targets have not been updated at this time to include the year 2025. Similarly, the CPPs do not factor in current (and recently changed) local conditions regarding land ownership, the presence of several large land parcels with significant development potential, and pent-up demand due to recent development moratoria. In sum, these factors support a significant increase in the City's growth projections.

3.3.2. Employment

Attaining a healthy housing-jobs mix is central to the City's future growth and to accomplishing its vision. The City's employment target is to provide one job per

household within the City by the year 2025 which would translate to a jobs target of approximately 6,534 jobs. However, employment projections used in this update are more conservative in order to recognize that the City's population will need to grow first so it provides a larger market base that can attract and support a higher level of commercial development, including the services needed by a larger population. The plan will be monitored and can be adjusted to account for more aggressive job growth, as economic conditions change in future updates. This monitoring will need to be in addition to that required of MPD projects as part of their required fiscal analyses.

The City is expected to have 977 new jobs in the year 2015 and 1,743 new jobs in the year 2025. The 2022 CPP allocation of 2,525 new jobs can be accommodated within the 2006 City limits based on existing land use designations and anticipated development. The City's updated projection is for 2,677 new jobs by 2025. About 833 acres of employment land are proposed in the City limits, including the conversion of interim mineral extraction land that is expected to be depleted.

3.3.3. Allocating Land for Household and Employment Growth

The following Chapters provide the basis for the comprehensive plan to direct and accommodate future household and employment growth within the City and its UGA.

Chapter 4. The Natural Environment

4.1. Introduction

4.1.1. Preserving the Natural Beauty

The first 100 years of the City of Black Diamond's (City's) history were based on extraction of the natural resources. The next 100 years of the City's future will be characterized by the preservation of the quality of its natural setting, its scenery and views, and the preservation of its historic treasures.

From the local fishing hole, to the field where deer graze, to the beaver dams, to the eagle flight overhead; these resources are a tangible part of living in the City. The extensive natural beauty and intricate ecosystem of the City form the basis for a natural resource and open space network. The network serves to define the edges for the existing and future development areas.

This Natural Environment chapter provides the framework for protection of natural resources. The City's forests and fields—along with the natural drainage system and its connections with lakes, streams and forests—form a rich habitat for fish and wildlife that is unlike any other city in King County.

Information contained within the Natural Environment chapter is based upon sensitive areas inventories conducted by the City in the early 1990s to locate, identify, and categorize sensitive areas within the City's jurisdiction. The City uses King County Map data as a basis for developing existing sensitive areas maps. Therefore, the King County Interactive Map Folio was used to provide sensitive areas inventory information for the current City boundaries. The City's current Environmentally Sensitive Areas regulations (Chapter 19.12, Black Diamond

Municipal Code) were adopted in 1993 and are in the process of being updated in 2008.

4.2. Existing Natural Features

4.2.1. Water and Natural Drainage

Drainage within the planning area is an interrelated system of surface water, groundwater, and wetlands. In order to identify existing drainage characteristics and potential impacts from urbanization, an understanding of the site-specific hydrologic interaction among the components of the drainage system is required.

Surface Water Drainage Basins

Nearly all of the planning area is located in the Rock Creek and Ravensdale Creek Drainage Basins. Rock Creek and Ravensdale Creek are two headwater drainage systems of Lake Sawyer and Covington Creek. Rock Creek drains to the south and southwest portion of Lake Sawyer, while Ravensdale Creek drains to the north and northwest portion of the Lake Sawyer area. Lake Sawyer is the fourth largest natural lake in King County. Lake Sawyer's outlet is Covington Creek which flows west into the Big Soos Creek drainage system. The Big Soos Creek discharges into the Green River about 1 mile east of the City of Auburn and about 7 miles west of the City. The southern and western most portions of the planning area touch upon watersheds oriented toward Green River and the Crisp Creek drainage basin (including Horseshoe Lake), respectively. The Lake 12 Annexation Area drains to the middle Cedar River indirectly via the lake and wetlands extending east from the lake.

Types of land cover presently found in the Rock Creek and Ravensdale Drainage Basins include remnant forest stands (second and third generation growth); grass; and limited impervious surfaces (roads and a few structures). Forest covered surfaces typically display higher infiltration capacity and less surface runoff potential than grass covered surfaces because the root system of trees is more extensive and deeper than that of grass. The flat to moderate topography of the Rock Creek Drainage Basin further reduces surface runoff potential.

Surface impoundments caused by lakes, wetlands, and streams influence surface runoff by providing storage that helps attenuate the peak rate of discharge. The storage effect of streams is less pronounced than that of lakes and wetlands. In streams, increased surface runoff volumes and prolonged duration of peak rates of discharge results in more impact.

The surface water drainage system in the planning area is shown in Figure 4-1.

Basin boundaries were identified from the 1990 King County Soos Creek Basin Plan (1992). Much of the area near the City is designated as Regionally Significant Resource Areas in the Soos Creek Basin Plan because of the relatively pristine condition of the watershed, including the streams, lakes, wetlands and surrounding forested upland areas.

The Rock Creek and Ravensdale Creek drainage basins received special attention in the City's resource planning.

Streams and Lakes

Both the Rock Creek and Ravensdale Creek basins drain to Lake Sawyer and ultimately to the Green River. A small portion of the planning area drains either to the Green River via an unnamed drainage network or via Lake Keevies and Crisp Creek, or to Horseshoe Lake, which has no outlet.

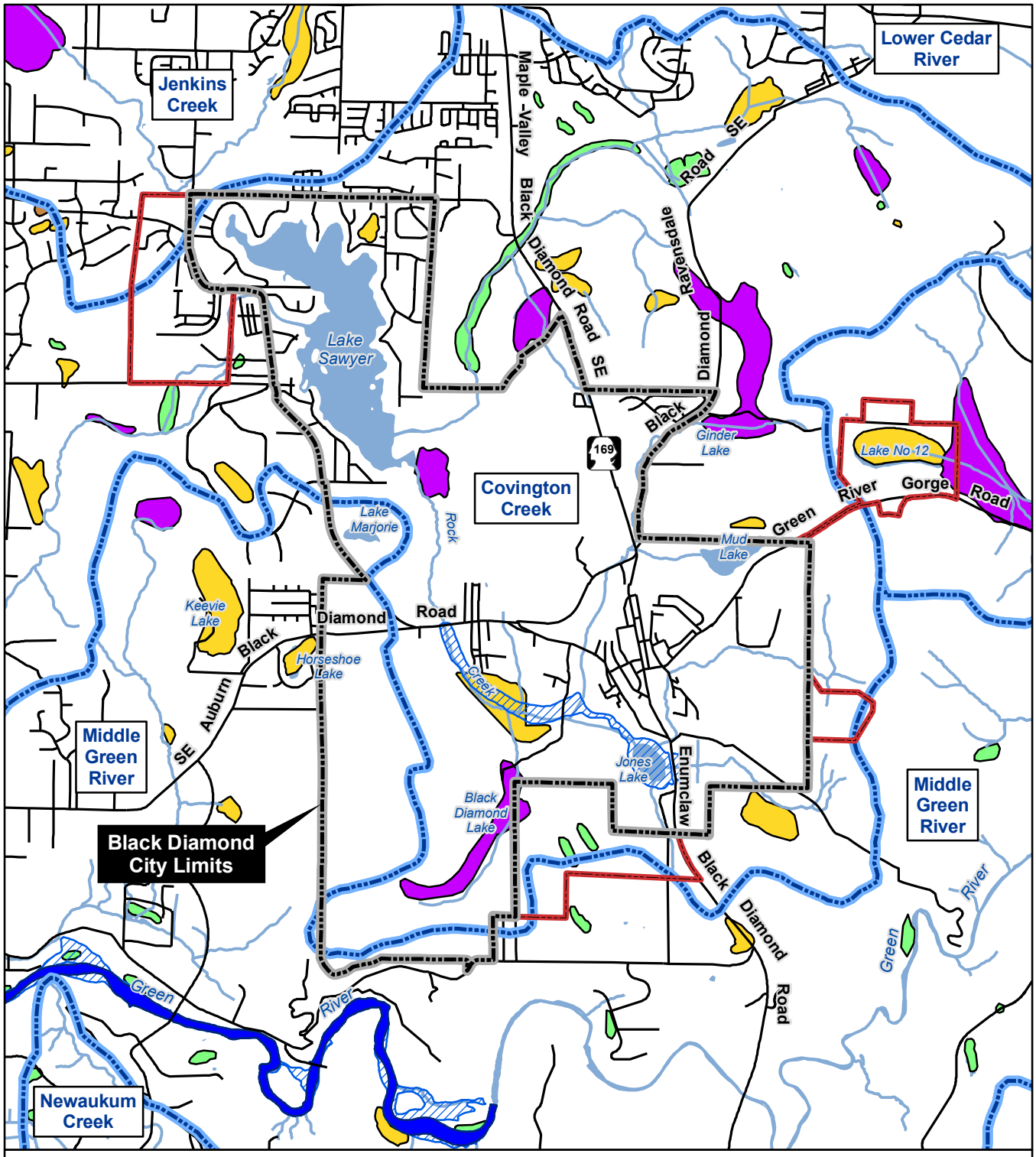
Major creeks in the City were inventoried in 1991 using guidelines provided by the Washington State Department of Natural Resources (DNR), in compliance with the Growth Management Act (GMA).

There are eight creeks located in the planning area—Covington Creek, Rock Creek, Jones Lake Creek, Ginder Creek, Lawson Creek, Mud Lake Creek, an unnamed tributary to Black Diamond Lake, and Ravensdale Creek. These water bodies are listed in Appendix A. Stream classifications shown in Appendix A are based on a water typing system used by DNR and are for information purposes only. Stream types are classified in the City's Sensitive Areas Ordinance (SAO) under "Water Typing System," which defines streams from Type 1 to Type 5 depending on the presence of fish, whether intermittent or year round, and other factors. Stream type will be determined using the definitions and criteria of the City's SAO.

Covington Creek is also classified as a Shoreline of the State, subject to the Shoreline Management Act (SMA). There is only a small segment of Covington Creek where it exits Lake Sawyer within the existing City limits.

In their present state, all of the larger streams are moderately important for water supplies, recreation, fish and wildlife habitat, and protection of water quality. Lawson Creek influences water quality in Jones Lake and the Rock Creek wetlands, and Mud Lake Creek influences the water quality of Ginder Creek. All other drainage courses within the Rock Creek watershed are considered minor.

There are eight existing lakes within the planning area — Lake Sawyer, Jones Lake, Black Diamond Lake, Oak Lake (also known as Lake Marjorie), Frog Lake, Horseshoe Lake, Lake Number 12, and Mud Lake.



City Limits
Potential Annexation Area
Road
Water Feature
Surface Water Drainage Basin
Floodway
Floodplain (1% annual chance)

King County Wetland Inventory Rating
1 - Unique/outstanding wetland
2 - Significant
3 - Low Concern
4 - NWI Wetlands (not classified)

Sources: City of Black Diamond (2006); King County (2007)

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Figure 4-1. Drainage Basins, Flood, and Wetlands Map
Black Diamond Comprehensive Plan
May 2009

Lake Sawyer is the fourth largest natural lake in King County at 286 acres with a watershed of 13 square miles. Lake Sawyer is considered a "shoreline of the state" and is subject to the SMA and the City's Shoreline Master Program. The lake is fed by the Rock Creek and Ravensdale Creek drainage systems. Lake Sawyer has experienced water quality problems from various sources, including discharge of inadequately treated sewage from the decommissioned the City's sewage treatment plant located in the Rock Creek drainage. A lake management plan for Lake Sawyer was completed by King County in 2000. The City and King County have conducted stormwater monitoring in the lake's watershed to help identify sources of phosphorus. Data collected by volunteer lake monitors indicate that Lake Sawyer is low to moderate in primary productivity with very good water quality.[5] Ravensdale Creek has a disproportionately high discharge to drainage area ratio likely due to a high influx of groundwater. Although its drainage area is about half that of Rock Creek's drainage area, Ravensdale Creek has a discharge about 3 times greater than that of Rock Creek during the dry summer months. The phosphorus concentrations in Ravensdale Creek are relatively low during the wet season but exceed those of Rock Creek during the dry season when most of the flow is comprised of naturally phosphorus rich groundwater. Consequently, Ravensdale Creek contributes about half as much phosphorus to Lake Sawyer as Rock Creek. Lake Sawyer is an important migration corridor for a late run of coho salmon that pass upstream shortly after Christmas. The fish spawn in upper Ravensdale Creek. Lake Sawyer also provides year-round recreational fishing for stocked rainbow trout and warm water fish. The lake is also used extensively for boating, water-skiing, and other recreation. Public access is provided at a boat launch on the northwest side of the lake. An undeveloped 168 acre park is located along the southern part of the lake.

Frog Lake is located in the northwestern part of the planning area at the southeastern portion of Lake Sawyer. Frog Lake is approximately 25 acres in size. It is largely a forested wetland with an open water area, identified as Wetland 2 by the City or as Covington Creek 22 by King County's Interactive Map Folio Sensitive Areas layer. As a wetland related to Lake Sawyer, Frog Lake is considered a shoreline of the state regulated by the SMA.

Jones Lake is 23 acres in size with a watershed of 740 acres. It is fed by Lawson Creek and two other unnamed tributaries, but is a highly groundwater-dependent lake that displays a seasonal fluctuation in water level. Jones Lake is classified as a dystrophic lake, characterized by relatively high concentrations of acidic organic materials in solution. These chemical conditions can reduce the rate or prevent the processes of bacterial breakdown that would otherwise recycle nutrients from dead

[5] King County Lake Monitoring Report, Water Year 2004.

organic material at the bottom. The bottom deposits of Jones Lake consist largely of unrated organic material which accumulates as peat. The area of Jones Lake is identified as a peat deposit in the Tahoma Raven Heights Community Plan. Jones Lake and the surrounding land have been identified and partially acquired by the City using funds from the King County Open Space Bond Fund. Jones Lake has recreational fishing values. Stocking records available for Jones Lake (previously known as Lake 14) show the following plantings: 1915 - yellow perch; 1922, 1926, 1928, 1929 and 1930 - eastern brook trout; 1932 - kokanee; 1950 - rainbow trout; and 1956 - rainbow trout. Bass, crappie and brown bullheads have also been introduced into this system. Warm water species such as yellow perch, bass, crappie, and bullheads can spawn in lakes and establish self-reproducing populations.

Black Diamond Lake is part of an extended high quality wetlands system. Black Diamond Lake is approximately 11 acres in size with an average depth of 6 feet and a maximum depth of 8 feet and is fed by surface water from a roughly 700-acre watershed and groundwater. Black Diamond Lake has recreational fishing values provided by bass and other warm water fish. The lake was stocked with rainbow trout by the Washington Department of Fish and Wildlife in 1958, 1963, and 1965. There is a high quality peat wetland area located upstream from the open water lake. Black Diamond Lake and its associated world-class bog have been extensively researched by the Nature Conservancy and represent a valuable natural asset for the City.

Oak Lake has not been researched other than to identify it as an open water wetland. Oak Lake is approximately 5 acres in size. It is described as a groundwater depression and is isolated from the other lakes and Rock Creek drainage system.

Horseshoe Lake, located just west of the City limits, is situated in a topographic depression with no outlet. It is fed by both surface water and groundwater and is particularly sensitive to local changes in the shallow groundwater table.

Lake Number 12 covers 44 acres and is fed by surface runoff from a 500-acre drainage area and shallow groundwater flow over a less permeable substrate layer. The lake is known to have an aquatic weed growth problem associated with high phosphorus concentrations. Lake 12 is considered a “shoreline of the state” and is regulated by King County’s Shoreline Master Program. Lake 12 is in the City’s Urban Growth Area (UGA) northeast of the current City limits.

Mud Lake is largely a wetland with a drainage basin of 378 acres. This lake is located in an area designated as mineral resource land. It was once part of a mining plan. However, disturbance of the lake is no longer proposed.

Groundwater

Ground water either moves laterally or remains in place as an isolated body of water and slowly moves downward. Shallow groundwater will generally reflect the influence of local precipitation and surface water phenomena. Deep groundwater is generally regional both in terms of size and immunity to local surface water changes. Groundwater characteristics depend largely on subsurface geologic features (stratigraphy) and surficial geologic features (soil type).

Major groundwater sources in the Puget Sound area are found in the glacial and non-glacial deposits formed during the Pleistocene epoch. Subsurface and surficial geologic features in the Rock Creek, Ravensdale Creek, and Crisp Creek watersheds resulted from the Vashon ice flow. The Vashon ice flow left deposits of outwash and till which form the major groundwater sources in the Rock Creek, Ravensdale, and Crisp Creek drainage basins. Glacial outwash is a medium to highly permeable sand and gravel that produces nominal surface runoff. Precipitation and surface discharges infiltrate the outwash, which generally contributes to recharging deep, regional groundwater aquifers.

Groundwater occurs in three aquifer systems beneath the planning area. These aquifer systems include 1) a seasonal shallow or perched unconfined aquifer in the weathered soil and recessional outwash overlying till or bedrock, 2) an intermediate depth, regional unconfined and confined aquifer system within the pre-Vashon glacial and interglacial sediments, and 3) a confined regional aquifer system within the bedrock.

The shallow aquifer system is the primary water resource penetrated by most of the domestic wells in the planning area. At least seven water wells penetrate the intermediate depth aquifer in the planning area. The deep bedrock aquifer is controlled by fractures in the bedrock. Several domestic wells penetrate the bedrock aquifer in the east portion of the planning area, but are typically very low in yield.

The shallow aquifer is particularly vulnerable to contamination from the surface and may dry out seasonally in some areas. The intermediate depth aquifer is recharged over a very large area and is generally protected from contamination from the surface. The bedrock aquifer often contains water with elevated level of minerals, such as iron and sulfur that may affect water quality.

Ground water flow patterns have both vertical and horizontal components. In the planning area, the primary vertical component of flow is downward percolation from the shallow aquifer, through the underlying till or fractures in the bedrock, and into the intermediate or deep bedrock aquifer. Horizontal groundwater flow in the shallow aquifer discharges to surface water features in the Rock Creek, Ravensdale Creek, and Crisp Creek drainage systems.

Ground water recharge to the shallow aquifer is primarily from precipitation or infiltration of surface water runoff from adjacent areas. As precipitation falls on the ground surface, a portion infiltrates into the soil. Precipitation that does not infiltrate remains on the surface, filling small depressions or moving downslope as surface runoff. Some shallow infiltrated water (soil moisture) is used by plants and returns to the atmosphere by evaporation. When the soil moisture content is high, such as occurs after a long period of rainfall, water within the soil migrates downward. Downward percolation of water is impeded by relatively impermeable till or bedrock that underlies most of the land. Where water is concentrated within topographically low areas, lowlands such as wetlands and streams, there is generally more recharge than in topographically high, upland, areas where the surficial aquifer is dry much of the time. The intermediate depth and deep bedrock aquifer systems are recharged by infiltrating water over an area much larger than the planning area.

Public Water Supplies

Groundwater withdrawal has not been necessary to supply the City's water needs. The City currently obtains all of its municipal water from a series of springs (Spring No. 1 through Spring No. 4) located on the east slope of Green River gorge about 2 miles southeast of the City. The City does not maintain any water wells at present. The spring system is located in a geologically active area of the Green River gorge as demonstrated by a large landslide in February 1996 immediately downstream of Spring No. 1. The water quality and quantity are very good; limited only by the approved water rights consumptive allocation of the spring water.

The City has a wholesale contract for water supply from the City of Tacoma that will provide future water supply. The City will also continue to withdraw water supply from its springs so long as this source remains feasible.

4.2.2. Sensitive Areas

Sensitive Areas (also referred to as critical areas) are environmentally sensitive features of the City for which protection is required by the GMA. They include wetlands, frequently flooded areas, fish and wildlife habitat conservation areas (FWHCA), geologically hazardous areas, and areas with a critical recharging effect on groundwater used for potable purposes.

The City conducted sensitive areas inventories in its planning area in the early 1990s and is also using King County mapping data as its source of sensitive areas information. The Black Diamond Sensitive Areas Map was produced by King County geographic information systems (GIS) data. This plan relies on the King County Interactive Map Folio, Sensitive Areas layer to identify locations of known sensitive areas both within the City limits and the City's UGA. This information will

be updated in 2008 as a result of the update of the City's current Environmentally Sensitive Areas regulations (Ch. 19.12 BDMC).

Development adjacent to wetlands and streams inside the City is regulated by the City's SAO. The SAO contains requirements for designating, rating and mapping wetlands and streams, requires the establishment of wetland and stream buffers, identifies activities allowed within the buffers and describes applicable performance standards, and outlines appropriate mitigation requirements.

Wetlands

Known wetlands and streams in the City have been identified and classified (i.e., rated on a reconnaissance level) in the 1992 study entitled "City of Black Diamond Wetland and Stream Inventory." The City's SAO designates and rates wetlands according to the Washington State Department of Ecology's (Ecology's) wetland ratings system found in the Washington State Wetland Rating System documents (Western Washington Ecology Publication #93-74). Known wetlands in and adjacent to the City are identified in Appendix A. The wetland classifications listed in the appendix are preliminary and for information purposes only. For project proposals, wetland classifications will be determined using the definitions, criteria and procedures contained in the City's SAO.

The City has classified and designated frequently flooded areas using the Federal Housing and Urban Development Flood Map (Figure 4-1). This map identifies the following flood hazard areas inundated by a 100 year flood: along Rock Creek from Morganville to Jones Lake; the southern portion of Ginder Creek; surrounding Jones Lake and along the east side of Highway 169 (across from Jones Lake). New development in these areas will continue to be regulated by the City.

The 2006 King County Interactive Map Folio Sensitive Areas layer shows a small segment of Section 15 in the 100 year floodplain in the City. The floodplain is generally along the Rock Creek wetlands and Covington Creek Wetland No. 26.

Fish and Wildlife Habitat Conservation Areas

Fish and wildlife habitats in the City were identified and ranked in terms of value in the 1992 "City of Black Diamond Fish and Wildlife Habitat Study." High value habitats include the Rock Creek and Ginder Creek corridors, open water ponds, lakes, and riparian forests. These habitats exist around streams and wetlands, which are identified, classified, and regulated under the City's SAO. The SAO contains requirements for designating and mapping FWHCA, sets buffer requirements and performance standards for activities allowed within FWHCAs and their buffers, and outlines appropriate mitigation requirements. There are areas of high quality habitat that relate closely to the City's wetland and stream network. Two of these areas may

meet the City's SAO criteria for FWHCAs: 1) Ravensdale Creek and its adjacent wetlands; and 2) Black Diamond Lake and its adjacent wetlands (Figure 4-2). The City is currently updating its SAO and may revise the criteria for FWHCAs in the update process.

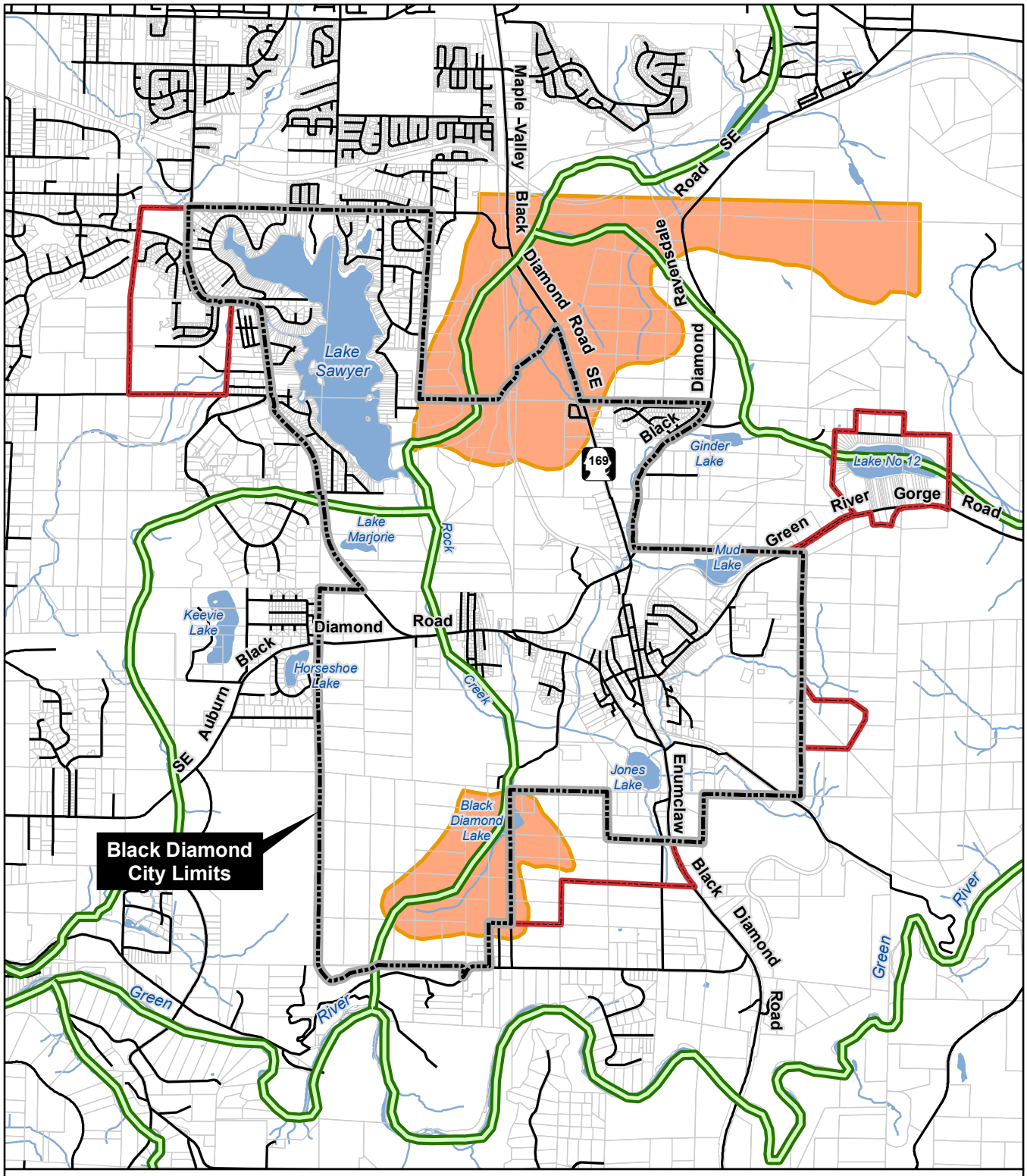
The general habitat types in the Black Diamond area include mixed deciduous and unmanaged evergreen forest, areas of regenerating managed forest, wetlands, lakes, riparian areas, and creeks. Wetlands, riparian areas, and lakes meeting certain criteria are listed as "priority habitats" in the Washington Department of Fish and Wildlife's (WDFW's) Priority Habitats and Species (PHS) program. WDFW has compiled draft maps of priority habitat areas in the City.

Wildlife corridors provide a means for wildlife, particularly species that roam widely or have large home ranges, to move freely within and among habitat types. Creeks and streams and their associated buffers function as wildlife corridors in urban areas. Rock Creek, Ravensdale Creek and the associated riparian habitat, functions as a corridor between the upper and lower Soos Creek basin. The Rock Creek corridor likely serves as a route to the Green River and upper parts of the Green River watershed as well, linking wildlife that use the lower Green River watershed and the upper Soos Creek basin. The following list of drainages and the known fish species are updated from the Water Resource Inventory Area (WRIA) 9 Fish Distribution maps (2000, King County DNR):

Covington Creek. Coho, cutthroat trout and steelhead are known to inhabit Covington Creek. The WRIA 9 Fish Distribution Map indicates that Covington Creek also provides good habitat for Chinook salmon, though presence of that species has not been verified.

Lake Sawyer. Covington Creek drains Lake Sawyer, which is fed by Ravensdale and Rock Creeks. Lake Sawyer supports populations of cutthroat trout, steelhead, largemouth and smallmouth bass, yellow perch, and rainbow trout (WRIA 9 2000 and WDFW 1991). The lake is impounded by a small dam at the head of Covington Creek. The dam has a fish ladder that allows passage of migrating coho. Due to low water flows and creekbed infiltration, however, the fish ladder is not typically passable until December. This factor limits coho use of the upper watershed, including Rock Creek.

Ravensdale Creek. Ravensdale Creek has significant fisheries value and is known to support coho and cutthroat trout. The headwater wetlands are important for maintaining perennial flow, as well as maintaining water quality in Rock Creek.



Sources: City of Black Diamond (2006); King County (2007)

Road
City Limits
Potential Annexation Area
Parcel Boundary
King County Wildlife Habitat Network
Study Area for Potential Fish and Wildlife Habitat Conservation Area

N

0 0.5 1
Miles

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Figure 4-2. Wildlife Habitat Network
Black Diamond Comprehensive Plan
May 2009

Rock Creek. A small portion of the planning area drains to Black Diamond Lake and the wetlands surrounding it. The Black Diamond Lake wetlands serve as partial headwaters of Rock Creek. Rock Creek is listed as supporting coho salmon, cutthroat trout, and steelhead in the WRIA 9 Fish Distribution Map.

Ginder Creek. The northeast portion of the planning area drains to Ginder Creek, which drains into Rock Creek. Ginder Creek historically provided good habitat for salmonid spawning and rearing. The WRIA 9 Fish Distribution Map (2000) shows Cutthroat trout presence in Ginder Creek. Based on a 1982 sampling, Ginder Lake supports warm water fish including black crappie, largemouth bass, and pumpkinseed. An obstruction limits the passage of adult salmonids upstream as far as Ginder Lake. Electroshocking done during the 1982 survey indicated that Ginder Creek, above State Route (SR) 169 may be able to support other species of fish if passage barriers were removed. The survey generally indicated that Ginder Creek is a relatively productive tributary (John Henry Mine, SEIS).

Mud Lake Creek. This stream provides some habitat for spawning and rearing of salmonids. The cascading portion over sandstone bedrock would prevent passage of salmonids. High turbidity was also identified in the 1982 sampling in Mud Creek, especially at the inlet to Mud Lake. Mud Lake Creek, however, represents an important source of water for Ginder Creek below the confluence near SR 169, at least during the winter months. Fish populations were essentially non-existent in Mud Creek (1982) and in the inlet to Mud Lake (John Henry Mine, SEIS).

Crisp Creek. The eastern edge of the Crisp Creek drainage basin crosses into the City. The Crisp Creek basin drains an area approximately 5.0 square miles with the majority of the basin located upstream of the Keta Creek Hatchery. Crisp Creek and Keta Springs are the water supply for the Hatchery. Crisp Creek is also the sole water supply for the state owned rearing ponds, located on the mainstem and upstream of the Hatchery. Coho, chum and Chinook salmon as well as steelhead have been produced at the Keta Creek Hatchery.

Green River. The planning area lies within 1 mile to the north of the lower end of the Green River Gorge, between river mile (RM) 42 and RM 47. In this vicinity, the river flows through a steep-sided eroded gorge. The Green River supports significant runs of coho, Chinook, and chum salmon as well as steelhead and sea-run cutthroat trout. These salmonid runs support important sport and retail fisheries in the Puget Sound Region and the Pacific Ocean as well as within the river system.

All of these creeks need highly effective groundwater and stormwater protection to maintain the water quality and ensure sufficient supplies of water for natural production or successful hatchery production. Stream buffers and limitations on land

uses contained in the City's SAO help protect the functions and values of these streams as critical fish and wildlife corridors.

Geologically Hazardous Areas

Geologically hazardous areas include erosion hazards, landslide hazards, and mine hazards. Areas of abandoned coal mine workings are identified and mapped in Figure 4-3 and are regulated by the City's Sensitive Areas regulations.

Areas of steep slopes are similarly identified in City Sensitive Areas maps and regulated by the SAO. The SAO contains designation and mapping requirements, a description of allowed activities and performance standards, and appropriate mitigation requirements for erosion, landslide, and mine hazard areas. Additional geologically hazardous areas not currently regulated by the SAO include seismic hazard areas and steep slopes.

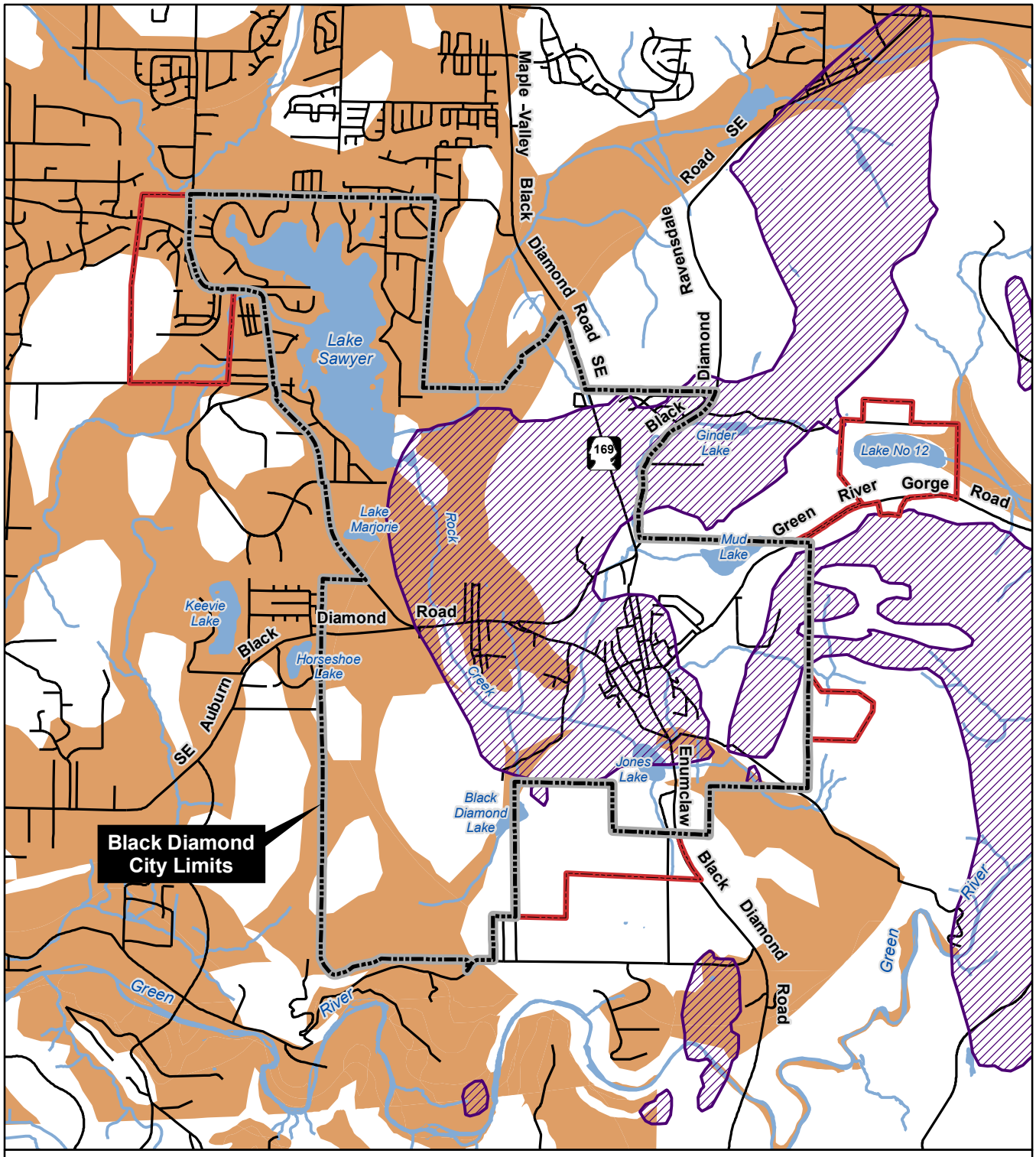
Erosion Hazard Areas

Erosion hazard areas are defined as those areas identified by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) as having a "severe" to "very severe" erosion hazard.

King County's Interactive Map Folio, Sensitive Areas Layer indicates five small locations within the planning area, including the Ravensdale Creek corridor, as "erosion hazard." Among the Natural Resources Conservation Service (formerly Soil Conservation Service [SCS]) soil types identified within the planning area, one is identified by King County as potentially severely erosive. It is shown as AkF and AgD. Relatively small areas of this soil type exist within Sections 22 and 23, but both are located along the edge of wetlands (southwest of Black Diamond Lake and east of Jones Lake). These erosion prone soils are constrained for development, especially the area of AkF near Black Diamond Lake.

Landslide Hazard Areas

Landslide hazard areas are defined in the City's SAO as those areas that are potentially subject to risk of mass movement due to a geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, groundwater, or other factors. King County's Interactive Map Folio (IMap) Sensitive Areas Layer delineates no known landslide hazardous areas within the planning area.



Sources: City of Black Diamond (2006); King County (2007)

- City Limits
- Potential Annexation Area
- Road
- Water Feature
- Potential Coal Mine Hazard Area
- Area Highly Susceptible to Groundwater Contamination

N

0 0.5 1
Miles

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Figure 4-3. Potential Coal Mine Hazard Areas & Areas Highly Susceptible to Groundwater Contamination
Black Diamond Comprehensive Plan
May 2009

Coal Mine Hazard Areas

Coal mine hazard areas include abandoned and improperly sealed mine openings and areas underlain by mine workings shallower than 200 feet in depth (steeply dipping seams) or shallower than 15 times the thickness of the seam or workings (gently dipping seams) may be affected by collapse or other subsidence.

Although the City is underlain by numerous coal mines, the “mine hazard” areas by definition are limited due to the accuracy of past mapping and the depth of most of the shafts. King County’s IMap Sensitive Areas Layer identifies one large area of "coal mine hazard" in the central part of the City, and a smaller area to the east in the Lawson Hill neighborhood. The county map layer appears to locate coal mine areas without specific information on the degree of hazard.

Information provided by Palmer Coking Coal (PCC) indicates that much of the existing City is built over deep underground coal mine working. Most underground coal mining in the Black Diamond area consisted of the "room and pillar" mining technique. "Pillars" of coal were left to provide support for the mining of adjacent areas, creating rooms. Once abandoned, these "pillars" would collapse and the "rooms" would fill with collapsed roof material, coal debris, and water.

There are known coal mine entrances, stockpiles of coal tailings or mine spoil in the planning area. Mining records indicate that underground mining has occurred in Section 2, 10, 11, 12, 13, 14, 15, and 23. Most of these are areas underlain by deep underground coal workings. The coal mine hazards identified in the SAMF are based upon maps available at the Department of Natural Resources. The approximate location of the mine areas is shown on Figure 4-3.

Prior to development in areas of coal mine working and potential subsidence, the City requires studies by geologic engineers detailing the depth to workings, the presence of surface openings or potential sinkholes, and a detailed examination of historic coal mine maps.

Seismic Hazard Areas

Seismic hazard areas are subject to severe risk of earthquake damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction. These conditions occur in areas underlain by cohesion’s soils of low density, usually in association with a shallow groundwater table. For the City, these areas are primarily wetlands and saturated soils. According to King County’s IMap Sensitive Areas Layer, no seismic hazard areas are identified within the planning area.

Steep Slopes

The county's SAMF does not identify steep slopes (greater than 40%) in the planning area and did not map inside the existing City limits. The steepest slope in the City occurs along the south side of Lawson Hill (aka Franklin Hill), where isolated portions of the hillside approach 30% slope. Most of Lawson Hill contains 6% to 15% slopes with an area of 16% to 24% slopes. Some isolated slopes which are in the 16% to 24% slope range, are located east of the Black Diamond Lake, along Lawson Road east of Mud Lake, near SE 288th Street and crossing SR 169 north of the City limits. The remainder of the City of Black Diamond Comprehensive Plan area appears to contain slopes from 0 to 15%. Isolated steep slopes may exist throughout the City.

Ground Water Management Areas

The City is located within the South King County Groundwater Management Area. In the "South King County Groundwater Management Plan," the western and northwestern portions of the City have been identified within the large area of coarse and highly pervious Qvr (Vashon Recessional Outwash) geologic deposits. As a result, the Qvr areas of the City have the potential to serve as aquifer recharge areas but offer little contaminant removal ability leaving groundwater susceptible to contamination. The King County Comprehensive Plan mapped these areas as "Areas Highly Susceptible to Ground Water Contamination," that are shown in Figure 4-3. As noted on Figure 4-3 this map is provided for information purposes only and is not specific enough to be used as an integral part of regulations.

This area of Qvr geology contains a shallow aquifer serving as a source of water supply to the City of Kent system and Lake Sawyer. Lake Sawyer, Ravensdale Creek, and Rock Creek are identified as being hydraulically coupled to this shallow aquifer. Mapping provided by King County's IMap shows that areas with high susceptibility to groundwater contamination are located surrounding Lake Sawyer in the northwestern portion of the City, and in the southwestern portion of the City. An area southeast of Lake Sawyer and a small area in the southeastern part of the City are shown as medium susceptibility to groundwater contamination.

To protect critical groundwater recharge areas of domestic water supply aquifers, the City requires that development within the City limits served by City utilities be served by sanitary sewers. Areas served by Soos Creek Water and Sewer District where sewer service is not available are still allowed to use septic systems.

Maintaining the water quality and quantity of stormwater runoff is important within aquifer recharge areas so that aquifers are protected from pollutants. Maintaining infiltration of stormwater runoff in recharge areas renews the aquifer resource. The City's storm drainage ordinance requires treatment of runoff prior to surface water

discharge and encourages infiltration. Utilizing the appropriate treatment and infiltration techniques in aquifer recharge areas will aid in the protection of aquifer recharge areas.

4.2.3. Air Quality

Based on readings from the nearest monitoring stations in the cities of Kent and Enumclaw, air quality in the City is generally considered good.[6]

The City and its planning area are located to the southeast of metropolitan Seattle. As a result of prevailing winds, long summer days, and higher inland temperatures, the City experiences relatively higher ozone pollution concentrations than other areas in King County. This is common for much of southeast King County (the City contributes only marginally to this regional pollution). Zone monitoring is conducted at Enumclaw on a seasonal basis.

Particulate Matter (PM^{10}) consists of very small particles, either solid or liquid, which float in the air and settle very slowly. Soot and dust are examples. PM^{10} stands for particulate matter that is smaller than 10 micrometers or one-hundredth of a millimeter. Most particulate comes from wood smoke, road dust, outdoor burning, and industry. In the City and surrounding area, the sources of PM^{10} include local mining operations, a smokehouse, and outdoor burning. Inside the City, the requirements of the Puget Sound Air Pollution Control Agency (PSAPCA) and WAC 173-425-040 prohibit outdoor burning within designated UGAs.

4.2.4. Geology, Soils and Topography

Geology

The City lies in a geographic area known as the Puget Lowlands, a large land trough extending from the Fraser Valley in British Columbia, Canada, to the Willamette Valley in Oregon and from the Cascade Mountains in the east to the Olympic Mountains in the west. Geologic characteristics in the northern portion of the Puget lowlands are the result of glaciation that occurred during the Pleistocene Era (beginning about 20,000 years ago). Glaciers were once as thick as 3,000 feet during the Vashon Period of the Fraser Glaciation (roughly 15,000 years ago). They deposited till, outwash, and material mixed with volcanic ash in the Puget Lowlands on top of a thick sequence of interbedded sandstones, quartzose sandstones, siltstones, and numerous coal beds. The Black Diamond area is located on the Covington Drift Plain. Two types of deposits occur in the planning area: Vashon till

[6] 2005 Air Quality Data Summary; Puget Sound Clean Air Agency.

which is generally an impervious mix of gravel, cobbles, and clayey, sandy silt (known as "hardpan"); and the Vashon stratified drift deposits (generally, permeable) composed of outwash gravels, rocks, and cobbles. Since the last glaciation, urbanization, rural development, logging, gravel mining activities, erosion, and sedimentation have modified the land surface. Weathering and erosion of native soils has resulted in the development of topsoil at the ground surface. The topsoil in undeveloped areas consists of a few inches of silt and sand with decayed leaves and roots. The weathered soils underlying the topsoil consist of a few inches of organic matter, silt, and sand with roots generally extending to a depth of 2 to 6 feet. Topographic depressions and low gradient stream channels and wetlands have accumulated organic silt and peat.

Vashon recessional outwash mantles the west portion of the planning area. This soil consists of sand and gravel with variable amounts of alluvial silt and cobbles deposited by rivers emanating from the melting front of the Vashon ice sheet. This soil is considered a valuable gravel resource in this area depending on its thickness and silt content.

Vashon till is at the ground surface in some areas of the east portion of the planning area. Till consists of unstratified silt, sand, gravel, and cobbles that are in very dense condition due to being overridden by the glacial ice. Till is usually 20 to 40 inches thick and probably underlies the recessional outwash but may be absent where eroded during deglaciation meltwater runoff.

Pre-Vashon glacial and interglacial sediments underlie the Vashon till; generally in the west portion of the planning area where bedrock is deep. The pre-Vashon glacial and interglacial sediments consist of interbedded and/or stratified silt, sand gravel and till. These soils are not exposed at the ground surface in the planning area, but are exposed in the upper walls of the Green River gorge south of the planning area and are penetrated by water wells in the west portion of the planning area.

Bedrock of the Puget Group underlies the entire planning area. The bedrock is locally exposed at the surface in the east portion of the planning area and in the walls of the Green River gorge south of the planning area. The bedrock consists of sedimentary sandstone, mudstone, shale, and coal. Based on elevations of surface exposures and water well logs, bedrock underlies the land at a depth of 200 feet or more in the west portion of the planning area.

Soils

Weathered soils derived from native geologic deposits cover the ground surface in most of the planning area. The following soil information was taken from the November 1973 NRCS “Soils Survey of King County Area.” Because this information is based on mapping from aerial photos and may not be totally

representative it is used for comparing the general suitability of areas for different land uses. Field verification may be required for specific sites as part of specific project review.

Specific to the Black Diamond vicinity, weathered gravel, sand, and clay left in glacial till plains, terraces and outwash plains at the end of the Pleistocene Era, have formed the local soils. The NRCS characterizes soils by the mixture of clay, silt, sand and organic materials that make up the soil and the degree of slope where the soils are located.

The soil types mapped in the planning are:

- Alderwood gravelly sandy loam, 6-15% slope (AgC);
- Alderwood gravelly sandy loam, 15-30% slope (AgD);
- Alderwood gravelly sandy loam, with Kitsap Silty Loam (AgF);
- Alderwood and Kitsap soils, 25% to 70% slope (AkF);
- Beausite gravelly sandy loam, 6 - 15% slope (BeC);
- Beausite gravelly sandy loam, 14 to 30% slope (BeD);
- Bellingham silt loam, 0% slope (Bh), hydric;
- Buckley silt loam, 0% slope (Bu), hydric;
- Everett gravelly sandy loam, 0- 6% slope (EvB);
- Everett gravelly sandy loam, 6-15% slope (EvC);
- Everett gravelly sandy loam, 15- 30% slope (EvD)
- Mixed Alluvial, less than 2% slope (Ma);
- Norma sandy loam, less than 2% slope (No), hydric;
- Ragnar-Indianola association, 2-15% slope (RdC);
- Seattle muck, less than 1% slope (Sk), hydric;
- Shalcar muck, less than 1% slope (Sm), hydric, and
- Urban land, filled (Ur).

Alderwood Soils

Alderwood soils (principally AgC) are the most abundant soils present in the planning area. These soils were formed on till plains and roughly correspond with

the Vashon Till (Qvt). Alderwood surface and subsoils consist of a very gravelly sandy loam that is moderately deep, averaging approximately 30 inches. Extending downward from depths of approximately 20 to 40 inches, the soil layer has been compacted. This material is known as "hardpan". Alderwood soils have the characteristic of moderately rapid permeability above the hardpan layer and very slow permeability through it. Water has a tendency to perch on top of the hardpan layer. In winter, water moves laterally along the top of the hardpan, or it saturates surface soils in topographic low areas creating local areas of hydric soils and wetlands. These wetlands typically do not contribute to aquifer recharge because water does not percolate easily through the hardpan to the aquifer below.

A notable complex of wetlands in Section 23 occurs in topographic depressions on Alderwood soils. These wetlands are consistently oriented in a northwest to southeast direction presumably related to the direction of glacial movement in the area. According to the Site Evaluation and Land Use Concepts prepared for Plum Creek Timber Company properties (Hewitt Isley, 1991), the regional groundwater table occurs within the preglacial soils that underlie the glacial till. The regional groundwater table is below and hydrologically separate from the glacial till where the perched groundwater occurs and supports wetlands.

Alderwood soils are stony and commonly experience summer drought after seasonally high (winter), perched water tables diminish. The erosion potential on 6-15% slopes (AgC) is moderate due to the relatively unconsolidated nature of the till above the hardpan. The erosion potential on 15-30% slopes (AgD) is severe and slippage is moderate; however, only a small area lying within Section 23 exhibits this soil type. Related to agricultural purposes, Alderwood soils are used mostly for timber. If cleared, the soils are suited to grasses.

According to the NRCS, continuous vegetative cover is important to protect the soils adequately against the hazards of severe erosion and sedimentation to maintain the quality of water in streams, and to control runoff. Alderwood soils are not suited to field crops requiring annual tilling and re-seeding.

In general, glacial drift soils, other than the loose weathered colluvium/topsoil, provide excellent support for buildings and roadways and are generally suitable for development. Development limitations that exist are related to areas of seasonal high water table and steep slopes with erosion potential. The limitations for stormwater infiltration and septic tank drainfields are severe due to the very slow permeability in the substratum (hardpan). Urban development on Alderwood soils requires sanitary sewers.

Alderwood Kitsap Soil

Alderwood soils (AkF) is about 50% Alderwood gravelly sandy loam and 25% Kitsap silt loam. Slopes are 25% to 70%. The distribution of these soils varies greatly within short distances. Drainage and permeability vary. Runoff is rapid to very rapid, and erosion hazard is severe to very severe. The slippage potential is severe. Alderwood Kitsap soil is located along the west edge of the Black Diamond Lake wetland.

Beausite Gravelly Sandy Loam

Beausite gravelly sandy loam (BeC, BeD) is a well drained soils formed in glacial deposits and are rolling to very steep. Vegetation cover is usually alder, fir, cedar and associated brush and shrubs. Beausite soils are used for pasture, but some areas have been used for urban development. Beausite soils occur in the Black Diamond center and in the area where the John Henry Mine is located, north and south of the Green River Gorge Road.

Bellingham Silt Loam

Bellingham silt loam (Bh) is a poorly drained soil formed in alluvium. These soils are nearly level and are mostly in depressions on the upland glacial till. Permeability is slow. Runoff is slow and the hazard of erosion is slight. Bellingham soils occur along sections of Ginder Creek and Rock Creek.

Everett Gravelly Sandy Loam

Everett gravelly sandy loam (EvC), 5-15% slopes, is the second most abundant soil type present within the planning area. These soils were formed in glacial outwash on terraces and outwash plains, and were deposited on top of older Alderwood soils described above. Everett soils roughly correspond with Vashon Stratified Drift Deposits (Qvs). These gravelly sandy loam soils are very deep and somewhat excessively well drained. The surface and subsurface soils can be found to a depth of 60 inches, with a weakly cemented layer in the substratum in some areas.

Rainfall in these soils is quickly absorbed and percolates to the groundwater table. Creeks that drain into areas dominated by Everett soils typically intercept the groundwater table and receive most of their flow from groundwater discharge. Runoff is slow to medium. The erosion hazard is slight to moderate. Everett soils are used for timber, pasture, and urban development. Everett soils are also generally suitable for urban development, except in areas of steep slopes. Limitations for septic tank drainfields exist where Everett soils are present because of the potential for aquifer and stream contamination, particularly where slopes exceed 8%. Urban

development on Everett soils requires sanitary sewers. Everett gravels provide sand and gravel resources for the gravel pit located in Section 10.

Mixed Alluvium

Mixed alluvium (Ma) consists of a variety of alluvial soils in areas too small and too closely associated to map at the scale of the NRCS survey. This land ranges from very well drained to poorly drained. The hazard of stream overflow is severe. Mixed alluvium is located east of Jones Lake and SR 169.

Ragnar-Indianola

Ragnar-Indianola (RdC) soil is about equal parts Ragnar fine sandy loam and Indianola loamy fine sand. Permeability is moderately rapid in the upper part of this soil and rapid in the substratum. Runoff and erosion hazard is moderate. This soil is used for timber and for urban development. This soil type is located near Morganville.

Urban land

Urban land (Ur) is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate urban development. Urban land is mapped near the intersection of Roberts Road and SR 169.

Hydric Soils

Notable, high value wetlands exhibiting hydric (poorly drained) soils such as *Buckley silt loam, Norma sandy loam, Shalcar muck and Seattle muck* include Black Diamond Lake and the Rock Creek wetland corridors.

Buckley Silt Loam

Buckley silt loam (Bu) occurs in a small, isolated area in the far, southeastern portion of Section 23. Typically, a seasonally high water table occurs at or near the surface of this hydric soil unit and these soils are typically associated with wetlands. Erosion hazard is slight and runoff is slow. The limitations for septic tank drainfields are severe due to the very slow permeability in the substratum (hardpan).

Norma sandy loam

A small, isolated area of Norma sandy loam (No) is located to the north of Black Diamond Lake. This hydric soil is poorly drained and is typically alluvium, in basins and along stream bottoms. Permeability is moderately rapid, and the seasonal water table is at or near the surface. Runoff is slow, and the erosion hazard is slight. This

soil is used mostly for pasture and is severely limited for use with septic drainfields due the saturated condition.

Seattle Muck

Seattle Muck (Sk) soils occur in limited areas associated with wetlands adjacent to Black Diamond Lake and Rock Creek. These hydric soils are composed of peaty soils originating mostly from sedges. There is a seasonal high water table at or near the surface, and soil permeability is moderate. Surface water "ponds," and there is little or no erosion hazard. Like the Norma series, Seattle muck is unsuited for septic drainfields due to saturation and the presence of organic soils. The Seattle muck soil (muck peat, muck, and peat) is generally not suitable for urban development because of the seasonal high water table and organic soils.

Shalcar muck

Shalcar muck (Sm) is located at the connection of Rock Creek to Lake Sawyer. This hydric soil is poorly drained organic soils. They are formed in deposits of sedge peat and alluvium along stream bottoms. Slopes are 0% to 1%. Permeability is moderate in organic layers and moderate to rapid in the lower soils. There is a seasonal high water table at or near the surface. Runoff is ponded and there is no erosion hazard. This soil is typically used for pasture and is severely limited for use with septic drainfields due to the saturated condition.

Topography

The planning area is located in a small valley on an upland plateau ranging roughly from 525 to 750 feet in elevation, and includes the hillside east of the City up to an elevation of 1,180 feet. The plateau is approximately 300 feet above the Green River Gorge. Much of the planning area is characterized by rolling terrain with wetlands and drainage courses located in topographically low areas.

4.3. Natural Features Goals, Concepts, Objectives, and Policies

4.3.1. Natural Environment Goals

Natural Environment Goal

Retain the City's natural environment and scenic beauty.

Natural Systems Goal

Encourage development in areas where natural systems present the fewest environmental constraints while exercising responsible stewardship over natural resources and amenities.

4.3.2. Water Quality Concepts, Objectives, and Policies

Water Quality Concepts

Groundwater is an important resource and a critical source of drinking water, especially in rural areas. It is also used for industrial purposes, power generation, and agricultural irrigation. A finite amount of precipitation is available to replenish local water resources and most of this occurs during the fall and winter. The portion of precipitation that reaches the ground replenishes groundwater and provides base flow for streams, wetlands, and rivers during the spring and summer dry months. The base flows sustain fish, wildlife, their habitats, and recreational values.

Water Quality Objectives

Objective NE-1: The impact of development practices should not contaminate the natural hydrologic system in a way that may be long lasting and relatively irreversible. The City strives to ensure the long term protection of the quality and quantity of groundwater resources within its planning area.

Water Quality Policies

Policy NE-1: The City recognizes the need for aquifer protection and will continue to coordinate planning efforts with King County in maintaining the South King County Ground Water Management Plan through the South King County Groundwater Management Committee.

Policy NE-2: Adopt stormwater regulations consistent with the Department of Ecology's Surface Water Management Manual for Western Washington (2005 or as revised).

Policy NE-3: Promote the use of interlocal agreements with other agencies to restrict land use in sensitive aquifer recharge areas in order to minimize possible sources of pollution, potential for erosion, and to maintain infiltration volumes.

Policy NE-4: Condition all development proposals to require sanitary sewer service prior to occupancy.

Policy NE-5: Within areas highly susceptible to groundwater (aquifer) contamination, adopt special protection measures. The special protection measures require businesses that use hazardous chemicals to have containment facilities to capture potential chemical spills, and require the use of best management practices for applying pesticides and fertilizers for business residential, and recreational uses.

Policy NE-6: The special protection measures noted in NE-5 should evaluate and define "high risk" uses and address the siting of such uses in sensitive aquifer recharge areas. The protection measures should also evaluate and include measures to reduce pollutant loads, including phosphorous discharged to Lake Sawyer.

Policy NE-7: Require temporary erosion control measures to be installed before construction begins and maintenance of those control measures through the stabilization of the site following the completion of construction to control the quantity of sediment entering surface water.

4.3.3. Critical Area Concepts, Objectives, and Policies

Critical Area Concepts

Critical Areas include wetlands, aquifer recharge, fish and wildlife habitat conservation areas (FWHCAs), frequently flooded areas, and geologically hazardous areas. These features of the natural environment are critical to maintaining local environmental quality, quality of life, and maintaining the City's character. Some of the critical areas may present potential development constraints, i.e., floodplains, and geologically hazardous areas (including coal mine hazards).

Critical Area Objectives

The City will control development in all critical areas through its Critical Areas Ordinance (CAO). Those areas designated as posing a hazard to life or property will be identified prior to development approvals. Development will not be permitted unless detailed technical studies find the hazardous condition can be safely mitigated. Monitoring of the CAO should result in periodic updates to assure effectiveness of the ordinance.

Objective NE-2: Implement the Natural Resources Management Plan for the Comprehensive Plan planning area.

Objective NE-3: Promote preservation of fish and wildlife habitats of documented threatened and endangered species.

Critical Area Policies

Policy NE-8: Coordinate with King County and the Muckleshoot Indian Tribe in the developing natural resources planning for the areas surrounding the City.

Policy NE-9: Protect sensitive areas from inappropriate land uses, activities, or development through continued application of and periodic updates to the CAO and development regulations. The City of the City will monitor the effectiveness of its CAO and will modify this ordinance as necessary, based upon the information gathered during monitoring.

Policy NE-10: Avoid disturbance to valuable fish and wildlife habitat through the proper location, design, construction, and management of new development.

Policy NE-11: Minimize disruption of areas in current use by endangered wildlife species or by unique wildlife populations.

Policy NE-12: Establish an open space network, linking critical habitat areas to enhance their ecological value.

Policy NE-14: Update and enforce comprehensive regulations pertaining to development in critical areas.

Policy NE-15: Manage land uses to be compatible with aquifer recharge areas and to minimize potential groundwater contamination.

4.3.4. Air Quality Concepts, Objectives and Policies

Air Quality Concepts

Because of the surrounding geographic and climatic characteristics, the City experiences prevailing winds, long summer days and higher inland temperatures. Although there are no air quality monitoring stations in the planning area, southeast King County has a higher ozone pollution concentration than the rest of the county.

Air Quality Objectives

Objective NE-5: Protect the City's air quality by minimizing potential new pollution from new and existing sources. Air quality will be considered in approving new development.

Air Quality Policies

Policy NE-16: Adopt local land use planning and development control procedures designed to avoid and mitigate adverse cumulative air quality impacts prior to project approval and construction.

Policy NE-17: Promote infill developments contributing to a better jobs/housing balance and greater non-automobile transportation accessibility to residents and workers, rather than land consuming and car dependent sprawl.

Policy NE-18: Discourage wood as a source of heat for residential development in low lying areas susceptible to pollution accumulations.

Policy NE-19: Conform to the federal and state Clean Air Acts by maintaining conformity with the Metropolitan Transportation Plan of the Puget Sound Regional Council and by the requirements of the state law (WAC 173-420).

4.3.5. Soils & Geology Concepts, Objectives and Policies

Soils & Geology Concepts

The soils and geology of the planning area are glacial in nature. The most common soils in the planning area are coarse, well-drained soils often overlying a hardpan of more compact material. These coarser soils allow rapid infiltration with little pollutant removal ability. Perched water tables are common above hardpan layers and lateral movement of this shallow groundwater can be relatively rapid. Hydric soils are present in the many wetlands within the planning area. These soils are poorly drained and experience frequent saturation. Soil stability and suitability for supporting structures varies with soil type and slope across the planning area but in general, the soils in the planning area are poorly suited to supporting functioning septic systems and provide minimal protection of groundwater from contaminants in stormwater, septic leachate, chemical spills or other sources of contaminant introduction.

Soils & Geology Policies

Policy NE-20: Minimize areas of vegetation loss and grading disturbance to protect water quality and prevent erosion, when developing on moderate and highly erodible soils.

Policy NE-21: Permit development in areas with localized geologic or soils problems where it can be demonstrated that conditions can be stabilized through engineering or structural solutions.

Chapter 5. Land Use

5.1. Introduction

The Land Use Element is a central element of the City of Black Diamond Comprehensive Plan. The plan's land use designations affect the patterns and location of future development and redevelopment, traffic patterns, and determine the overall character of the City of Black Diamond (City). The City of Black Diamond Comprehensive Plan is intended to influence or alter development patterns over time. Decisions about the type and location of land uses will determine where people live, shop, and work. The Land Use Element of the comprehensive plan should also be sensitive to the natural environment and physical constraints of land, and to the wishes and desires of the community.

The Growth Management Act (GMA) requires a Land Use Element to address the following items:

- the proposed general distribution, location and extent of land uses,
- population densities, building intensities and estimates of future population growth;
- protection of the quality and quantity of groundwater used for public water supplies; and
- review of drainage, flooding, and stormwater runoff in the area and nearby jurisdictions, including guidance for corrective actions to mitigate or cleanse discharges that pollute waters of the state.

Provisions for protection of the water quality, groundwater, natural drainage and flooding are discussed in the Natural Environment chapter. Corrective actions to protect resources are contained in the Natural Environment and Capital Facilities chapters.

5.2. Land Use

5.2.1. Land Use History

The City has served as a rural center in southeast King County since its founding in the 1880s. Over its 120-year history, the City has evolved from one of the earliest and largest towns and employment centers outside Seattle to a local center for resource activities (primarily mineral extraction); then to its current character as a somewhat economically dormant, rural residential center and bedroom community for emerging nearby employment centers; and now to a city poised to experience substantial growth over the next several decades as southeast King County continues to urbanize, and as opportunities for development of large parcels of land within the City materialize.

The City, originally a “company town,” was the center of a large Pacific Coast Coal Company land holding that included other small communities such as Franklin, Newcastle, and Burnett. The local ownership covered portions of the area lying generally between the existing northerly City limits (including Lake 12) and the present SE Green Valley Road (excluding Northern Pacific Railroad land) and between a line extending southerly from the west shore of Lake Sawyer and the Green River Gorge, and included a large area south of the Green River around Isabel Lake, Deep Lake, and Fish Lake. Between the late 1930s and early 1950s, coal mining declined and the Pacific Coast Coal lands were sold to local residents, Palmer Coking Coal Company, and other large landholders. After a period of being part of unincorporated King County, the residents of the City voted to incorporate in 1959. The 1959 City boundaries encompassed the original Black Diamond townsite and Morganville Addition, as well as adjacent lands owned by Palmer Coking Coal Company, Burlington Northern Railroad, the Banchero family, and a variety of other small and medium size ownership interests.

The City prepared its first comprehensive plan in 1980. This plan proposed future annexation of additional Palmer Coking Coal Company lands to the northwest and east, as well as a small parcel to the southwest. Subsequent annexations completed by 1985 added Palmer Coking Coal Company land to the northwest and southwest. In 1994, the City also annexed 783 acres at the southwest edge of the City. The land was owned by Black Diamond Associates, Plum Creek Timber (successor to

Burlington Northern Railroad land), Palmer Coking Coal Company, and the Berklid family.

The City completed its first GMA comprehensive plan in 1996. That same year, the City negotiated a Potential Annexation Area (PAA) with King County and nearby property owners that was formalized in the Black Diamond Urban Growth Area Agreement (BDUGAA). Subsequently, the City annexed an additional 786 acres to the northwest, including and surrounding Lake Sawyer, in 1998. This annexation added 1,480 residents to the City, increasing the population by 82.6% in one year.[7] In December 2005, the City completed annexation of its West Annexation Areas totaling approximately 345 acres.[8] With the December 2005 annexation, the following PAAs remain to be annexed:

- South Annexation Area: Approximately 233.6 acres in the southern portion of the City's Urban Growth Area (UGA).
- East Annexation Area: Approximately 50 acres along the eastern boundary of the City in the City's UGA.
- Lake 12 Annexation Area: Approximately 160 acres in the northeast corner of the UGA, including portions of the Green River Gorge Road connecting the Lake 12 Annexation Area to the City limits.

There is also an area within the King County UGA located west of Lake Sawyer along the Covington-Sawyer road and including Kentlake High School, which is not identified in the BDUGAA. This "unclaimed" urban growth area, which abuts the City's northwest boundary, was not historically designated as a Black Diamond PAA However, with this plan; the City is now including this area as part of its PAA.

5.2.2. Planning Area Land Use

The Land Use Element addresses the existing City limits (approximately 4,179 acres) and the adjacent unincorporated UGA, referred to in this plan as the PAA. The PAA, which is currently outside the City's corporate boundaries, will provide capacity for future growth through annexation during and beyond the 20-year planning period. The City's present land use pattern primarily reflects development of the original company town within the Black Diamond townsite and Morganville settlements. Other residential and commercial growth has been more linear, generally following the major road corridors. The exceptions are a large mobile-home park on the north edge of town and the Lake Sawyer neighborhood, which reflects a more recent

[7] Washington State Office of Financial Management. Annexations Approved by OFM 1/1/1990 through 12/31/1999.

[8] Washington State Office of Financial Management. Annexations Approved by OFM 1/1/2000 through 8/31/2006.

development pattern centered on the lake. Existing residences are not concentrated in a single area of the City, but are loosely grouped in four general areas. Similarly, commercial development is dispersed into three areas, rather than concentrated into one "central business district."

The rolling topography and variety of open pastures and meadows, lakes, wetlands and forested areas in the City reinforce the dispersed spatial pattern of development. The City is surrounded, or "framed," by large blocks of second and third growth forest stands in various stages of growth. The mixture of existing development and forested or field open spaces helps to define the City as a community. The variety of land uses in the City include public facilities, commercial, services, mining activities, and several residential neighborhoods: Black Diamond Township, Morganville, Lawson Hill, Lake Sawyer, Black Diamond Lake, and the recently annexed West Annexation Areas at the western, northern, and southwestern edges of town.

A large part of land in the City is either undeveloped or underdeveloped, i.e., not developed at the full potential allowed by existing zoning. Significant forested areas, creeks and lakes occur in the City, some of which are identified and regulated as environmentally sensitive areas. A predominance of large undeveloped areas (including open space) integrated with developed areas —gives the City much of its "village character"—clustered development surrounded by open space/rural land uses. Numerous large undeveloped parcels inside the City limits are owned by Yarrow Bay Communities, Palmer Coking Coal, the Banchero family, the Bryant family, and the Pierotti family. Smaller undeveloped acreage is owned by numerous property owners. In the Black Diamond Lake area, the West Annexation Areas, and Lawson Hill area, ownership is concentrated in Yarrow Bay communities.

Historically, the presence of large parcels and concentrated ownership patterns has impacted the pace of development in the City. Recent ownership changes and currently favorable economic conditions, however, suggest that the rate of development is likely to increase significantly over the next 20 years.

Residential

The residential neighborhoods of the Black Diamond townsite and Morganville addition are composed of small lots in traditional grid patterns, developed at a predominant density of about 6 dwelling units per acre. Most of these lots were built without adequate right-of-way width and paved street width, sidewalks, and stormwater retention and detention facilities. Many of the street rights-of way are 16 feet, 20 feet, 30 feet, or 40 feet in width, smaller than typical public safety standards. This limits the potential of non-single family residential "infill" development in these areas, as these narrow streets are not adequate to accommodate increases in density. Between these neighborhoods and extending up Lawson Hill is a

residential area with homes and lots at a density of 4 dwelling units per acre. A large portion of this area is vacant and suitable for development.

Other areas of the City, such as east of Jones Lake Road, have developed in a non-grid pattern of irregularly shaped, larger lots and narrow streets with unusual angles. These areas also contain narrow rights-of-way, no sidewalks and lack retention and detention facilities. These areas also have limited infill development potential.

Residential areas with larger home sites—generally 1.25 dwelling units per acre—are located south of Lawson Street, on a portion of Lawson Hill, and two areas north of Roberts Drive between Morganville and State Route (SR) 169. These large-lot residential areas are not completely developed.

The Lake Sawyer neighborhood is characterized by a variety of single-family houses on lots oriented around the lake. Lot sizes range from less than 0.5 acre to more than 2 acres in size, with the average lot size close to 0.5 acre. Many lots are long and narrow, which limits their potential of being subdivided to create new building lots. This area originally was developed as a rural residential neighborhood in the early twentieth century. However, most of the area was subdivided and developed in the last half of the twentieth century and reflects a more suburban development pattern. There is little vacant land in this part of the City; however, future installation of sanitary sewer improvements may result in in-fill opportunities or some redevelopment of larger lots with adequate lot width. The Lake Sawyer area is served by the Covington Water District and Soos Creek for sanitary sewer service.

There are five dispersed pockets of multifamily housing. The maximum density allowed by current zoning is 18 dwelling units per acre. Only about nine of the 91 acres currently designated for multifamily use is developed, and the developed uses include a mobile home park and a detached single family housing project for the elderly.

Housing prices in the City have been rising significantly, along with prices in King County as a whole. According to 2006 data, the median home price in the City was $418,000, which was higher than prices in Covington ($295,000) or Maple Valley ($360,000) but lower than Enumclaw ($448,000). High-priced properties around Lake Sawyer contribute to the overall high median home price. In July 2007, median sales prices in the City and surrounding areas ranged from $325,000 to $387,000. The median housing price in King County as a whole was $427,000 as of August 2007.

The City is seeking to attract more medium and high-end market rate housing, particularly in master-planned communities, as a means to help increase its tax base and allow for continued provision of adequate City services. The 1994 annexation of the Black Diamond Lake area and the 2005 annexation of the West Annexation Areas

were important steps towards achieving this objective. The City is also committed to meeting its obligation to provide its fair share of affordable housing. Some of the City's older housing also meets this objective.

Commercial

Existing commercial areas are found in four locations:

- An area located along both sides of SR 169, north of the intersection with Roberts Drive;
- An area located between SR 169 and Railroad Avenue at Baker Street (Black Diamond townsite/Old Town);
- A small area along both sides of Roberts Drive at Morganville, and
- A commercial cluster at the intersection of Covington-Sawyer Road and 216th Avenue SE near Lake Sawyer.

Three of the commercial areas are considered partially developed and encompass a mix of small commercial uses.

Currently, the City does not have a central commercial core. The historical Black Diamond townsite commercial area has the famous Black Diamond Bakery and restaurant, antique shops, a museum, the post office, Black Diamond Elementary School, a fire station and some highway-oriented commercial uses (automotive repair and/or auto parts, restaurant, gas station with small convenience store). Single family homes are interspersed within this area, too. The area functions well with a mixed-use character. The small commercial area at Covington-Sawyer Road/216th Avenue SE consists of a small number of lots including a convenience grocery, a restaurant, a retail store, an automotive repair business, and some vacant land.

The commercial frontage along SR 169 contains a mix of commercial uses, including an attorney's office, dentist's office, grocery store, material supply, meat market, Palmer Coking Coal Company office, the Black Diamond Community Center, a church, a sporting goods shop, bakery, and a tavern. Some residential uses are also found intermixed in this commercial area. The area is currently developing as a typical "commercial strip"—a series of individual structures with individual driveways, parking in front of the buildings, little or no vegetation or landscaping, and no pedestrian connections between commercial areas. The 1996 Comprehensive Plan Map designated this area as Business Park and Light Industrial. Annexation of the "north triangle" of the West Annexation Area in 2005 added more Business Park and Light Industrial designated land to this area.

The small commercial area at Morganville encompasses the Dinner House restaurant, a small garden nursery, and office uses.

Currently, the City has relatively little vacant land designated for commercial use. However, commercial uses are also permitted, and likely to occur, in future Master Planned Communities to provide jobs and services for local residents.

Industrial

Two areas within the City are currently zoned for industrial use: along the south side of Roberts Drive at Morganville, which contains Anesthesia Equipment Supply, the City's only industrial use, and office space; and the area west of SR 169, north of Roberts Drive. For the past 100 years, the latter area has been used for mineral extraction, processing activities, and associated industrial uses (an auto wrecking yard, a meat market, fuel supply station, truck and equipment repair facilities and several storage warehouses). The area is currently available for redevelopment.

5.2.3. A New Direction

The community's vision is for the City to guide and manage growth carefully and creatively, in a manner which protects its sensitive areas and treasured places (e.g., historical structures and sites) and retains open spaces that form the natural beauty of the City. Given the abundance of these features throughout the City, future development is likely to occur in numerous "villages" separated by these features. New development can be accommodated within this framework and landscape.

Preparation of the Land Use Element considered and identified areas that are appropriate for development and those which should be protected as sensitive areas and open space. The result is a comprehensive pattern of greenbelts and buffers shaped through a variety of policies, regulations, and incentive programs, such as transfer of development rights (TDR)—i.e., providing development "credits" for constrained or open space areas that can be transferred and used on other, more appropriate lands. The program allows property owners to realize much of the value of lands that cannot be developed to their full potential because of physical constraints. While every square foot of land has value to the land owners, not every square foot has to be built upon to achieve that value.

5.3. Community Design and Character

5.3.1. Fundamental Principles: Village with a View

In the process of developing the comprehensive plan, the community has expressed its strong desire that the City preserve forested areas and open spaces, views of Mt. Rainier, historical buildings, and a strong sense of community. The City will apply several fundamental principles to retain its small town character, as follows:

- Retain the natural setting.
- Define features and landmarks.
- Provide mixture of uses and continuity of form.
- Continue compact form and incremental development.
- Maintain pedestrian scale and orientation.
- Provide opportunities for casual meeting and socializing.

5.3.2. Principles of Small-Town Character

Retain the Natural Setting

As settlement patterns consume land in the rural landscape, citizens have become more aware of the need to protect environmentally sensitive areas, forests and open spaces.

Open space occurs in many forms, including wooded hillsides, open meadows, parks, undeveloped lots, school yards, riversides and even cemeteries. In the Black Diamond area, the natural setting is not just an accent, but is intended to be integrated with the built environment. The retention of open space forms the skeletal framework for the village and helps to define the City's neighborhoods.

The most significant open spaces in the City are those that frame the City to the south and west. These open spaces are related to wetlands and previously unusable areas. The City's mining origins meant historically there was not pressure to drain or fill these areas for agricultural uses. The City is committed to protecting its sensitive areas as the basis of the open space network. Retention of sensitive areas and other existing open spaces will be the key to ensuring sufficient open space in the future.

The City will include protected sensitive areas as part of its formal open space network. This will be achieved through buffers required as part of the Critical Areas Ordinance (CAO), by allowing clustered residential development, and by implementing the TDR program. New parks will be located to support and connect to open space areas. Jones Lake trail will be a key park feature. Parks are targeted for the area just west of the Black Diamond Historical Museum, at the "castle" (historical mine entrance), at the trestle (also known as fish pond), and parks south of Morgan Street, north of Roberts Drive and in the Black Diamond Lake area. A major acquisition is Lake Sawyer Park, consisting of approximately 150 acres at the south end of Lake Sawyer. A trail network that relates to natural systems, especially wildlife and wetland corridors will be an essential part of the open space network.

The Black Diamond Area Open Space Protection Agreement (BDAOSPA), adopted in June 2005, represents a significant step toward achievement of the City's vision for the establishment of connected open space and recreational facilities within and adjacent to the City. Developed as a tool to achieve the open space requirements of the BDUGAA, the BDAOSPA provides for over 2,500 acres of open space within and adjacent to the City, including the Lake Sawyer Park property and 27 acres of property along Ginder Creek just west of SR 169 and south of Robert's Drive.

Defining Features and Landmarks

Small towns arise from a time and place (that is, they were located in a specific place and developed in a particular period). They usually have distinguishing features and landmarks. Some of these features are shared by other small towns, while others are unique to the town and often become landmarks.

Individual characteristics result from the geography of the place; the industries and origins of its residents, and many other factors. Landmarks are more specific; they are either places or things that help a community become oriented in location and time.

The City's distinguishing characteristics include its history as a coal mining town and traditions associated with that history; views of Mount Rainier; and the geography of natural features that define the southern and western edges of the original townsite.

Adding to the value of the historical museum in town, elements of history may be made visible and tangible through literal and creative reminders located throughout the town. For example, the location of underground mine shafts may be identified at ground level through painted poles or changes in roadway or sidewalk paving.

Mixture of Uses and Continuity of Form

Prior to zoning, the mixture of uses within many small towns was often dictated by necessity and function. Limits in transportation frequently meant that there was a greater mix of uses within a small area.

While zoning is a twentieth century creation, most traditional rural towns are based on a plan or organizing concept. The "plan" may be as formal as a grid with a town green bordered by a grange hall, school, and church. The town may, on the other hand, reflect its function as, for example, an agricultural, or mining town. Typically, small towns are also characterized by the architecture popular during its periods of economic and social growth. This results in continuity in the arrangement and form of buildings.

The City contains a variety of uses within its corporate limits. Several small commercial enterprises exist along SR 169. Another cluster of commercial uses can be found along Railroad Avenue. Civic facilities are scattered among several locations. For example, the elementary school occupies a central location on the west side of SR 169, while the police station and City Council Chambers are a few blocks away on the east side. Although there are several roads that parallel SR 169, the lengths of blocks vary. The plan provides an opportunity to take advantage of Old Town and Morganville, with their historical significance and cultural potential, and to further enhance civic and commercial uses there.

Continue Compact Form and Incremental Development

Similar to many other rural towns, the City initially developed as a compact community. The Pacific Coast Coal Company built few buildings other than a church. The company allowed the miners to build their own modest houses at the center of town, on land not expected to be used for mining operations. Those businesses locating in town were able to do so because they did not need large amounts of land. Since travel was difficult before the automobile, businesses and residences were conveniently located near each other to facilitate errands and business. As with other older towns, new development often filled in undeveloped parcels or extended the existing pattern. Growth was slow as miners built houses to meet their own needs.

Morganville was built on a parcel of land donated to striking miners. The miners used land efficiently and their houses were modest. Consequently, the pattern of development in Morganville reflects the compact character of the rest of the City.

Large-scale development can dramatically alter the character of the community. To ensure that new large-scale development in the City feels connected to the older sections of town, this pan encourages the use of techniques that continue the character of compact form and incremental growth. Design guidelines will provide methods and examples of how to achieve design continuity and to reinforce the identity of the City as a rural community. Connector trails, opens space, forested areas, and wildlife corridors will highlight the connection between new, large scale development and the existing City.

Maintaining Pedestrian Scale and Orientation

Walking was the dominant mode of travel in rural towns. Even if one arrived by horse, carriage, or train, in town, one could walk amongst various destinations. Both the networks of streets and scale of buildings reflect this pedestrian orientation. A fine network, often a grid, served to allow efficient use of the land and gave many alternative routes between locations. Structures, particularly commercial ones, were located close to the street to attract walk-in customers. Typically, downtown

commercial districts featured amenities including benches and small parks for pedestrians. Boardwalks may have been provided to elevate the pedestrians above the mud and debris in the street. Much of the City has a relatively fine network of streets that functions well as a pedestrian system, but lacks sidewalks, benches and other pedestrian oriented amenities. The newer commercial areas north of Old Town do not function well as pedestrian areas.

Increased traffic in the Old Town commercial area may necessitate the addition of sidewalks and other pedestrian facilities. New commercial uses should be designed to increase pedestrian orientation by providing a fine-grained circulation network, sidewalks, and buildings that focus on the sidewalk environment. New residential areas should incorporate site and street design techniques that support walking. On-road pedestrian facilities should be augmented by a network of off-road facilities including trails that will further connect City residents with the many forested buffers and natural areas which contribute to the City's unique rural character.

Providing Opportunities for Casual Meeting and Socializing

A town center located close to residential areas can provide opportunities for informal socializing. Local residents may go to the bank or pick up a movie. Small spaces like a cafe or bakery or park encourage residents to stop for a moment where they might meet their neighbors. The Black Diamond Bakery, a favorite local spot, attracts visitors as well as residents. The schoolyard may also function as a formal or informal meeting place. The City Council Chambers, the grocery store, and at church are other places in town where people meet.

As the City grows to its projected size over time, maintaining a sense of community will be a significant challenge. A strong town center where formal interaction and pedestrian activity are encouraged will enable familiarity and community among residents. Providing places for active and passive interaction – such as parks, adult schools, community centers, and clubs—can also perpetuate the sense of community possessed by the City now. The recently acquired Lake Sawyer Park site provides a unique opportunity for this important social interaction to be centered on a high quality recreational amenity, connected to each of the City's existing and future large-scale development areas by an integrated trail system. Continuing the community bulletin boards and /or newsletters will also help.

New areas for socializing may include a cafe or tavern, community gardens, community center, the Lake Sawyer Park site, the Ginder Creek open space area, or a lakeside park for swimming. To foster a sense of community and history for old and new residents alike, the City could revive the Black Diamond Band, open a speakeasy (specialty brew), revive the City's community baseball and soccer teams, or create festivals to celebrate the City's history or celebrate nature's bounty.

5.4. Implementing the Comprehensive Plan Future Land Use

5.4.1. Extent of Proposed Land Use

The following is a list and description of the City of Black Diamond Comprehensive Plan land use designations. Complete lists of allowed uses (permitted, conditional, and unclassified) are identified in the adopted development regulations.

The following section identifies the purpose, allowed uses and designation criteria, and helps explain the intent of each designation on the Future Land Use Map.

Urban Reserve Designation

Purpose: The Urban Reserve designation recognizes existing low-density residential development surrounding the Lake 12 Potential Annexation Area and that it should not be allowed to develop at higher densities until such time that public water, sewer and other services are made available. Pursuant to other policies in this plan, annexation of this area will not be considered until a plan for extending required utilities is developed and financed.

Allowed Use and Description: The Urban Reserve designation allows for single-family residential uses, their accessory uses and public and semi-public uses that meet appropriate development standards. Development at urban densities could occur in the future when public water and sanitary sewer service is made available.

> Designation Criteria: Properties designated Urban Reserve should be only be those areas currently lacking public water and sanitary sewer service within the City's Potential Annexation Area.

Transfer of Development Rights(TDR) Receiving Areas Overlay

Purpose: The TDR Receiving Areas Overlay is applied to lands that, pursuant to City policies, annexation agreements, or other legal instruments of records, are intended to remain in an undeveloped state until such time that development rights are received pursuant to the City's TDR program as outlined in BDMC 19.24. A Master Planned Development (MPD) overlay may also apply in these areas. In order to maintain a "baseline" value to these lands and avoid the necessity of acquiring significant amounts of development rights, a base density of either one or two dwelling units per acre should be allowed, provided that development at higher urban densities consistent with the other plan designations can be achieved through the receipt of transferred development rights from designated "sending areas."

Allowed Uses and Description: Low density, single-family residential uses (not exceeding 1 or 2 dwelling units per acre) should be allowed in these areas as a basic development right, recognizing that higher density development is expected to occur with the acquisition of development rights from designated "sending areas."

Designation criteria: Properties to which the TDR Receiving Area Overlay is applied should be those identified through the City's TDR program that are intended to develop as urban densities only after the transfer of development rights. For the majority of these areas, approval of an MPD is a prerequisite to development.

Master Planned Development (MPD) Overlay

Purpose: The MPD overlay is applied to areas to take advantage of opportunities to create a clustered mix of residential, commercial and civic uses along with open space and public facilities, on large sites in appropriate locations. These sites typically consist of large parcels in common ownership where a master plan will be developed to guide unified development over a period of many years. The MPD designation is applied to meet the special needs and opportunities presented by such sites while managing impacts on nearby uses.

Allowed Uses and Descriptions: The MPD overlay is applied to areas that are intended to allow a mix of those land uses and residential densities as depicted on the Future Land Use Map. Areas with an MPD overlay designation are intended to develop only subsequent to approval of an MPD permit pursuant to Black Diamond Municipal Code. An MPD may include residential and commercial uses clustered around private and community open space, supported by adequate services and facilities. As part of the process of approving an MPD, a specific development plan or site plan will be prepared and will specify the residential and non-residential uses, densities and intensities, phasing of development, and specific development standards that will apply to the site. Densities are intended to be urban in nature (minimum of 4 dwelling units per gross acre) and will be established as part of the MPD approval process; some MPD sites may also be designated as TDR receiving areas. An approved development plan should contain a provision for periodic updates. Significant opportunities for public involvement should be provided in the consideration of any MPD. An MPD is implemented through the provisions of BDMC 18.98 and provisions of any pre-annexation agreement that is in place for properties in this designation.

Areas developing as MPDs are expected to incorporate innovative site design and utilization of progressive techniques to provide for environmentally sustainable development. This may include the use of "low impact" engineering techniques, employment of "green building" technologies, extensive incorporation of trails and pathways, etc.

Designation Criteria: Properties to which the MPD overlay is applied should generally reflect all of the following criteria:

1. Existing or planned public facilities are adequate to support the planned development density.
2. The area is not predominated by environmentally sensitive areas, and/or the development plan contains standards that will allow development while providing appropriate protection to the environmentally sensitive areas. The level of protection must be equal or better than that provided by the City's environmentally sensitive area policies and regulations.
3. There is either a need for or benefits will clearly derive from providing flexibility in zoning that cannot be provided by other mechanisms.
4. The parcel is at least 80 acres in area and in single or unified ownership, or is subject to a pre-annexation agreement that requires an MPD for the parcel.
5. The development plan requires flexibility to meet the requirements of a MPD.
6. The MPD will provide public benefits, in the form of preservation or enhancement of physical characteristics, conservation of resources, provision of employment, improvement of the City's fiscal performance, provision of adequate facilities, and other public benefits identified by the City.
7. At least 50% of the MPD site is devoted to open space uses, which may include recreational amenities.
8. Adequate mitigation for adverse impacts on the community, neighborhood, and environment is provided.

Low Density Residential Designation

Purpose: The Low Density Residential designation provides primarily for single-family residential neighborhoods on lands suitable for residential development. This designation provides for stable and attractive residential neighborhoods. It should be applied to both existing developed neighborhoods and areas intended for future development. Some of these areas have a MPD overlay designation and are also designated as TDR receiving areas. Urban density development in these areas will only be possible upon the receipt of transferred development rights from other areas.

Allowed Uses and Description: The Low Density Residential designation permits single-family residential uses, their accessory uses and public and semi-public uses. Residential densities may range from a base density of 4 units per acre to approximately 6 units per gross acre. Detached single-family residences should predominate, but these areas may also include duplexes, subject to dispersal

standards, a determination of consistency with design standards and following public review. These areas should also be potentially eligible for additional density through the use of on-site transfer of density (to preserve open space) or though the acquisition of TDRs.

Designation Criteria: Properties designated Low Density Residential should generally reflect all of the following criteria:

1. Existing or planned public facilities are adequate to support residential development at this density.
2. The area is free of significant amounts of environmentally sensitive areas, excluding aquifer recharge areas.
3. If the area is undeveloped, it is proximate to a neighborhood of single-family dwellings or is well suited to that use and is not suited to more intense residential development. The area is identified for Low Density Residential development as part of an MPD.

Medium Density Residential Development

Purpose: The Medium Density Residential Development designation provides for stable and attractive residential neighborhoods of small lot, single-family homes, or attached single- and multifamily residences on lands suitable for these residential intensities. Medium Density Residential areas should be located near commercial services, employment, and arterial roads, and may also be located in mixed-use developments. All MDR areas are also subject to a TDR Overlay.

Allowed uses and description: The base residential density in these areas should be eight units per gross acre. Increased density could be approved up to 12 units per gross acre with the acquisition of transferred development rights.

Designation Criteria: Properties designated Medium Density Residential should generally reflect all of the following criteria:

1. Existing or planned public facilities are adequate to support residential development at this density.
2. If the area is undeveloped and not near the identified employment and commercial service areas, the area should be free of significant amounts of environmentally sensitive areas.
3. The area is separated by topography or another appropriate boundary from incompatible uses. Buffering or a density transition may be used to separate this designation from lower density residential designations.

4. The area meets at least one of the following descriptions:

    a. The area is located outside of an existing single family neighborhood and fronts an arterial

    b. The area is developed and consists of a mix of attached and detached housing types. A residential neighborhood that is primarily single family with a strip of multifamily housing along an arterial does not meet this criterion.

    c. Medium density housing can be developed to be compatible with existing development.

    d. Identified as a receiving site for density under the TDR program.

    e. The area is identified for Medium Density Residential development as part of an MPD.

Commercial Designations

Purpose: The Commercial Designations are intended to lead to the development of several types of commercial areas, and are intended to be implemented through the application of multiple zoning classifications that help distinguish between types of areas based on their desired size and function. There are three types of commercial areas envisioned in this plan, each intended to have distinctive development standards and/or allowed uses:

1. Town Center;
2. Community Commercial; and
3. Neighborhood Commercial.

Town Center designation

The Town Center designation recognizes and continues the pattern of development found in the historic "Old Town" center as a community focal point. Uses in this area will include a mix of residential, civic, retail, commercial (including comparison commercial), office, entertainment, services and hospitality services (inns and meeting centers). Low to moderate rise in scale, the Town Center commercial area will be pedestrian oriented and include buildings and nearby parks that symbolize the City's center. Buildings are intended to be located close to the street to create a pedestrian-oriented environment; required parking may be provided on the street or in lots to the sides or rear of buildings. Bike and pedestrian trails and sidewalks will connect the Town Center to the rest of the City. Upper story residential uses should be encouraged in this area and existing residential uses should be allowed to continue as an integral part of the fabric of the center.

Community Commercial

Larger, community-scale centers outside of the Town Center are intended to meet the community's growing needs, serve the needs of the surrounding area, and accommodate commercial uses that require larger sites, involve significant areas of outdoor product display and/or storage, or are oriented to the needs of the motoring public. All required parking will be provided on site, with cross-access provided between sites to reduce the number of driveway locations along arterial streets. Pedestrian connections between sites should also be required. At least a portion of the commercial buildings should be located close to the primary street frontage without intervening parking stalls, with parking lots located to the sides and rear of buildings. Landscaping along street frontages should be sufficient to preserve and enhance the natural beauty of the area and create a distinctive character that distinguishes these commercial areas from those typical of nearby communities. Residential uses should be encouraged as a component of mixed use projects.

Neighborhood Commercial

Other commercial areas will provide for small-scale neighborhood centers with convenience goods and services, while protecting neighborhood character. Permitted uses should primarily serve the neighborhood and should not attract new vehicle trips that pass through neighborhoods. These centers should act as neighborhood focal points. They are also intended to help reduce automobile trip lengths and frequency. New Neighborhood Commercial areas are expected to develop as vital components of MPDs.

Allowed Uses and Description: The Town Center and Community Commercial areas should allow comparison retail, restaurants, motels/inns, professional offices, entertainment and cultural uses, public and semi-public uses. Community Commercial areas should also allow land-intensive commercial activities such as automotive sales, lumber yards, and other activities that include outdoor product display and/or storage. Neighborhood commercial areas should emphasize limited retail and service businesses that serve the immediate neighborhood. Permitted uses should include food stores, day care centers, dry cleaning, personal care and medical and dental services, and similar services. Supermarkets and drug stores may also be appropriate if conditions are suitable. The design and scale of these areas, and the size, location and design of parking areas, should be regulated to ensure compatibility with the surrounding neighborhood. The designation will include features to encourage pedestrian and (future) transit access to and within the designation such as shared parking and siting the buildings near sidewalks.

Designation Criteria: Properties designated Community Commercial should generally reflect all of the following criteria:

1. The designation should provide the opportunity for a commercial area of appropriate size and scale, to serve the community or neighborhood, depending on the type of center, and in view of given its location, market or service area, and intended function.

    a. Neighborhood-scale centers should be limited in size and provide services to the surrounding neighborhoods. These centers may range in size from 3 acres to a maximum of 10 acres. Neighborhood centers should not be located within one mile of another neighborhood or community center.

    b. Community Commercial areas should be located along major arterial routes in order to serve the broader community with a wider range of goods and services. Sufficient land within the City should be designated to allow for development of uses that provide significant employment opportunities and potential of sales tax generation.

    c. The Town Center designation is intended to be applied to the historic Old Town center and should only be expanded to additional lands if the historic pedestrian-friendly character can be maintained.

2. Existing or planned public facilities are adequate to support the intended scale of commercial development.

3. If the area is undeveloped, the area should be free of significant amounts of environmentally sensitive areas or development can occur outside those areas. Commercial areas may include aquifer recharge or seismic hazards areas where those areas have previously been designed for urban intensity uses.

4. New Neighborhood Centers should be located at the intersection of two arterial streets or integrated into an MPD. Community Commercial may be located along major arterials such as SR 169, but access to the arterial should be limited to a combined access point, preferably that being an intersecting public street. Interconnectivity for both vehicles and pedestrians should be provided between sites.

5. The area should be capable of being served by transit when available and capable of connecting to existing or planned pedestrian or bikeways.

6. The area shall be located adjacent to the existing or planned bikeway or be connected to a bikeway and have existing or planned pedestrian connections to the neighborhood it serves.

Mixed Use

Purpose: Mixed Use development is intended to encourage complementary land uses that work together for mutual benefit and that contain pedestrian connections and close proximity to encourage walking between activities. Desired Mixed Use areas

are identified in areas also subject to the MPD overlay. While mixed-use development could potentially occur at numerous locations within an MPD per the provisions of BDMC 18.98, it is encouraged to occur in specific areas where the anticipated larger commercial component can also serve the broader community. Mixed-use development should exhibit one or more of the following benefits:

1. Provide sufficient human activity and/or development intensity to support efficient transportation and land use.
2. Positively influence the character of neighboring development by providing services, activity focus, and/or unique development setting thus enhancing the neighborhood qualities.
3. Achieve more effective site utilization through shared parking, day and night activity, or other efficiency.

Mixed Use development will be implemented through the approval of an MPD that identifies areas that meet the criteria noted herein.

Allowed Uses and Description: Mixed-use development may occur in vertical, horizontal or district forms. Horizontal mixed-use allows complementary activities housed side by side or in neighboring buildings. It can include personal and professional services, residences, small retail and offices, eating and drinking establishments all on one site. Vertical mixed-use is the layering of uses one above another. For example, it could include retail frontage, parking below and offices and residences above. Mixed-use districts are typified by several different buildings on different parcels combining to provide a viable mixed-use setting. Many traditional "main streets" are examples of mixed-use districts, for example banks, offices, personal services, restaurants, and retail shops are found, often with residential above. The residential component for mixed use should only be limited by floor area ratio standards, required parking, etc., rather than being subject to a defined density standard. Mixed-use districts may include vehicle-related services and gas stations.

Designation Criteria: Properties appropriate for Mixed Use development should generally reflect the following criteria:

1. The property must be located within an MPD.
2. The property must be located along or situated to receive primary access from arterials.
3. The property must be of sufficient size to allow a variety of land uses.

Light Industrial/Business Park Designation

Purpose: The Light Industrial/Business Park designation encourages manufacturing activities and manufacturing related businesses, with attractively designed and efficiently used areas for research and development, and high technology manufacturing. To protect the community and the natural environment, allowed uses are those that do not create significant hazards or negative impacts. Performance standards also are used to protect the community and other uses in this designation.

Allowed Uses and Description: Allowed uses and site regulations should provide appropriate opportunities for manufacturing, high technology manufacturing, research and development, light industrial uses, wholesale businesses and essential public facilities, located in a campus-type setting. Corporate and general offices are also allowed uses. Limited commercial and retail service activities that support the employees of the immediate area may also be found in this designation. Uses that require significant amounts of storage (both indoors and outdoors) of materials and equipment may be allowed subject to screening requirements and an evaluation of compatibility with adjacent uses.

Designation Criteria: Properties designated as Light Industrial/Business Park should generally reflect all of the following criteria:

1. Light industrial areas should be located near corridors for transportation of goods, such as arterials and railways or potential railway corridors.
2. The site should be free of significant amounts of environmentally sensitive areas or should adequately mitigate impacts.
3. Existing or planned public facilities are adequate to support light industrial and business park uses.
4. The area is separated by topography, buffers, or other appropriate boundary from incompatible uses.
5. The area is served or capable of being served by transit.
6. Properties of this designation must have large undeveloped parcels suitable for the light industrial and manufacturing uses and of sufficient size to allow for campus-like business park development.

Industrial Designation

Purpose: The Industrial designation is intended to provide for industrial enterprises that manufacture and distribute goods for regional, national, or worldwide markets, and that provide jobs and tax base for the economic growth and stability of the community and region. The industrial zone will accommodate changing industrial

technology and facility siting requirements under performance standards that protect nearby properties and environmentally sensitive areas and also protect industrial uses by prohibiting intrusion by non-industrial uses except those that are considered accessory to industrial enterprises.

Allowed Uses and Description: Uses and site regulations should provide appropriate opportunities for manufacturing, warehousing and distribution, including outside manufacturing and mineral resource processing, where continuing operations are unlikely to harm surface and groundwater resources. In deciding which uses should be allowed, the City's environmentally sensitive areas and other regulations should be considered. Buildings not used exclusively for warehousing, manufacturing and distribution should not exceed a height of two stories.

Designation Criteria: Properties designated Industrial should generally reflect all of the following criteria:

1. The area should be located near corridors for the transportation of goods, such as highways, arterial streets, and railways.
2. If the area has not been developed for industrial activities, it should be free of significant amounts of environmentally sensitive areas or should adequately mitigate impacts.
3. The existing or planned public facilities are adequate to support industrial uses.
4. The area is separated by topography, buffers, or other appropriate boundary from incompatible uses and/or existing or planned residential areas.
5. The area is capable of being served by transit.
6. The area has large undeveloped parcels suitable for industrial uses.

Primary and Secondary Open Space Overlay

Purpose: The City of Black Diamond Comprehensive Plan Primary and Secondary Open Space overlay, shown on the Parks and Open Space Map, coincides with the known (approximate) location of environmentally sensitive (critical) areas (Primary Open Space) and lands within close proximity to such areas (buffers), or other desired open space areas (Secondary Open Space). These areas should be preserved and/or used as open spaces and parks, including the City's Treasured Places; some lands may also be targeted to be acquired or otherwise protected through the City's Open Space Plan. Primary and Secondary Open Space will be retained or protected through a variety of public and private development and preservation mechanisms, including conservation easements, environmentally sensitive area tracts, on-site density transfer, TDR, dedication, fee simple purchase, or development as a private park or recreation area. . The plan's Open Space overlay designation does not

override the underlying land use and zoning designations, and may also signify a potential Sending Area under the City's TDR Ordinance.

Allowed Uses and Description: Primary Open Space contains environmentally sensitive (critical) areas, which will be managed through the City's sensitive (critical) area regulations and should remain largely undisturbed, except as allowed by those regulations. The Secondary Open Space designation allows for natural undisturbed areas, trails, public and private parks with facilities, public and private open space, public or private recreation uses (e.g., soccer field, golf course, community facilities), as well as the land uses indicated in the underlying land use designation. However, regulations should include incentives such as TDR and clustering to encourage Secondary Open Space to be retained for open space use as noted.

Designation Criteria: Lands designated as open space areas shall generally reflect one or more of the following criteria:

1. All known environmentally sensitive areas, as regulated by the City.
2. Lands adjoining the Rock Creek, Ginder Creek, Lawson Creek, Ravensdale Creek, and other riparian corridors.
3. The following lakes: Jones Lake, Black Diamond Lake, Frog Lake, Lake Marjorie (Oak Lake), Lake Sawyer, and the land perimeters of those lakes when not subdivided.
4. All existing and proposed public parks and open spaces.
5. Identified Treasured Places.
6. King County and City-identified wildlife habitat corridors

Public

Purpose: The Public designation identifies properties under public ownership, whether by the City or other governmental entities that are either currently used or intended for unique uses, including parks or elementary schools. This includes the City's watershed, which is located approx. 1.5 miles southeast of the City limits and is otherwise surrounded by unincorporated King County. Lands falling within this category should be those that are intended to remain within public ownership and management for long periods of time.

Allowed Uses and Description: The Public designation could allow a variety of governmental uses, both passive and active. However, government uses and activities that are similar in character to private enterprises (such as offices) are not intended to be included within this designation. Sensitive environmental areas that

are not intended to be incorporated into the City's parks and open space system are also included within this designation.

Designation Criteria: Lands designated as Public shall reflect one or more of the following criteria:

1. Must be owned by a public government or agency.

2. Are intended to be retained in long-term public ownership.

3. The use of these lands does not logically fit within another land use designation.

5.4.2. The Land Use Map

The Comprehensive Plan Future Land Use Map (Figure 5-1) identifies the approximate location of future land uses and serves as the road map for accomplishing the vision identified in Chapter 1 of the plan. The Future Land Use Map embodies the goals, objectives, policies, and the concepts of the plan. Existing parks and schools are also shown on the map. Since the majority of future parks are anticipated to occur within MPDs, future sites have yet to be identified. The precise location of active and passive open space, parks, and school sites will ultimately be identified prior to development.

The land use designations described in the previous section are shown on the Future Land Use Map to graphically display the City's planned land use pattern. The approximate acreage for each land use designation within the City and its recognized PAAs is identified in Table 5-1.

Table 5-1. Comprehensive Plan Future Land Use Designations

Land Use	City Acres	PAA Acres	Total Acres
Urban Reserve	0	111	111
Master Planned Development [1]	1,505	287	1,792
Low Density Residential	2,476	466	2,942
Medium Density Residential	141	0	141
Commercial designations	185	0	185
Mixed Use	294	0	294
Light Industrial/Business Park	295	0	295
Industrial	101	0	101
Public	266	51	317
Undesignated (ROW, Water bodies)	545	231	776

Land Use	City Acres	PAA Acres	Total Acres
TOTAL	5,808	1,146	6,954

Note: Table based upon GIS analysis of Draft Comprehensive Plan Future Land Use Map, October 2006. Numbers have been rounded up to the nearest whole number.

[1] This represents only the areas previously designated as an MPD. It does not represent the entire area that will be developed under the MPD Ordinance, which is larger and includes all properties developed at 80 or more acres in size.

PAA = Potential Annexation Area

The Comprehensive Plan Future Land Use Map and land use policies will guide the City's development regulations, decisions on public facilities and services, and the decisions of property owners and developers on appropriate land uses. The GMA requires that comprehensive plans and development regulations be consistent.

5.4.3. Open Space Plan

The Open Space Plan is based on the City's vision and land use pattern, in which open space is an essential element of the community. The cornerstone of the Open Space Plan is the identification and preservation of environmentally sensitive areas. Added to the open space network will be parcels adjacent to environmentally sensitive areas which provide community-valued open space and treasured areas, urban/rural buffers, in-city urban separators, public and private parks and recreation and community facilities including a trail network. The Open Space Plan builds upon the naturally occurring open space areas to create a network that serves both people and nature.

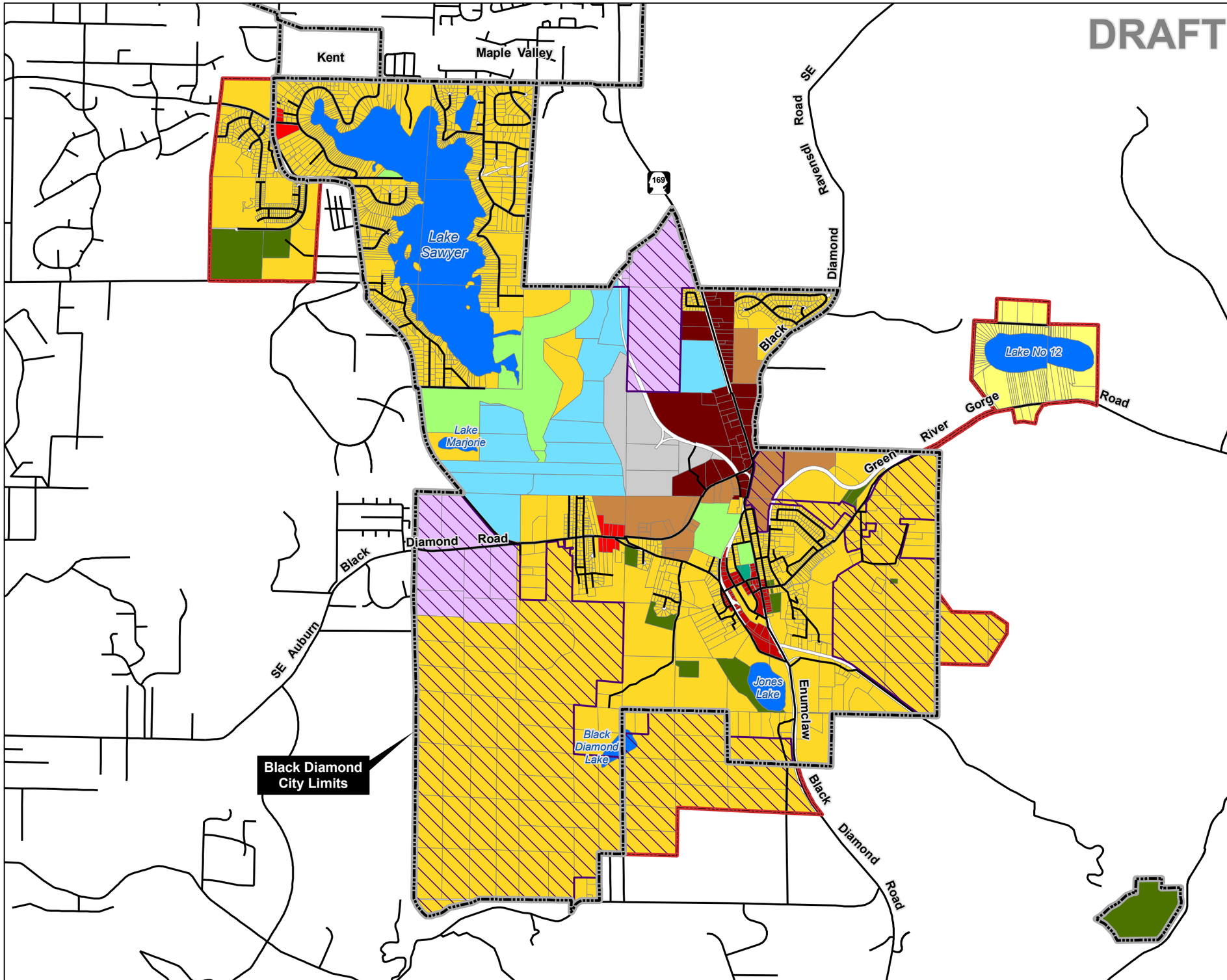


Figure 5-1

City of Black Diamond Future Land Use Map

- City Limits
- Potential Annexation Area
- Road
- Master Planned Development Overlay

Future Land Use

- Urban Reserve
- Low Density Residential
- Medium Density Residential
- Mixed Use
- Business Park & Light Industrial
- Neighborhood Commercial
- Town Center
- Community Commercial
- Industrial
- School
- Park
- Public
- Water

NOTES:
Any parcel of 80 acres or more that develops is required to go through the Master Plan Development (MPD) process identified in BDMC 18.98.

Some residentially-designated properties with an MPD overlay have a basic density entitlement of either 1 or 2 dwelling units per acre, pursuant to either the Black Diamon Urban Growth Area Agreement or pre-annexation agreements.
A maximum of 4 dwelling units per acre may be attained with the Transfer of Development Rights pursuant to City Code.

Sources: King County (2007); City of Black Diamond (2006)

Map Prepared: December 2008

N

0 0.5 1
Miles

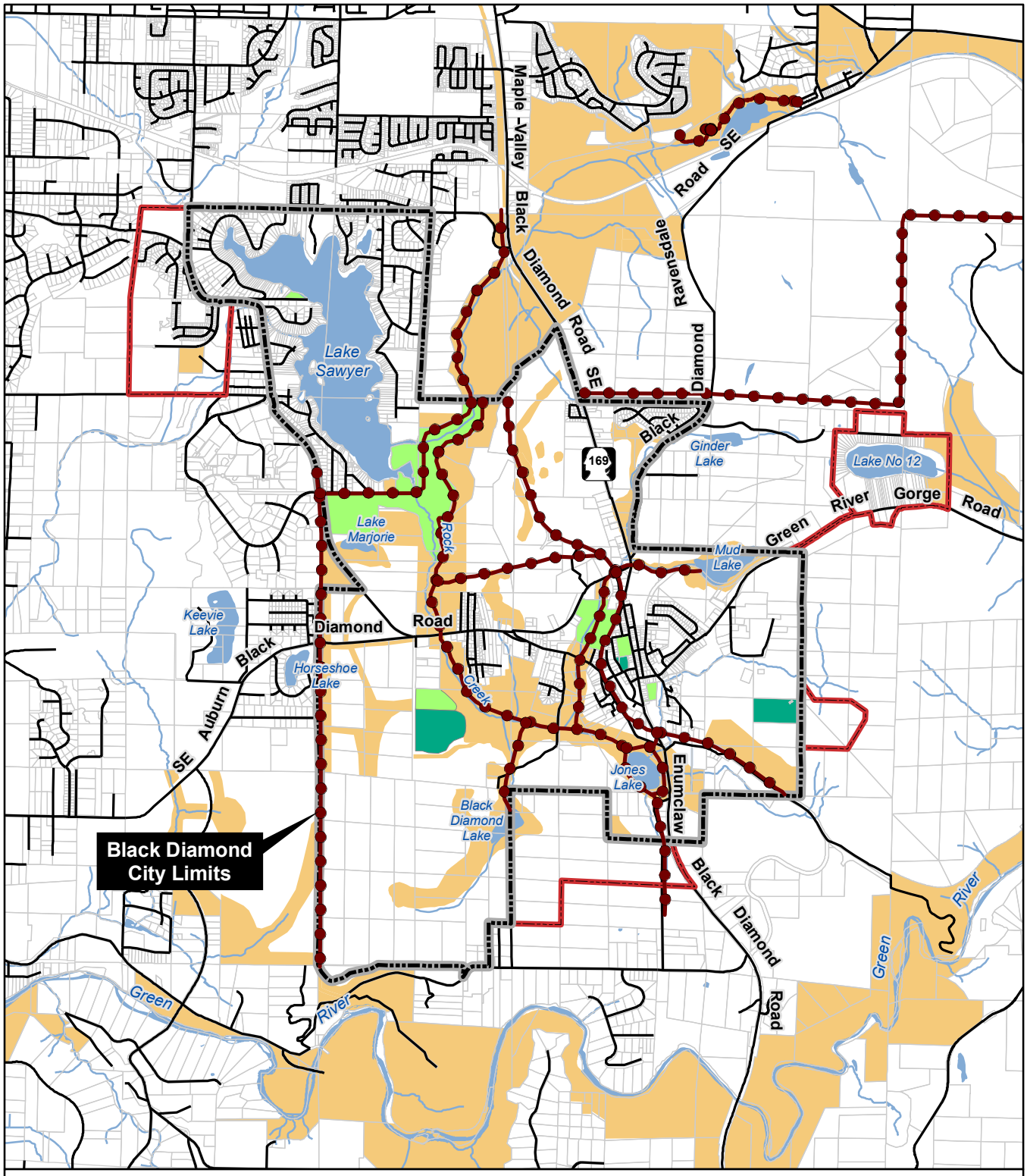
ICF Jones & Stokes
an ICF International Company

The Open Space Plan's underlying concept was first developed in conjunction with the 1994 annexation of 783 acres in the Black Diamond Lake area, when the landowners proposed retaining 50% open space in new development. By planning for and anticipating future development within the City, a commitment was made to preserve for perpetuity significant land area for open space uses. Open spaces would serve a variety of functions, including active and passive recreation, natural resource preservation, water quality protection, and non-vehicular transportation corridors. The open space should be comprised, at a minimum, of environmentally sensitive areas, riparian habitat corridors and an integrated trail system and could include parks, recreation facilities, and community facilities. This concept was furthered in the 1996 BDUGAA and the 2005 BDAOSPA, and will provide additional opportunities for implementation as annexation occurs. The Open Space Plan will include both open space inside the existing City limits and connectivity to open space in the unincorporated area around the Black Diamond area. Within the City's overall planning area, open space and park land will comprise 35% to 40% of the total land area. Known sensitive areas designated as Primary Open Space area should be preserved. Additional land is also needed to enable citizens to enjoy these open spaces. In this way, the impacts from human intrusion near environmentally sensitive areas will be minimized. Parks along the edges of the open space network provide a place for human activity outside sensitive areas.

The open space network (see Figure 5-2 for Parks/Open Space) shows conceptually both large and small parcels of land that may be targeted for retention using a variety of methods, including density transfer, clustering, conservation easements, and TDR, which will, over time, create an extensive network. Some parcels are large enough to provide open space on-site in conjunction with development by requiring clustering of the development.

Small parcels have limited ability to apply on-site density transfer, however, and retention of open space may warrant use of the City's TDR program to transfer density off-site to identified TDR receiving areas.

The conceptual Open Space Map illustrates how open space may be integrated within the City, and how an overall balance between open space and developable lands will be achieved.



Sources: City of Black Diamond (2006); King County (2007)

Road
City Limits
Potential Annexation Area
Parcel Boundary
Trail
School
Park
Open Space

N

0 0.5 1
Miles

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Figure 5-2. Parks and Open Space Map
Black Diamond Comprehensive Plan
May 2009

5.4.4. Population Densities, Building Intensities, and Growth Targets

Existing Population

As of 2000, the City's population was, according to the U.S. Census, 3,970 persons and was estimated to have grown to 4,155 in 2008. Population density was 613 persons per square mile, over the City's 6.78 square miles. This represents a 5% decrease in density since 2000, much of which is due to the annexation of the large vacant parcels as part of the 2005 West Annexation Area.

Target Population

The City's population has basically remained relatively stable for decades. The only significant population increase in the past several decades was a result of annexing the Lake Sawyer neighborhood. Because of the environmental sensitivity of adjacent land areas and the presence of resource extraction activities (forestry and mining), growth through annexation was restricted. In 1994, the City annexed 783 acres located near Black Diamond Lake, followed by annexation of an additional 338 acres in the West Annexation Area north and west of the City in 2005. The proportion of these areas that is considered "developable" is substantial. In 2005, the City amended its development regulations to establish an MPD process and criteria for development of these newly annexed areas, along with other large sites within the City, and entered into a number of Pre-Annexation and Development Agreements. Development is expected to take the form of residential, recreational, commercial, and mixed-use development with substantial active and passive open space. In addition, the conversion of land currently zoned for Mineral Extraction and Forestry (ME/F) will add new developable land for residential and employment uses in the future.

Table 5-2 indicates the City's internally generated population projections and those of the PAA during the 20-year planning period. Of the 2025 projected population of 16,980, 13,075 are anticipated to be living in areas within the 2006 City limits.

Table 5-1. Population Projections in 5-Year Increments

Year	Total Population	Total Households
2007	4,120	1,578
2010	4,868	1,714
2015	10,437	3,740
2020	15,770	5,776
2025	16,980	6,302

Note: 2007 is an existing estimate from Washington State OFM. The remaining years are projections developed by the City. Projections include population in the City of Black Diamond's PAAs.

Target Dwelling Units and Required Acreage

The GMA requires cities to plan for sufficient lands to meet the population growth allocated through a countywide process. In King County, this is done in accordance with the King County Countywide Planning Policies (CPPs), which have allocated a year 2022 new households target to the City of 1,099, which equates to an additional population of 2,945 individuals. The year 2025 growth projection found in Table 5-2 is based on a City estimate that assumes the development of major planned developments and far exceeds the amount of growth the City is obligated to accommodate during the planning period.

The 2025 population projection exceeds the 2007 population by 12,860 persons. The average size of households in 2025 is assumed to be 2.68 persons, a slight decline in persons per household from 2007. The 2025 population and housing unit projection does account for potential vacant housing units. Table 5-3 assumes a 5% vacancy rate due to households in transition to indicate how many acres of residential land are needed to accommodate anticipated growth.

Table 5-3 Target Dwelling Units and Acreage Requirements, indicates the number of dwelling units and residential acreage needed to accommodate the 2025 population target.

Table 5-2. Target Dwelling Units and Acreage Requirements

2025 Population *	Dwelling Units (2.63persons per unit)	Plus 5% Vacancy	Number of Acres (4 DU/Acre)
16,980	6,302	6,617	1,654

* Note: The City has updated the existing King County CPP targets both to extend the 20-year planning period, and to reflect known development proposals anticipated to occur by 2025.

To meet the 2025 population projection and accommodate an assumed vacancy rate of 5%, the City will need at least 1,654 acres of developable residential land if an average residential density of 4 DU/Acre is assumed. Available acres in the City are contained on Lawson Hill; near Black Diamond Lake; at the northern City limits; and in the areas annexed as part of the West Annexation Area in 2005 located in the northern, western, and southwestern areas of the City. Additionally, smaller sites are available in the Black Diamond townsite, north and south of Roberts Road and in Morganville. The comprehensive plan provides 2,891 acres for residential use. Appendix B provides the calculation of the residential development capacity for the study area.

2025 Target Employment

Whereas mining was the employment catalyst for the City in its first 100 years, the natural beauty of the Black Diamond area, the availability of large parcels for potential commercial and industrial use, and the expansion of urban areas into southeast King County are now envisioned to be the drawing cards for businesses for the next several decades. In conformance with GMA and the CPPs, a number of significant planning decisions were made which will influence employment growth potential within the City. The annexation of the Black Diamond Lake area (1994) and parts of the West Annexation Area (2005) for housing and recreation was seen as one catalyst to support additional business and commercial services and industry in the City. In addition, areas annexed to the City in 2005 with frontage on SR 169 and the Auburn-Black Diamond Road will provide additional acreage on arterials for potential commercial and mixed-use development.

Because of these new opportunities, the 2025 employment target was not based on past trends or countywide forecasts. Rather, the employment forecast reflects the City's desire to create a higher jobs/housing balance, to build a strong economic base, and to recognize its strategic location and the potential provided by large, developable parcels of land. Table 5-4 shows target employment projections to 2025.

Table 5-3. 2025 Target Employment

	2000 Existing Jobs	2025 Additional Jobs	2025 Total Jobs
Black Diamond	427	2,525	2,952

Planned Employment Capacity and Forecast Allocation of Jobs

Development capacity was calculated for commercial and industrial designations within the City, as shown in Figure 5-1. The capacity calculations were based on regionally accepted development assumptions relative to discounts from developable acreage to recognize public rights of way, market availability, market absorption, commercial and industrial intensity, and open space designations within the commercial or industrial designations. These assumptions are included in Appendix B. The data indicate the City contains the capacity for 5,761 total jobs or 5,334 new jobs (from 2000).

The planning rationale and assumptions considered City policy and market factors such as available infrastructure and site constraints. For example, the Old Town commercial area is anticipated to receive growth. A small supply of commercial lots currently exists in the Old Town commercial area. Mixed use development could add to the commercial use potential of this area. Because necessary infrastructure to serve these lots is in place or located adjacent, it is assumed they will be totally developed by 2025. Similarly, since the other commercial and mixed-use areas

already contain partially developed and developed commercial uses or provide access to visible commercial frontage on arterials, it is assumed that a majority of these will be developed within 20 years. The newly annexed commercial and mixed-use areas along SR 169 and Auburn-Black Diamond Road are expected to be mostly if not completely built-out within the planning period. The large light industrial and business park parcels are assumed to grow slowly at first, until there is enough business to attract others. This is a typical pattern of industrial absorption found in new industrial areas.

In conclusion, there is an adequate amount of designated land in the City to meet the employment projection for the next 20 years.

5.5. Shoreline Master Program

When the City annexed the Lake Sawyer neighborhood in 1996, it annexed two sensitive areas that are also considered "shorelines of the state" pursuant to the Shoreline Management Act: Lake Sawyer and Covington Creek. The City plans to update its Shoreline Master Program (SMP) by December 31, 2011, consistent with the requirements of state law. In the meantime, existing shorelines within the City limits are governed by the City Code and by the King County SMP policies and regulations in place as of the date these natural resources were annexed in 1996. The policies of King County's adopted SMP are incorporated into this plan by reference as an interim measure, until the City prepares its own SMP.

5.6. Land Use Goals, Objectives, Policies, and Concepts

5.6.1. Overall Development Goal, Objectives and Concept

Land Use Goal: Establish a pattern of development that maintains and enhances quality of life within the community.

Objective LU-1: Create a diversity of high quality places to live, work, shop, and recreate.

Objective LU-2: Create an open space system that frames and separates distinct areas of development both within the existing City limits and within all annexation areas.

Objective LU-3: Develop a balance of residential, commercial, industrial/business park and open space uses that create a fiscally sound community

while maintaining a small-town atmosphere in a natural setting and meeting the needs of a diverse population.

Policy LU-1: Develop and enforce regulations consistent with the character and scale of the community and use design guidelines to help shape development.

Overall Development Concept

The City will develop as a balanced community similar to traditional small towns. Principles and guidelines for community design and character will guide development to ensure it remains a traditional village community (see Section 5.3 above). The City will provide a variety of housing types, retail goods and services and local and regional employment opportunities. Significant population and employment growth are anticipated and encouraged so long as new development is consistent with the City's vision for integration of development and open space areas. The City will take an aggressive stance to attract new employment opportunities.

To achieve the desired balance of places for living, working and recreating, new residential and Light Industrial/Business Park development will be interspersed with large areas of active and passive open space as the City grows.

Active and passive open space will be preserved within the City through the use of TDR, acquisition, and dedication. The TDR program is an essential element used to preserve the connections between valuable sensitive areas and open space.

The City now has a strong visual identity with clear edges and gateways defined by its natural setting. Preservation of this identity, gateways and edges should continue, and be enhanced. New development in the vicinity of a gateway should strengthen, or at least not diminish, these features. This concept has been further implemented along the City's northern SR 169 gateway through strict view protection requirements on adjacent lands as set forth in the BDAOSPA in 2005.

The principal elements of the natural system (lakes, creeks, forested hillsides, open meadows, and views of Mount Rainier) will be incorporated into a permanent open space system that separates individual neighborhoods, preserves critical natural functions and provides a visual reminder of the natural landscape. Important community design elements should be retained and/or enhanced.

The small-town atmosphere will be maintained by controlling the scale and character of new development, creating pedestrian linkages between the different neighborhoods, building on the City's rich history and encouraging participation in City government and special community events. New development should be designed to encourage residents to become part of the City's community.

While recognizing the importance of the automobile and efficient circulation, vehicular traffic and associated parking will not become the dominant visual feature as found in many suburban settings. The potential improvement of SR 169 and how this improvement will impact the community is a significant issue to the City.

To improve and maintain the economic viability of City government, it is critical that new development be designed to allow for the efficient provision of public services and utilities. New development must also pay for its share of required new infrastructure, and should proceed only when the necessary public services and facilities are available to serve it, and where it contributes positively to the fiscal health of the community.

5.6.2. Open Space Polices and Concept

Open Space

Policy LU-2: Use the open space system as the primary unifying component of the comprehensive plan.

Policy LU-3: Preservation of areas designated for primary open space is a top priority.

Policy LU-4: Preserve and protect all significant natural areas (wetlands, streams, steep slopes, geologic hazards, and 00-year floodplains) and integrate these areas into the open space system.

Policy LU-5: Use appropriate methods of acquisition or long-term protection to preserve sensitive natural areas.

Policy LU-6: Use the open space system to protect surface and groundwater quality.

Policy LU-7: Protect and enhance the dominant natural features and open space structure (including gateways, viewpoints, and view corridors) that characterize the City.

Policy LU-8: Protect the City’s treasured places by connection to the open space system.

Policy LU-9: Preservation of open space should not remove all rights to develop a property owner's land.

Policy LU-10: Create an open space system which frames and separates distinct areas of development within the City.

Policy LU-11: Plan for and retain a natural vegetation buffer around the perimeter of the City adjacent to unincorporated Rural-designated land. The buffer may vary in width based upon sensitive areas and other constraints. Once established by development, this buffer is to be permanent. Development adjacent to the buffer is encouraged to combine other open space features with the Urban-Rural buffer.

Policy LU-12: Development on prominent hillsides should retain substantial tree cover to preserve the forested hillside view from the valley floor.

Policy LU-13: The open space system will be preserved and protected through a variety of approaches that respect the landowner's commitment to their property including: TDR, open space tax incentives, cluster development, public land acquisition, conservation easements and other public and private initiatives.

Policy LU-14: The City should develop a stewardship plan for open space. A stewardship plan would identify techniques and ways to maintain and enhance the active and passive open space areas (that lie outside the protected environmentally sensitive areas). The stewardship plan may rely on community involvement to implement the plan.

Policy LU-15: The City will regularly review the BDAOSPA approved in 2005 and will actively investigate and enforce any violations of the agreement.

Open Space Concept

Existing open spaces provide the City with many benefits. The City is "framed" by large blocks of second-growth forests in various stages of regrowth. The separation provided by the open space and views of the natural rolling topography, forests, open pastures/meadows, lakes, and stream corridors gives the City much of its character. The numerous open spaces also provide significant natural functions. Inasmuch as the City cannot afford to purchase all these lands, mechanisms must be developed to encourage open space preservation and/or require preservation of environmentally sensitive areas. The open space uses allowed within environmentally sensitive areas and buffers include trails, recreational areas and community facilities (under certain conditions), urban separators and utility and road crossings.

The City’s parks and open spaces are not necessarily the same. Developed recreational facilities are needed in addition to natural open space. Plans for public parks and recreational facilities are addressed in the Capital Facilities Element of this plan.

The active and passive open space system will be based on existing stream corridors, lakes, and retention of buffers comprised of mature trees in certain areas. The Rock Creek, Ravensdale Creek, Ginder Creek, Mud Lake Creek, and Lawson Creek are the linear components of the system within the City. These areas lie in proximity to the developed areas of the City; they form the village and neighborhood open space network.

Black Diamond Lake and the tributary to Rock Creek and Ravensdale Creek are the major pristine natural resources that are part of undeveloped areas. They can form the wildlife and habitat corridor part of the open space network. The comprehensive plan recommends further evaluation of these areas for fish and wildlife conservation areas. If designated fish and wildlife conservation areas are designated, these areas should be included in the Critical Areas regulations.

The outer perimeter of the City should be maintained as an open space buffer between the City limits and the county defined rural lands, except where the county has identified permanent open space lands at the edge of the City limits. This buffer is an important part of the Open Space Plan. The dimensions are to be guided by the comprehensive plan policies and the Open Space Plan. The BDAOSPA (2005) serves as an important example of how the City has started to make the vision for this open space buffer a reality and should be looked to as a model for future open space protection efforts.

To ensure preservation of open space without unduly penalizing property owners, urban zoning will be applied to all lands and density credits should be allowed for land designated as open space as part of a development project. In certain cases, some single-family lot sizes could be reduced below the basic zoning standard to achieve up to the same density that would have been allowed had there been no open space designation required. The City's TDR program will also be used as an incentive for preserving open space.

The City has adopted a TDR program, including development regulations, which is a key element in its open space network and Land Use Plan. In addition, the City requires open space dedication and retention as part of its MPD ordinance. The following program guidelines provide policy direction for implementation.

TDR Program Guidelines

A. The City will establish a schedule for the careful review and consideration of a Treasured Places TDR program.

B. The Treasured Places TDR program should support the City's development regulations and comprehensive plan policies by providing a market-based mechanism to encourage the voluntary preservation of designated resource

systems and community open spaces and to facilitate the efficient use of lands to be developed.

C. A Treasured Places TDR program will address the following critical elements:

1. Preserved Area - The sending area which is the land targeted for preservation. It will include:

   a. Major riparian and open space systems such as Rock Creek, Ravensdale Creek, Ginder Creek, and Jones Lake Creek and neighborhood separators.

   b. The City's Community Treasures such as open spaces, view points, habitat, historic sites, and valued natural areas.

2. Receiving Area - Lands in the City will be targeted for density increases as receiving areas for the TDR Program.

5.6.3. Residential Development Policies and Concept

Residential Development Policies

Policy LU-16: Encourage a variety of housing types, providing housing for all income levels and all family sizes.

Policy LU-17: New housing should be compatible with the existing development pattern and the small-town atmosphere—a mix of small and large lots, size and scale.

Policy LU-18: Require residential development patterns to allow for efficient provision of public services and utilities.

Policy LU-19: Encourage clustering within new developments to create compact new communities surrounded by open space.

Policy LU-20: Allow multifamily residential in identified areas or when integrated as part of a planned development.

Policy LU-21: Require multifamily structures or multiple family complexes with more than 4 units to undergo design review for consistency with adopted Design Guidelines.

Policy LU-22: Use the MPD process to review all proposals on sites larger than 80 acres.

Residential Development Concept

The existing pattern of distinct residential neighborhoods should be continued and expanded. While existing neighborhoods may experience some infill, much of the City's new residential growth will be directed towards larger tracts, physically separated from the existing neighborhoods. The City recognizes that individual lot size and density are two important, but different, issues. Whether infill or a new development, residential units should be clustered and neighborhoods separated by elements of the open space system. Within new development, design of the open space system will be a critical issue. Clustering will guarantee permanent open space and help to preserve environmental amenities such as creeks, wetlands, and significant stands of trees that, in part, give the City its character.

To encourage clustering, the City will examine potential amendments to the Zoning Code to provide incentives for new development that is consistent with appropriate design standards. Design guidelines may include concepts such as:

- Allowing lot size averaging and/or reducing the lot size, as appropriate, while maintaining the overall density established by the zoning district (small lot sizes, with permanent open space are consistent with a small town);
- Creating residences that relate to the neighborhood's character;
- Maintaining, enhancing or replacing existing native vegetation along arterial and collector streets;
- Creating or maintaining substantial vegetative buffers at boundaries of neighborhoods;
- Establishing a significant amount of permanent, common open space;
- Providing space and facilities for active recreation;
- Limiting proposed clearing and grading;
- Respecting the integrity of the character of the site and its natural systems;
- Integrating local cultural or historical elements into the site design;
- Integrating local architectural components;
- Screening parking and garages; and
- Providing incentives to encourage good design such as density increases within the site, and/or transfer of density credits to other appropriate sites.

The lowest residential densities should be applied where environmentally sensitive areas warrant limited development densities, as well as in established lower density

residential neighborhoods. Reductions in density based on identified constraints or City policy will be off-set and compensated for on suitable lands in other portions of the City, using TDR, MPDs, cluster or mixed-use development and other techniques. In areas with significant environmental constraints that are designated as TDR sending areas, a density not to exceed two units per gross acre can be clustered on the nonsensitive portions of sites. Regulations should also allow for the continuation of existing small scale farming activities.

Within developed areas, a more diverse housing stock will be encouraged to provide housing for a more diverse population, including various types and densities of attached and detached units. While most housing is expected to be single-family, opportunities for attached units, such as duplexes and townhouses, should also be available within single-family areas. Multifamily residential units should be developed at a character and scale consistent with the existing character of the City, shaped by design guidelines. New multifamily development may occur in the form of duplexes, triplexes, fourplexes, townhomes (row houses), and units above commercial (in mixed-use areas). Densities on infill parcels may be higher provided the architectural character of the neighborhood can be maintained. Review of multifamily development proposals should include design review and public hearings. Medium-density multi-unit structures (maximum 12 units per acre) should be encouraged to co-locate convenient to retail and service uses, in mixed use areas or as components of MPDs. Consistent with state law, manufactured housing should be treated the same as site-built housing at comparable densities.

Since the 1996 comprehensive plan was adopted, the City has taken a number of steps to implement its vision for residential development. These steps include adoption of a TDR program; adoption of an MPD ordinance; and preparation of MPD design guidelines. Additional residential development tools that should be to be considered include:

- Provisions for small or moderately sized clustered developments.
- Subject to site plan and design review, allowance for smaller lots and attached units such as duplexes and townhouses in single-family zones, consistent with applicable zoned densities, and contiguous to open space.
- Incentives to encourage clustering and provision of open space and parks.
- Allowance for attached and detached accessory units.

Commercial and Mixed Use Development Policies

Policy LU-23: Retain and enhance the existing commercial areas while providing sites large enough to accommodate significant commercial uses.

Policy LU-24: Provide day-to-day retail goods and services within walking distance of most residential neighborhoods.

Policy LU-25: Permit a limited amount of Neighborhood Commercial sites within those neighborhoods that are not within a convenient walking distance of designated Community Commercial/Mixed-Use centers.

Policy LU-26: Allow a comprehensively planned mixture of Residential, Commercial, Retail, Public and Open Space uses within MPDs and areas appropriate or designated for mixed-use development.

Policy LU-27: Prohibit heavy industrial, and limit light industrial uses within mixed-use areas.

Policy LU-28: Encourage well-planned, coordinated commercial development within the SR 169 Community Commercial area and discourage strip retail development. This area is to serve as the primary source of community shopping needs, and should provide those services and activities that support it as a gathering place.

Policy LU-29: Strengthen design standards for commercial development to include:

a. local architecture emphasis,

b. streetscape compatibility,

c. parking and vehicle access design that discourages strip development,

d. service access design,

e. landscaping to enhance the building or site,

f. sign regulations,

g. allowing mixed use development in some commercial designations, and

h. pedestrian and bicycle linkages.

Commercial and Mixed Use Development Concept

A new Commercial and Mixed-Use area is planned for the area centered on Auburn-Black Diamond Road in the West Annexation area. The three existing commercial areas at Morganville, Old Town, and along SR 169 will be retained and enhanced. These three areas form a triangle reflective of the historical local

development pattern. An important objective of new development will be to create linkages between the areas and encouraging appropriate development along them. These linkages will serve a local, rather than "pass through" purpose. However, the SR 169 commercial corridor is planned to expand to the north to encourage the development of uses that serve a broader market than the local community. These areas are intended to serve the day-to-day retail and service needs of residents as the City grows. Additionally, each of the three commercial areas now has an important community facility. It is intended that community facilities also remain dispersed within this triangle to strengthen it as a focal point for the community.

In mixed-use areas, commercial and business activities may be combined with residential uses, and possible some very limited light industrial activities, in a complementary land use pattern. For example, personal and professional services may serve adjacent businesses and residences. Mixed-use areas should have convenient pedestrian connections and close proximity to encourage walking between activities (generally less than one half mile).

The plan's intent for existing commercial areas is as follows:

Old Town Mixed Use. The historical character of the Old Town area should be retained and enhanced, and this area should become the focus of tourist and specialized retail activities. Old Town currently contains City government offices, including the City Council Chambers/Police Station, the Post Office, and Fire Station. The historic district should overlay the area encompassing the existing Old Town and to the northwest and south along Railroad Avenue and Jones Lake Road. This land use district should employ historical building design guidelines to insure that new construction or renovation is consistent with the character of the area. The southern tip of the Old Town district adjacent to SR 169 will become a primary "gateway" to the City from the south. That portion of the commercial area along SR 169 at Lawson Street (especially east of the highway) may serve a different function.

SR 169 through the original Black Diamond townsite could be envisioned as a tree-lined boulevard serving the historical, cultural and government center of town. The potential impact of any SR 169 improvement/widening is a critical issue to the City and must be carefully studied by both the City and Washington State Department of Transportation (WSDOT) at such time as a specific proposal is identified by WSDOT.

Morganville Mixed Use. The Morganville mixed-use area may be expanded to provide additional land for retail uses and services. Given the unique character of Morganville, a special zoning district overlay could be established. Morganville will be encouraged to keep the eclectic mix of light industrial, retail, services and community facilities that serves the neighborhood.

SR 169 Commercial, North End of Town. Residents have expressed special concern that the existing commercial area along SR 169 should not evolve into a "strip commercial" development. The view protection elements of the BDAOSPA should be strictly monitored and enforced. Further mixed-use development in this area should be sensitive to retaining existing trees along the road edge, combining access points or driveways and employing site design that is compatible with that of the Community Commercial.

This commercial area is extended to allow sufficient depth from SR 169 for an expanded commercial area. Development in this area should be subject to design guidelines to ensure coordinated access, parking, landscaping, signage, and pedestrian circulation.

Strip commercial development is discouraged.

Auburn-Black Diamond Road Mixed Use. The City anticipates that this area, which was annexed in 2005, will be master planned, and will contain a mix of commercial, services, civic uses, and residential. The most intense uses will be located along and near Auburn-Black Diamond Road, with allowed uses becoming less intense the farther away from the main arterial at Auburn-Black Diamond Road.

Neighborhood Commercial Development Concept

To maintain a small town atmosphere, most residential neighborhoods should be located within walking distance of a commercial area (1 mile). Scale, appearance, and character are also important factors.

Zoning regulations, including the adopted MPD process, and design guidelines will guide the planning, location, design, and approval of neighborhood commercial centers.

Lake Sawyer Neighborhood Commercial. The Lake Sawyer neighborhood has a small neighborhood commercial area located at the intersection of Covington-Sawyer Road and 216th Avenue SE. The developed area consists of approximately 1.6 acres on three lots. This plan encourages an expansion of the area in recognition of the potential for additional commercial development. This area provides convenience commercial for residents in the area, including a mini-mart grocery store and an auto repair service.

For all commercial and mixed-use areas, implementing regulations should include the following general site and architectural design requirements:

- Architecture distinctive to the Black Diamond area, rather than standardized national or regional designs.

- Limiting front yard setbacks, with parking located primarily to the side and rear of buildings.
- Buildings and off-street parking sited to create interesting and attractive spaces and appearance at the streetscape and along building setbacks.
- Visual continuity among adjacent development (include consideration of site design, historical significance, landscaping, building design and signage).
- Provision for pedestrian circulation.
- Joint-use of access drives and off and on-street parking.
- Landscaping that incorporates existing native vegetation.
- Screening of parking and service areas, all mechanical equipment, rooftop equipment, dumpsters, and any outdoor storage.
- Removal or screening of accumulated scrap material or building construction materials.
- Pedestrian/bicycle linkages to adjacent residential neighborhoods.
- Coordinated signage program designed to serve local residents and consistent with the character and scale of the community.

5.6.4. Industrial/Business Park Development Objective, Policies and Concept

Industrial/Business Park Development Objective and Policies

Objective LU-4: For the City to transition from its history as a company town to a self-sufficient economic center in southeast King County.

Policy LU-30: Provide local employment opportunities that support the City as a sustainable community.

Policy LU 31: Develop an aggressive economic development strategy, with the cooperation of the City, county, business and property owners.

Policy LU-32: Strengthen the local economy and the City's tax base.

Policy LU-33: Ensure that all Light Industrial/Business Park development is consistent with all appropriate environmental standards.

Policy LU-34: Ensure that zoning regulations are sufficiently flexible to accommodate changing industrial needs.

Policy LU-35: Support adequate rail access to the industrial core.

Policy LU-36: Ensure that all Light Industrial/Business Park development is functionally and aesthetically compatible with surrounding uses.

Policy LU-37: Recognize that Light Industrial and Business Park uses can be compatible with other less-intensive uses where appropriate performance standards are established.

Policy LU-38: Require industrial and Light Industrial/Business Park areas to be functionally and aesthetically compatible with existing uses and to buffer impact generating uses from other uses; carefully site them to minimize environmental impacts.

Policy LU-39: Strengthen design standards for Light Industrial/Business Park development to include:

a. local architecture emphasis,

b. streetscape compatibility,

c. parking and coordinated vehicle access design,

d. loading and service area design,

e. landscaping to enhance the building or site,

f. sign regulations, and

g. pedestrian and bicycle linkages.

Policy LU-40: Within areas designated interim mineral extraction, require site reclamation and restoration pursuant to state mining laws and local environmental and land use regulations.

Industrial and Light Industrial/Business Park Development Concept

Industrial and Light Industrial/Business Park development, if properly designed, is an important part of the community. The opportunity for local employment and an increased tax base can improve the quality of life for residents. The City will seek to attract new light industrial, manufacturing, office and other businesses to the City as a means to achieve its vision for growth and prosperity.

Light Industrial/Business Park areas are targeted to have distribution, assembly, storage, repair, and warehousing uses with some services and offices. Limited retail uses and services intended to serve employees of the area may also locate within the Light Industrial/Business Park areas. These areas should have stringent development

standards to ensure high quality, compatible development. Special attention should be given to: critical areas protection, landscaping to enhance the building or site, circulation and transit access, service access design, screening of loading docks and mechanical equipment, connection to arterial streets, pedestrian and bicycle linkages, architectural control, parking, and utility needs.

Industrial and Light Industrial/Business Park uses may be proximate to but should be separated from commercial uses, to avoid land use conflicts. Circulation plans for adjacent industrial and commercial areas should separate truck traffic from shopping traffic. Certain areas along new principal arterials are suitable for Industrial and Light Industrial/Business Park uses. The existing industrial area is also well situated, but if this area does not develop over the long-term, and a demand for other employment areas can be documented, the City should consider changes to land use.

5.6.5. Forest and Mineral Lands

The City has historically been oriented to resource extraction activities. Coal mining was the initial resource base, but sand and gravel mining and forestry have also played roles. Economic feasibility of resource extraction changes over time with changes in market demand, extraction technology, and environmental consideration. The designation and use of resource lands are now also framed by the requirements of the GMA and the City's planned growth. While resource activities may continue in the future subject to appropriate development regulations, existing resources within the City do not meet the criteria for designation as resource lands of long-term commercial significance.

Forest Lands

In the past, the area surrounding the City, including limited areas near the former Palmer Coking Coal Company and Plum Creek ownerships within the City limits, were considered suitable for commercial timber production. An area outside of the planning area, on a portion of Lawson Hill east of the City, has been designated as Forest Production District by the King County Comprehensive Plan.

The original forest lands in and around the City are in various stages of regrowth. They now provide significant open space which provides many passive values such as scenic views, open space, wildlife habitat, and separation from adjacent developments. These lands are part of a large network that will comprise an open space system for the City and the region.

The City has acquired some former Plum Creek forest lands as documented in the Black Diamond Open Space Protection Agreement (2005). Other forested lands are addressed in the BDUGAA (1996) and are eligible for TDRs. Some future forestry

activities will occur on Plum Creek properties subject to the terms of these agreements.

According to GMA definitions and criteria, forest resource lands are those primarily devoted to long-term commercial timber production on land that can be economically and practically managed for such production and that has long-term commercial significance (Revised Code of Washington [RCW] 36.70A.030[8]). Factors considered in making this determination as set forth in the statute include the proximity of the land to urban, suburban, and rural settlements; the compatibility and intensity of nearby land uses; long-term local economic conditions that affect the ability to manage timber production; and the availability of services and facilities conducive to conversion of forest lands to other uses.

Long term commercial forestry is not contemplated on these lands and would not be economically productive. Moreover, extensive resource activities would conflict with the type and level of growth that is forecast to occur over the life of this plan. While the City will retain elements of its rural character and heritage, it will also become more urban and more populated, as will other cities in this portion of King County.

Mineral Lands

Known mineral resources in the City include coal, sand, gravel, topsoil, and clay. Within the existing City limits, there is currently one sand and gravel operation in Section 10 (Palmer) and one area north of the Green River Gorge Road used in conjunction with the John Henry mine (coal, clay and sandstone). Both areas are currently zoned Mineral Extraction/Forestry. Topsoil is also produced at the sand and gravel operation in Section 10. There are no significant identified rock, clay, or peat resources. The 1996 plan identified aggregate resources within the current City limits and its UGA in Sections 10, 11, 12, 13, 14, and 15.

One other commercial deposit of sand and gravel has been identified in the undeveloped portion of the City. The deposit is located at the south half of Section 22, in the area annexed to the City in 1994. A report prepared by McLucas and Associates, Inc. indicates that about 128 acres contain a commercially viable sand and gravel resource extending to depths ranging from 20 to 90 feet below the surface. For sand and gravel, the potential economic value is determined by quality of the material (proportion of sand and gravel relative to silt or clay, quantity, depth to overburden, and the presence of groundwater).

Currently, approximately 363 acres of land in the City have permits to extract minerals (primarily gravel). The two areas are: 1) north of Morganville to the northern City limits and surrounding Oak Lake; and 2) at Mud Lake and west to SR 169. Gravel is currently being extracted directly north of Morganville and east to

the south side of Oak Lake (Figure 5-1). Based on estimates of the gravel resources, permitted mining is expected to continue until approximately 2025.

Palmer and Plum Creek lands have been evaluated for the presence of such deposits. Palmer's deposit in Section 10 is considered a high quality deposit of clean sand and gravel. The deposit is estimated at 13 million cubic yards. The Section 22 deposit is identified as a high quality, high volume source of construction aggregate. Deposits of silica sand are present on Franklin Hill.

While the extent of remaining coal resources is generally known, the long-term economic viability of the City's coal resources is largely unknown. Black Diamond coal is a high quality, low sulfur coal. The City also has easy access to a port for shipment to overseas users. However, the deep pitching veins broken by faults are difficult and expensive to mine, especially when compared to the "flat" seams of high quality coal in areas such as Wyoming. The potential for further underground mining in general will depend on world energy needs, technology advancements, and environmental and land use considerations.

The John Henry No. 1 mine, located just outside the City limits, has been inactive for more than 5 years. This mine is a unique geologic condition (anticline) in which the coal is located close enough to the surface to allow for more economical surface mining. At the time of this plan update, future operation plans for this mine were unknown. The only other areas in the City with significant deposits of surface mineable coal are within the developed portion of the City.

GMA guidelines for classifying and designating mineral lands of long-term commercial significance, as set forth in WAC 365-190-070, require consideration of a combination of factors, including geology (type of mineral deposit), economics (quality and size of deposit, distance to markets), environmental constraints (critical areas) and a number of land use factors (land use patterns and intensity, proximity to population centers, and availability of services). Consistent with this direction, the City has considered its planned land use pattern, as reflected on the Comprehensive Plan's Future Land Use Map, including the proximity of mineral resources to designated residential areas. In particular, the City notes that identified mineral resources are located—and therefore future mining would occur—in a UGA that is planned for significant growth over the next 20 years at urban densities. Mining could create significant conflicts with this planned growth, depending on its extent, timing, and location.

On balance, based on consideration of these criteria, the City has concluded that identified mineral resources in the City do not meet the criteria for designation as mineral lands of long-term commercial significance. At the same time, the City acknowledges the presence of existing mining operations and mineral resources and the potential for future mining and intends to maintain the ability of property owners

to access these valuable resources. The City will use its development regulations and a conditional use process to review applications for mineral extraction and to ensure that such development is consistent with the protection of the environment and accomplishment of other City policies.

5.6.6. Forest and Mineral Resources Concepts, Objectives, and Policies

Forest and Mineral Resources Concepts

Some forestry activity and commercial extraction of mineral resources will continue to play a role in the City's future. The City supports these activities provided that environmental quality is maintained and consistent with adopted standards and that land use impacts are mitigated. The City will implement a review process for mining permits that includes appropriate standards, allows public input, and ensures mitigation of significant impacts. Upon the cessation of mining activities, all mineral lands must be reclaimed consistent with state law.

Forest and Mineral Lands Objectives

Objective LU- 5: Allow use of forest and mineral resources within the City consistent with the Land Use Concept and development regulations.

Forest and Mineral Lands Policies

Policy LU-41: Retain forest resource land until conversion to urban uses is appropriate.

Policy LU-42: Allow extraction of valuable minerals, including coal, sand, gravel, oil, and gas deposits, when extraction can be conducted consistent with the Future Land Use Map.

Policy LU-43: Apply a Conditional Use permit process to help ensure that mining operations maintain environmental quality and mitigate impacts. Review of applications should include public notice and comment, specific duration of operations, and authority to condition permit extensions or renewals to address new circumstances and impacts.

Policy LU-44: Known mineral extraction sites will be identified in the comprehensive plan to notify adjacent property owners and residents of prospective mining activities and to allow long-term planning by mineral and surface owners.

Policy LU-45: Reclamation plans should be consistent with the land uses indicated on the Future Land Use Map. At the cessation of mineral extraction activities, sites should be converted to their long-term planned land use

5.6.7. Community Design and Character Objectives, Policies and Concept

Community Design Objective and Policies

Objective LU-6: Use development regulations to enhance and protect the overall appearance and character of the City.

Policy LU-46: Retain a sense of place by protecting the community's important natural features.

Policy LU47-48: Old Town should be the primary historical component of the City.

Policy LU-48: Major entrances into the City should be given symbolic markers and landscaping to create a gateway effect.

Policy LU-49: Parks, schools, churches and other public and semi-public buildings should be encouraged to locate on sites to create neighborhood landmarks.

Policy LU-50: Public buildings should fulfill their role as gathering areas and community resources.

Policy LU-51: Building design, zoning regulations and design standards should provide for buildings of a character and scale appropriate to the site, encourage building variety while providing for designs that reflect the distinctive local character, historical character, and natural features.

Policy LU-52: Design standards, building design and site design should provide appropriate transitions between dissimilar uses, such as echoing design features and graduating building heights and intensities.

Policy LU-53: New developments should be designed to incorporate features to encourage alternative travel modes, such as biking, walking, and transit.

Community Design Concept

What is desired is the "chance to live in a real human settlement with a sense of place and sense of belonging." (Arendt, 1994 *Rural By Design*)

Community character relates to the types of land uses found in the comprehensive plan. While land use designations describe the dominant uses and overall function of areas in the City, character designations describe the look and feel of different parts of the City. In general, character may be more important than the specific uses, activities, and building types. The character designations describe: key design elements, mixture of uses, related activities and intensities of development. The key design element discusses the relation of the built and natural environment, and building features. The mixture of uses, related activities, and intensities describe the scale and character of a land use.

Traditional "zoning" concerns, including density and setbacks, must be balanced with the intent of the character designations to encourage development that achieves both the described function and character of the respective area.

"Limited" Residential

Key Design Element: This development pattern, generally found in areas subject to significant environmental constraints and open space protection, will reflect the informal rural development typical of many portions of the City. Subdivisions and short plats should provide interconnected streets. Development is encouraged to promote a variety of individual dwelling designs and is discouraged from using walled planned residential techniques common in other portions of King County.

Mixture of Uses, Related Activities, and Intensities of Development: This area is reserved for residential uses. Accessory units may be built on single lots provided they are significantly secondary to the main use.

Village Residential

Key Design Element: The primary design element will be consistency with existing historical development. Some areas may be subject to historic preservation guidelines, while others may have general guidelines that promote the incorporation of historical design features in new development. The development will be predominantly compact single-family buildings with pitched roofs. Structures will be located towards the street edge and generally have building design features such as front porches and overhanging eaves.

Mixture of Uses, Related Activities, and Intensities of Development: Some mixture of small scale retail and professional office will be included with residential uses. Commercial buildings will generally take similar forms to or use residential

structures. Multifamily houses in keeping with the historic design elements are allowed. Small inn and bed and breakfast operations are also permitted.

Amenity-Focused Residential

Key Design Element: These areas are to contain a hierarchy of open spaces where private open spaces are linked to public open spaces. Development is to be located on portions of the site away from environmentally sensitive features, but oriented to take advantage of natural amenities. Higher density development resulting from on-site transfer of density is designed to be compatible with single-family scale.

Mixture of Uses, Related Activities, and Intensities of Development: Primarily residential uses. There will be a somewhat higher net density allowed for retention of undeveloped open spaces. Some pocket parks or interpretive facilities may be located in these areas.

Mixed Use

Key Design Element: Mixed-use development will include measures to minimize conflict between differing uses through site planning and building design.

Mixture of Uses, Related Activities, and Intensities of Development: Uses will include small scale retail and office, and multifamily residential uses. Uses including gas and service stations and those uses that require large amounts of exterior storage are not targeted for this area.

Commercial

Key Design Element: The commercial development is envisioned to be moderate scale incorporating features that promote an active pedestrian environment. Buildings will be provided in groupings to approximate a small scale grid found in a traditional rural downtown. Parking is provided in smaller lots dispersed throughout the development site and out of view from the commercial streetfront whenever possible. Larger parcels incorporate an internal circulation scheme and possibly a central focus area such as a “green” plaza. Landscaping enhances the auto and pedestrian circulation system through the provision of street trees along walkways and internal roads. Landscape screening is also used to reduce the impact of parking areas.

Mixture of Uses, Related Activities and Intensities of Development: Commercial activities will include retail, service and office uses. Some auto-oriented retail such as hardware, supermarkets, and feed stores could also locate in the commercial areas.

Industrial and Light Industrial/Business Park

Key Design Element: Industrial uses would be substantially buffered and screened from nearby uses. In addition, industrial uses would be subject to performance standards with respect to noise, dust, and light emissions.

Light industrial/business park uses would incorporate buffering and high landscaping as a part of stringent site design and to provide a corporate campus setting. These uses may serve as a transition from industrial or other less intense uses.

Mixture of Uses, Related Activities and Intensities of Development: Retail and residential uses are not allowed in industrial areas. Light Industrial/Business Parks may have a food service and some limited personal services (e.g., sandwich shop, travel agent) available. Office buildings would be encouraged to be multi-story to retain greater open areas around the buildings.

5.6.8. Historic Preservation Objective, Policies and Concept

Historic Preservation Objective and Policies

Objective LU-7: Maintain those historical qualities in the environment that bring value to the community.

Policy LU-54: The City should provide reasonable flexibility in applying development requirements and building codes to encourage the preservation and rehabilitation of historically and culturally valuable buildings and sites. Explore alternatives to the demolition of structures and sites that are historically significant or otherwise deemed eligible for the local, state, or national registers to accommodate private or public sector development proposals.

Policy LU-55: Historically and culturally significant buildings should be protected from demolition or inappropriate exterior modification.

Policy LU-56: Place new structures, circulation, and utility systems in such a way as to minimize the alteration of the historical character of the City’s landscape.

Policy LU-57: Expand the existing historical district to the southern edge of Jones Lake Road and SR 169 to provide a southern "gateway" to the City.

Policy LU-58: Adopt and enforce design guidelines for the areas with historical character.

Policy LU-59: Encourage land uses and development that retain and enhance significant historical resources and sustain historical community character.

Historical Preservation Concept

The City's historical settlement pattern has resulted in a unique, small town rural landscape. It gives the community a character distinct from that of the more recently urbanized areas in east King County. To maintain this distinct character, while at the same time permitting infill development, important historical elements must be retained as the community grows.

Historical resources contribute substantially to a sense of community, a quality of life, and provide for a source of pride. Historical downtowns and neighborhoods have invigorated local economies, sparked new businesses, generated additional tax revenue, and created new jobs.

These assets should be broadly interpreted to include structures, landmarks, sites, and views.

To assure protection of the City's historical resources, the City entered into an interlocal agreement with King County in June of 1995 to provide landmark designation and protection services (KC Motion 9584). The 1997 Inventory of Historical Structures and Sites can be found in Appendix C.

New infill development will identify and preserve, wherever possible, existing structures, vegetation or views that are visually important to the community character. Incentives for doing so will be included in development regulations such as zoning, subdivision, and building codes.

Design guidelines should be developed for areas of historical character. Structures and sites with historical designations will follow the community character design guidelines and any of the requirements of being a designated historical structure or site. The intent is to ensure that the renovation and alteration of existing structures, as well as the construction of new buildings, is done in a manner to maintain the character of the district and improve the economic vitality of the district. Design control for commercial structures in historical areas will address exterior building design and materials (new construction and reconstruction), setbacks from the street, signage, sidewalks, and code compliance. Residential new construction guidelines for historical areas will address building bulk and site design, compatible features and materials.

5.6.9. Regional Coordination Objectives, Policies and Concept

Coordination Objective

Objective LU-8: Use the Countywide Planning Policies as a basis for regional coordination and land use decisions.

Monitoring Objective and Policies

Objective LU-9: Monitor implementation of the comprehensive plan for changed conditions in the City's anticipated growth, for consistency with the City's vision, GMA requirements, and Countywide Planning Policies and make amendments as necessary.

Policy LU-60: Report annually to the City Council and general public on implementation of the comprehensive plan, identifying the degrees to which the policies are being implemented.

Essential Public Facilities Siting Objectives and Policies

Objective LU-10: Coordinate with other governmental jurisdictions to site, when necessary, essential land and building uses that are typically difficult to site and which are necessary to meet the needs of the City's present and future growth.

Objective LU-11: Jointly identify and evaluate alternative site locations that meet the essential locational requirements involved for each facility's function.

Objective LU-13: Conduct appropriate public review and hearing processes, including environmental impact assessments and statements where appropriate, to ensure local residents have an opportunity to comment upon siting alternatives, potential impacts, and mitigation measures prior to the selection of final site and development particulars.

Policy LU-61: Essential Public Facilities sited in the City shall be sited consistent with the goals, objectives, and policies of the City of Black Diamond Comprehensive Plan.

Policy LU-62: The City will apply Conditional Use Permit process criteria and additional criteria contained in Black Diamond Municipal Code Chapter 18.28 for the siting of essential public facilities.

Essential Public Facilities Concept

The GMA requires that a process be identified in the development regulations to review the siting of essential public facilities. Essential public facilities include, but are not limited to, airports, state educational facilities, state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, inpatient facilities including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities.

Chapter 6. Housing

6.1. Existing Housing

6.1.1. Existing Housing Stock

The predominant type of dwelling unit in the City of Black Diamond (City) is the single-family,[9] owner-occupied house. Approximately 82%[10] City housing stock is a detached single-family house. According to the 2006 King County Annual Growth Report, approximately 60% of King County residents lived in detached single-family housing. According to the 2000 U.S. Census, approximately 60% of King County residents owned their homes. In contrast, approximately 90% of the City's households lived in owner-occupied housing.[11] According to data from the 2006 King County Annual Growth Report, mobile homes constitute 16% of total housing units in the City, and multifamily units 2%.

According to the 2000 U.S. Census, approximately 15% of the City's housing was built prior to 1940 (many during the community's peak mining years, 1890 through 1915). The original construction of many of these units was considered inferior, even by standards of the times. Most remaining structures have been remodeled, enlarged, and substantially improved and represent a major investment of time and money by the homeowners. However, as a reflection of the growth experienced in

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[9] A 1-unit, detached structure, per 2000 U.S. Census.

[10] 2006 King County Annual Growth Report.

[11] 2000 U.S. Census.

the late twentieth century, almost 38% of housing in the City was constructed between 1990 and 2000.

Historically, the City's housing market has been lacking in housing appealing to middle- and upper-income households. However, with the annexation of the Lake Sawyer neighborhood in 1998, the stock of middle- and higher-income housing increased within the City. The changes in the City's composition after the 1998 annexation have caused a shift toward a more balanced housing stock.

6.1.2. Housing Characteristics

Value

Housing prices in the City have been rising significantly, along with prices in King County as a whole. In July 2007, median sales prices in the City and surrounding areas ranged from $325,000 to $387,000. The median housing price in King County as a whole was $427,000 as of August 2007. The median monthly rent within the City was $878, compared to $758 for King County as a whole (2005).

These figures represent a significant shift in the City's economic conditions over the last decade. In 1990, both home values and median rents were well below those of the county. While home values are still more affordable in the City than the county as a whole, the gap has been reduced significantly. In part, this increase can be attributed to annexations that increased the City's population by more than 80% in the late 1990s, along with the value of its housing stock.

Persons per Household

King County and the City have both shown a decrease in household size during the last thirty years, particularly in the 1970 to 1980 period. The 1990 City household size was 2.63 persons per household (pph), compared with 3.21 in 1970. By the time of the 2000 Census, however, the average household size in the City had increased to 2.73 pph. Over the same period, the average household size for the county as a whole remained stable.

The Puget Sound Regional Council (PSRC) expects a continued increase in household size, followed by a gradual decline during the remainder of the planning period. Forecasts for Forecast Analysis Zone 3310 (Black Diamond/Lake Sawyer area) expect 2.84 pph in 2010, 2.73 in 2020, and 2.63 in 2030.

Vacancy Rates

Vacancy rates for King County and the City are available from the U.S. Census Bureau. In addition, King County updates estimates for vacancy rates in the county

periodically—most recently in 2005. Homeowner vacancy rates for the City and King County were almost equal in 2000 (0.8% for the City versus 1.2% for King County), and for both areas vacancy rates for rental units were higher than those for owner-occupied units (4.2% versus 1.4%).

By 2005, this picture had changed in King County. Most neighborhoods in south King County had apartment rental vacancy rates higher than 6% (the King County average vacancy rate).[12] This was a decline in vacancy rates from the previous 3-year period.

6.2. Affordable Housing

6.2.1. King County Overview

By 2030, the PSRC estimates that the number of households in King County will increase by nearly 250,000. Keeping up with forecasted growth will require public and private actions: land zoned for a range of development and redevelopment; adequate infrastructure; and affordable financing to produce about 10,000 new housing units per year within the region.

King County growth management policies call for a significant shift of new residential development to higher densities and infill locations. The success of this vision depends, in large part, on efforts to achieve community and market acceptance of this housing as well as affordability.

Development of housing for very low-income households and people with special needs typically requires local government support, in partnership with housing agencies, nonprofit developers, and private builders and lenders.

6.2.2. Quantifying Countywide Housing Needs

Affordable housing for low and moderate households is defined as "rental and ownership housing for households with incomes up to 80% of the King County median household income, which costs no more than 30% of monthly household income." This guideline limiting housing costs to 30% of income is standard for most state, federal, and local housing programs.

Based on the 2000 U.S. Census, approximately 219,414 households in King County earned below 80% of the King County median. By 2005 one-third of all owner

[12] King County Benchmarks 2006; Affordable Housing, King County Office of Management & Budget, 1/07, page 8.

households (136,800) earned less than King County's median income. In comparison, about three-quarters of all renter households (217,500) earned less than county median income. A total of 38% of King County's households (over 280,000 households) paid more than 30% of their incomes for housing; almost half of these households were renters.[13]

Of all of the households in King County paying more than 30% of their income for housing in 2005 (one-third of all owner households), approximately 60% earned less than median household income. Of the renter households in King County in 2005, about half paid over 30% of their income for housing; more than 97% of those earned less than the King County median income.

Many of these households have difficulty finding adequate affordable housing to meet their needs. These households have housing that is too expensive, overcrowded (more than one person per room), in poor condition, or they may be homeless or unable to live independently without support services. Households paying more than 30% of income for housing (the most common problem) have problems affording food, clothing, medical care, and other necessities. These households are vulnerable to losing their home when a lost job, medical emergency or other crisis hits. The problem of overpaying is most severe for the lowest income households.

In addition to households overpaying for housing, housing assistance is needed for people with no housing at all, and for people who require housing combined with supportive living services. The Seattle King County Coalition on Homelessness conducts an annual one-night count of people who are currently unsheltered, occupying emergency shelters, or engaged in transitional housing programs. On the night of January 27, 2006, the Coalition counted 7,910 people in these various stages of homelessness throughout the urbanized areas of King County.

King County is targeted to grow by 158,000 households by the year 2020. In 2000, 22% of King County households had incomes less than 50% of median. However the U.S. Department of Housing and Urban Development's State of the Cities Data System indicates that approximately 16% of housing was affordable to these households. By 2005 for households with incomes less than 50% of median, 0.4% of the houses sold were affordable, 6.7% of the condominiums and townhomes sold were affordable and 39% of rental units were affordable.[14] To meet the rising demand for affordable housing, urban growth must include opportunities for lower cost housing types—single family homes on small lots, townhouses, condominiums, and

[13] King County Benchmarks 2006; Affordable Housing, King County Office of Management & Budget, 1/07, page 4.

[14] King County Benchmarks 2006; Affordable Housing, King County Office of Management & Budget, 1/07, page 13.

apartments. Good design will be essential, both to attract residents to higher density housing and to address concerns of neighbors.

Distribution of Low and Moderate Income Housing

With few exceptions, each jurisdiction in King County has residents who are low or moderate income and overpaying for housing. Each jurisdiction can also expect the demand for affordable housing to increase. The existing distribution of low and moderate income households is not uniform; however, Seattle and several suburban cities and unincorporated communities have relatively high proportions of low and moderate income households and low-cost housing. The lack of affordable housing in other communities also restricts housing choices for low and moderate income households, and restricts their access to employment. The County is attempting to reverse the current trends which concentrate low income housing opportunities in certain communities. The affordable housing targets established in the King County Countywide Planning Policies (CPPs) include an adjustment for existing concentrations of low-cost housing and low-wage employment.

Countywide Affordable Housing Policies

The Countywide Affordable Housing Policies require each jurisdiction to specify the range and amount of affordable low and moderate income housing to be accommodated in the comprehensive plan. Each City is to plan a number of affordable housing units for households between 50% and 80% of the median household income that is equal to 17% of its projected household growth. In addition, each City is to plan for a number of housing units affordable to households with incomes below 50% of median income that is either 20% or 24% of its projected household growth. The Countywide Affordable Housing Policies require the City to plan for 20% of its housing units to be affordable under this standard because it already contains a greater proportion of low-cost housing than the King County average.

City of Black Diamond Affordable Housing

Table 6-1 shows income trends in King County and the Black Diamond/Lake Sawyer Area, based on data from the 2000 Census and the PSRC. More recent data at the City level for the City is unavailable between census years.

Table 6-1. City of Black Diamond/King County 2000 Household Income Comparison

	Total Households	Households Below 50% Median Income	Households 50% to 80% Median Income	Total Households Overpaying (paying more than 30% income for mortgages or rent)
City of Black Diamond	1,456	17%	13%	30%
King County Total	710,916	20%	27%	33%

Source: King County\2000 U.S. Census

Note: In 2000, the City had 1,538 existing housing units and 1,456 households (occupied housing units).

The 2000 Census identified 469 households in the City as low and moderate income. Low and moderate income households comprised 34% of the City's total households in 2000. In 2000, approximately 31% of King County households met the definition of low and moderate income households.

According to King County, 85.7% of the City's rental units were affordable to households with 30% to 49% of median income based on HUD 2003 income estimates; 14.3% were affordable to households with 50% to 79% of median income. Of all home sales 1.4% were affordable to households with less than 30% of median income, 1.4% were affordable to households with 30% to 49% of median income, and 53.6% were affordable to those with 50% to 79% of median income.[15]

Using the CPP guidelines for planning for affordable housing, 37% of all new units should be "affordable to households with 80% of King County median income." Specifically, 17% should be affordable to households with 50% to 80% of median income, and 20% affordable to households with less than 50% of median income.[16]

The City is projected to have 6,302 households in the year 2025. Applying the county identified target for affordable housing to arrive at the City's goal for affordable housing, 17% or 1,071 housing units should be available to households with 50% to 80% of the median income (for 2015) and 1,260 housing units should be available to households with less than 50% of the median income. As of 2007, no jurisdiction is fully meeting these affordable housing goals. Nevertheless, the City should continue to pursue these goals to retain the diversity of housing choices and population that make for a vibrant community.

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[15] King County Comprehensive Plan 2004, Technical Appendix B Housing. Department of Development & Environmental Services, 9/27/04 with 2006 Amendments. Pages B-33 & B-43.

[16] King County Countywide Policy AH-2.

The 2000 Census estimate of median income in King County is $53,157, and based on this information, housing at or below a cost of $106,314 (1999) would be considered affordable (see Table 6-2). As of the 2000 Census, the median housing value in the City was $194,200.

Table 6-2. 2000 Affordable Housing Index

Jurisdiction	Median Income	80% Median Income	< 50% of Median Income
King County	$53,157	$42,526	$26,579
Black Diamond	$67,092	$53,674	$33,546

Source: 2000 Census.

The median household income in King County increased to $60,700 in 2005.[17] As a result, 7.1% of the home sales in the City were affordable to moderate income households. In that same year, 25% of the condominium/townhome sales were affordable to moderate-income households. Also, as of 2005, 83.4% of the 166 rental units were affordable to moderate-income households and 66.7% were affordable to low-income households.[18]

As indicated above, median housing cost has continued to increase across the region, and was $427,000 in King County as of summer 2007. Median household income for the state as a whole increased to $77,100.

For its existing population, the City has a need for low cost rental housing and programs such as Section 8 and subsidized housing for the elderly. Elderly housing has been built within the City and there is expected to be a growing need for elderly housing as the population ages. The City expects to continue working with King County to address housing issues for needy households, and special needs populations.

6.3. Housing Development Concept and Goals

Housing Goal: Make housing available to all economic and social segments of the community.

Objective H-1: Promote a variety of residential densities and housing types.

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[17] King County Benchmarks 2006; Affordable Housing, King County Office of Management & Budget, 1/07, page 2.

[18] King County Benchmarks 2006; Affordable Housing, King County Office of Management & Budget, 1/07, page 13.

Policy H-1: Work with King County, other local governments and appropriate agencies and programs to maintain the City's "fair-share" of affordable housing.

Policy H-2: Encourage the preservation of existing housing stock.

Policy H-3: Provide a balance of dwelling unit types, residential densities, and prices within the City.

Policy H-4: Provide flexibility in zoning and subdivision regulations to encourage a variety of housing types.

Policy H-5: Examine ways to eliminate unnecessary or excessive requirements that create barriers to affordable housing, if they exist. This may include any excessive requirements regarding siting and operating special needs housing.

Policy H-6: Coordinate with appropriate agencies to provide programs and services to needy households, special needs populations, and the homeless.

6.3.1. Housing Development Concept

The City will participate with other cities and King County in developing countywide housing resources and programs to assist the large number of low and moderate income households who currently do not have affordable housing. These countywide efforts are intended to reverse current trends which concentrate low income housing opportunities in certain communities (such as the City), and achieve a more equitable participation by local jurisdictions in low-income housing development and services. Countywide efforts should give priority to assisting households below 50% of median income that are in greatest need and communities with high proportions of low and moderate income residents.

The City is committed to preserving, improving, and developing housing for all income levels and to creating a more balanced housing supply. The City is also committed to working with appropriate agencies to provide assistance programs to needy households. While the City has limited funds to contribute to housing or housing assistance programs, it will review its land use regulations to ensure that:

- A variety of housing types are permitted, including single-family detached, single-family attached, townhouse and multifamily, mixed uses, accessory living units, and manufactured homes.
- A variety of lot sizes and densities, including clustering, are permitted.

- Sufficient land zoned for residential development is provided.
- Housing for special needs groups (i.e., group homes, foster care) is accommodated.
- The character of existing neighborhoods is preserved, along with the right of people to live in neighborhoods of their choice.
- New subdivisions and Master Planned Developments (MPDs) are required to provide a “fair share” of the City’s affordable housing needs.

Chapter 7. Transportation

7.1. Introduction

7.1.1. Background

The City of Black Diamond's (City's) transportation system is essential to its ability to move people and goods efficiently. Over the long term, this system also affects the location and pattern of growth. The City will also regularly update the comprehensive transportation element of the Comprehensive Plan to address potential safety and congestion problems, and to direct the City's transportation future as it continues to grow.

The Growth Management Act (GMA) includes planning requirements that link transportation directly to land use decisions and fiscal planning. The Transportation Element of the Comprehensive Plan, also called the Comprehensive Transportation Plan, is structured within the context of these GMA requirements.

7.1.2. Need for the Comprehensive Transportation Plan

In 1996, the City completed its first comprehensive transportation plan. A 2001 plan amendment included the transportation impacts of growth in the City's potential annexation areas. The 2007-08 update provides a revised look at the existing transportation system; addresses changes in legislative requirements; reflects changes in economic conditions; evaluates current needs; and reviews the adequacy of the planned transportation improvements to meet future travel needs and conditions.

The primary purposes and uses of the transportation plan include the following:

- Determining Existing Transportation Deficiencies. An inventory of the transportation system identifies the existing needs of the community.
- Meeting GMA Requirements. The City is required by the GMA to develop a comprehensive plan including a transportation element that includes a list of future system improvements and a multiyear financing plan.
- Qualifying for Funding. State agencies require communities to have a comprehensive transportation plan that demonstrates the community's vision of its future.
- Planning for the City. Both public and private sectors can use the comprehensive transportation plan when making decisions about the transportation system.

7.1.3. Elements of the Comprehensive Transportation Plan

The comprehensive transportation plan has the following key elements:

- Transportation Goals and Policies. A list of goals and policies the City will focus on to develop and maintain an efficient transportation system;
- Transportation Improvement Program. A list of transportation improvements to mitigate traffic congestion;
- Funding Strategy. A plan for funding the improvements and a contingency plan with additional funding sources; and
- Concurrency Management System. A system the City will use to make sure the transportation network will be able to accommodate development as it occurs.

7.2. Level of Service

A level of service (LOS) standard measures the performance of an existing transportation system and the adequacy of the planned future improvements. Additionally, LOS standards establish the basis for the concurrency requirements in the GMA. Agencies are required to "adopt and enforce ordinances which prohibit development approval if the development causes the LOS on a transportation facility to decline below the standards adopted in the transportation element of the comprehensive plan, unless transportation improvements or strategies to accommodate the impacts of development are made concurrent with development." (RCW 36.70A.070(6)(b)). Therefore, setting the LOS standard is an essential component of regulating development.

7.2.1. Definitions

LOS is both a qualitative and quantitative measure of roadway operations. LOS, as established by the *Highway Capacity Manual* uses an "A" to "F" scale to define the operation of roadways and intersections as follows:

LOS A. Primarily free flow traffic operations at desired travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delays at signalized intersections are minimal.

LOS B. Reasonably unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and control delays at signalized intersections are not significant.

LOS C. Stable traffic flow operations. However, ability to maneuver and change lanes may be more restricted than in LOS B, and longer queues, adverse signal coordination, or both may contribute to lower than average travel speeds.

LOS D. Small increases in traffic flow may cause substantial increases in approach delays and, hence decreases in speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes or some combination of these factors.

LOS E. Significant delays in traffic flow operations and lower operating speeds. Conditions are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

LOS F. Traffic flow operations at extremely low speeds. Intersection congestion is likely at critical signalized intersections, with high delays, high volumes, and extensive queuing.

7.2.2. LOS and Concurrency

The concurrency provisions of the GMA require that local governments permit development only if adequate public facilities are—or can be guaranteed to be—available within 6 years to support the new development.

The GMA requires each local jurisdiction to identify future facility and service needs based on its LOS standards. To ensure that future development will not cause the City's transportation system performance to fall below the adopted LOS, the jurisdiction must do one or a combination of the following: modifying the land use element, limiting or "phasing" development, requiring appropriate mitigation, or changing the adopted standard.

7.2.3. Level of Service Standards

Based on the City Council's recommendations, this plan identifies a LOS standard of LOS D for intersections along State Route (SR) 169 and LOS C for all other arterials and collectors throughout the City. Setting different LOS standards for specific areas is a common practice that accounts for the function and use of the roadways into the acceptable operating conditions.

The City also recognizes how intersection control (i.e., traffic signals, roundabouts, and stop signs) defines LOS. For two-way and one-way stop-controlled intersections, the LOS is defined by the amount of time vehicles are waiting at the stop sign. Although a substantial volume of traffic can proceed through the intersection without any delays, a small volume at the stop sign can incur delays that would exceed LOS C or LOS D. To avoid mitigation that would only serve a small volume of traffic, the City allows two-way and one-way stop-controlled intersections to operate worse than the LOS standards. However, the City requires that these instances be thoroughly analyzed from the operational and safety perspectives and the City will individually evaluate these situations to determine when mitigation is appropriate.

These LOS standards are higher than other cities in the area. For example, the City of Covington adopted a LOS E standard and Maple Valley generally uses LOS D, except along Maple Valley Highway (SR 169), Kent-Kangley Road, and Witte Road where the LOS standard is lowered to LOS E. The higher LOS standards indicate the City's desire to avoid congestion and the willingness to identify and fund future transportation improvements. If expected funding for improvements to meet future transportation needs is found to be inadequate, then the City may pursue one of the following options:

- Lower the LOS standards to LOS D, E, or F for the system for portions of the system that cannot be improved without significant expenditure.
- Revise the City's current land use plan to reduce density or intensity of development that will "fit" with the planned transportation system; or
- Phase or restrict development to allow more time for the necessary LOS-driven transportation improvements to be completed by the development community and/or responsible agency or jurisdiction(s).

7.2.4. Level of Service Methodology

The City has established specific methods to calculate the LOS for evaluating the performance of the roadway intersections and transit service and facilities. This section describes those methods.

Intersection Level of Service

For signalized and unsignalized intersections, the LOS is calculated using the procedures described in the latest edition of the *Highway Capacity Manual* (2000 edition). At signalized and all-way stop-controlled intersections, the LOS is based on the weighted average delays for all movements, whereas the LOS for two-way stop-controlled intersections is defined by the weighted average delay for the worst movement.

State Highway Level of Service

1998 amendments to the GMA require local jurisdictions to address state-owned transportation facilities, as well as local transportation system needs in their comprehensive plans. House Bill (HB) 1487 requires that the transportation element of local comprehensive plans include the LOS standards for Highways of Statewide Significance (HSS). HB 1487 clarified that the concurrency requirement of the GMA does not apply to HSS or other transportation facilities and services of statewide significance. HB 1487 also requires local jurisdictions to estimate traffic impacts to state-owned facilities resulting from land use assumptions in the Comprehensive Plan.

The Washington State Department of Transportation (WSDOT) adopted LOS standards for HSS facilities is LOS D for urban areas (RCW 47.06.140). The LOS target is established for Comprehensive Plans and for reviewing developer impacts along urban HSS facilities.

The WSDOT also analyzes “screen lines” for deficiencies along state routes using a standard of 70% of the posted speed. This screen line analysis allows WSDOT to identify the “most congested” locations along its HSS facilities. A speed of approximately 70% of the posted speed equates to conditions where a highway achieves the maximum throughput of vehicles.

In 2007, the WSDOT added SR 169 to the list of HSS facilities. The State’s *2007-2026 Highway System Plan* indicates that SR 169 is expected to operate below the 70% speed threshold (termed ‘operating less than efficiently’) during peak hours in 2030.

Transit Level of Service

The GMA (RCW 36.70A) requires communities to also adopt LOS standards for transit routes. The City has established guidelines to monitor the performance of the transit system as follows:

- Encourage King County Metro to expand service as the demand dictates;

- Monitor existing transit facilities to determine if additional routes are needed or if existing headways should be decreased (or frequency increased);
- Monitor the need for park and ride facilities; and
- Develop design standards for bus-pullouts, passenger waiting facilities, and other transit facilities.

7.3. Existing Transportation System

The City forms the southeastern edge of King County's urban area. The traffic circulation system within the City is an incomplete grid system, reflective of the original settlement pattern, varied topography, and lack of substantial growth up to the present. The area's road system consists of a state highway (SR 169), the City's arterials, collectors, and local access roads. Because the grid system is incomplete, many local access roadways are, in effect, long cul-de-sacs. Local access roads are also often narrow by current standards. Although the narrow widths and lack of locations for vehicles to turn-around are a problem for emergency services, the smaller area devoted to roads contributes significantly to the existing rural character of the community and reduces storm water impacts.

The City is bisected by SR 169, a north-south highway, providing regional access from Renton to Enumclaw as well as local access. This route is also known as 3rd Avenue within the downtown area. Along the City's northern boundary, SE 288th Street is an east-west arterial that is shared with the City of Maple Valley. The Roberts Drive arterial provides local east-west access west of SR 169 as well as a link from the City to the City of Auburn and the Green River Valley employment centers to the west. The Lawson Street/Green River Gorge Road is an east-west arterial providing local access east of SR 169 as well as access to the rural areas and communities to the east.

The Black Diamond/Ravensdale Road is a north-south arterial linking the City and Ravensdale and providing a secondary link to SR 516 (Kent-Kangley Road). The SE Lake Sawyer Road is a north-south arterial that forms the City's western boundary and also provides a connection to SR 516.

7.3.1. Existing Roadway and Intersection Characteristics

SR 169, within the planning area, is a two-lane principal arterial that generally divides the City into east and west sections. SR 169 serves an area extending between the cities of Renton and Enumclaw, providing both regional (to SR 18, SR 516 and Interstate 405) and local access.

Posted speed limits along SR 169 vary depending on the amount of development adjacent to the highway. Areas immediately outside City limits are posted at 50 miles per hour (mph). Within the City limits, legal speeds are reduced to 35 mph except for a small 50 mph section from Jones Lake Road to the southern City limits. All cross-streets intersecting with SR 169 are controlled by stop signs.

SE 288th Street is a two-lane road that runs east-west. The road is a minor arterial that changes to SE 291st Street as it approaches SR 169. The road serves City residents north of Lake Sawyer and also serves as the only access for Maple Valley residents living north of SE 288th Street and south of the Burlington Northern Railroad line. SE 291st Street is stop sign-controlled at SR 169 and 216th Avenue SE. At all other intersections, the cross-street traffic is stop sign-controlled. The posted speed is 35 mph.

Roberts Drive/Auburn-Black Diamond Road provides access to the City of Auburn and is a two-lane minor arterial. The road changes name to Roberts Drive east of Lake Sawyer Road SE in the City. The roadway branches into two facilities near Covington Creek allowing access to the City of Kent (Kent-Black Diamond Road).

All cross-streets intersecting Roberts Drive are stop sign-controlled. Roberts Drive is controlled by a stop sign at its intersection with SR 169. Posted speeds are generally 50 mph outside the City limits and 25 to 35 mph once inside the City.

Green Valley Road is a two-lane minor arterial that connects SR 169 and the City of Auburn. This street is classified by King County as a collector. The roadway is posted for a maximum speed of 40 mph, but operating speed is constrained to 10 to 15 mph in certain areas due to its curvilinear horizontal alignment with steep grades. Green Valley Road is stop-controlled at SR 169. It should be noted that the annexation of property adjacent to Green Valley Road in 1995 included a condition that direct transportation access would not occur from the annexed area onto Green Valley Road.

Lake Sawyer Road/224th Avenue SE/216th Avenue SE is a two-lane minor arterial that provides access to a predominantly residential area west of Lake Sawyer. The street generally parallels SR 169 between Roberts Drive and SR 516. The roadway is stop sign-controlled at its intersection with Roberts Drive. There are traffic signals at the intersections of 216th Avenue SE/SR 516, 216th Avenue SE/Covington-Sawyer Road, and SE 296th Street/219th Avenue SE. All other cross-street traffic intersections along Lake Sawyer/216th Avenue SE are stop sign-controlled. Posted speeds vary between 35 mph and 45 mph.

Covington-Sawyer Road is a two-lane minor arterial that connects with 216th Avenue SE on the western border of the City. It provides access to SR 18 and SR 516.

Morgan Street is a two-lane collector from Roberts Drive to Railroad Avenue. Railroad Avenue extends as a two-lane collector from Morgan Street southward to SR 169. Functionally, Morgan Street and Railroad Avenue provide alternative connections between Roberts Drive and SR 169, bypassing the downtown area which is located a few City blocks to the east. The intersection of Morgan Street and Roberts Drive is stop sign-controlled on the minor approach (Morgan Street). Railroad Avenue (also referred to as Jones Lake Road) is controlled by stop sign at its intersection with SR 169. The posted speed limit on Morgan Street and Railroad Avenue is 25 mph.

Lawson Street is an east/west minor arterial with its western terminus one block west of SR 169 and continuing east and northeast out of the City. Near the outskirts of the City, the roadway changes to Green River Gorge Road. The arterial provides access between SR 169 and residential developments in the City and rural areas east of the City. The posted speed limit along this route is 25 mph within the City limits. Near Mud Lake, the speed limit increases to 45 mph. Lawson Street is stop-controlled at its intersection with 3rd Avenue (SR 169).

Black Diamond-Ravensdale Road is a two-lane minor arterial linking the City and Ravensdale and serves as a secondary connection between Kent-Kangley Road SR 169. The posted speed limit along this road is 45 mph within the City limits. Cross-street traffic along Black Diamond-Ravensdale Road is stop-controlled.

Baker Street (between SR 169 and Railroad Avenue) is a two-lane arterial collector located in the downtown area of the City. The roadway provides access to the post office and school; it has a posted speed limit of 25 mph. It is stop sign controlled at SR 169 and Railroad Avenue.

All remaining roadways in the City are local roads with two-lane cross-sections. Most local roadways have posted 25-mph speed limits.

7.3.2. Existing Roadway Volumes and Travel Conditions

Figure 7-1 depicts the study area for the updated transportation plan and shows the 2007 evening peak hour traffic volumes. Available traffic volumes were collected from WSDOT, the City, and the City of Covington. These evening peak hour volumes were used in the intersection LOS analysis and the results are summarized in Table 7-1.

Figure 7-1. Study Area and Existing PM Peak Hour Traffic Volumes

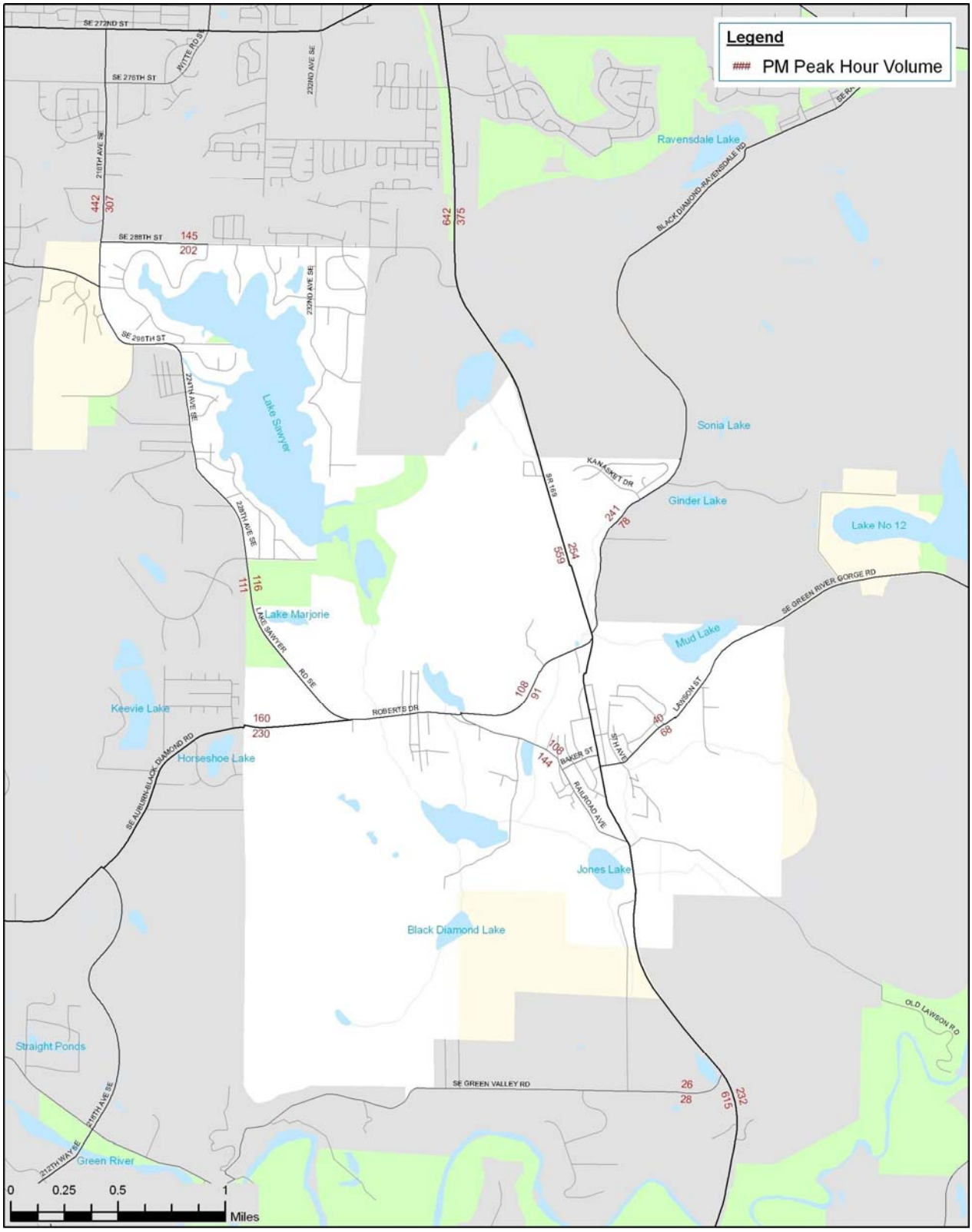


Table 7-1. Existing Intersection Level of Service Summary (2007)

Intersection	Control	Direction	LOS	Delay (s)
SE 288th Street/232nd Avenue SE	Stop-Controlled	Northbound	B	10.0
Covington-Sawyer Road/216th Avenue SE	Signal	Average	B	19.3
216th Avenue SE/219th Avenue SE	Signal	Average	B	17.6
Black Diamond Ravensdale Road/SR 169	Stop-Controlled	Westbound	F	94.5
Roberts Drive/SR 169	Stop-Controlled	Westbound	D	26.9
Auburn-Black Diamond Road/Lake Sawyer Road SE	Stop-Controlled	Southbound	B	11.4
Roberts Drive/Morgan Street	Stop-Controlled	Northbound	B	10.9
Baker Street/SR 169	Stop-Controlled	Eastbound	C	17.7
Baker Street/Railroad Avenue (Jones Lake Road)	Stop-Controlled	Westbound	A	9.2
Lawson Street/SR 169	Stop-Controlled	Westbound	B	13.6
Railroad Avenue (Jones Lake Road)/SR 169	Stop-Controlled	Eastbound	B	13.0
SE 288th Street/216th Avenue SE	Stop-Controlled	Westbound	D	26.1

Consistent with the City's adopted LOS standards established in this plan, intersections must operate at LOS D or better along SR 169 or LOS C or better for all other locations. The majority of intersections within the City operate at an acceptable LOS; however two intersections currently operate below their respective standards: Black Diamond Ravensdale Road/SR 169 and SE 288th Street/216th Avenue SE. At both of these intersections, the primary contributors to delays are the westbound left movements from the minor streets.

7.3.3. Other Modes

Rail Service

Presently, the City has no railroads located within the City limits. Rail lines that historically provided service from Seattle through Renton to the City have been decommissioned. The last coal trains left the City in 1969. The old rail line passed through town in a north-south direction paralleling Railroad Avenue.

Public Transportation Service

The City currently has a low population density and is distant from major Puget Sound urban employment centers. Public transportation service is available but is

limited. Metro currently provides three routes that serve the City: 143, 149, and 912. Table 7-2 summarizes existing transit services in the City. Routes 143 and 149 provide 25 to 30 minute service during commute hours and Route 149 provides 60 to 90 minute service during off-peak hours. Route 912 provides off-peak hour service between Enumclaw and Covington.

Table 7-2. King County Metro Transit Routes Serving the City

			Black Diamond at 3rd Ave/Baker St	
Route	Beginning Location	Destination	Headway: Minimum-Maximum (min)	Duration
143	Downtown Seattle	Black Diamond (via Renton)	20-30	5:34 pm - 6:40 pm
	Black Diamond	Downtown Seattle (via Renton)	25-28	5:29 am - 6:24 am
149	Renton	Black Diamond	25-120	5:14 am - 4:08 pm
	Black Diamond	Renton	37-130	7:08 am - 6:47 pm
912	Covington	Enumclaw (via Black Diamond)	95-100	9:32 am - 2:27 pm
	Enumclaw	Covington (via Black Diamond)	90-104	10:29 am - 3:23 pm

Since the 1996 Comprehensive Transportation Plan, two new routes have been added, King County Metro Routes 143 and 149, which provide service to regional destinations and to the Renton Transit Center. A park and ride lot located at the Masonic Lodge at 3rd Avenue/Baker Street provides 30 spaces for weekday parking for transit users. Another nearby facility, the Maple Valley Park and Ride, is located at SE 231st Street/SR 169, and provides 122 spaces.

The existing transit service meets the City's defined LOS criteria. However, in the future, additional service as well as provisions for bus pullouts, bus stops, and park and ride lots will become necessary, as the population increases.

Surface Freight Transportation

There are no freight terminal facilities located in the City. However, truck operations related to mineral extraction, logging and landfill commonly use the road network, primarily on SR 169.

Pedestrian Facilities

The City has limited sidewalk facilities along its arterial and collector road network. While adopted City road construction standards now require sidewalks on all new roads, many of the roads in the remaining areas of town were developed to rural

standards with gravel shoulders or no shoulder at all. Only two arterials in the City have sidewalks: SR 169 in the downtown area on the east side of the street; and 216th Avenue SE between SE 288th Street and Covington-Sawyer Road on the west side. There is a small stretch of sidewalk along Baker Street near the elementary school, on the south side of Roberts Road near the library, and a sidewalk on SE 300th Street near Kentlake High School. The newly developed subdivisions along Kanasket Drive and McKay Lane also contain sidewalks.

Bicycle Facilities

No formal planned bicycle network exists within the City. A small stretch of bicycle lanes was added to Roberts Road as part of the library project. Bicyclists currently use the existing roadways as informal routes, although there are no markings or signs to support the street usage for bicycles. City residents have voiced a desire to include bicycle facilities within the transportation environment.

Shoreline/Water Transportation

There are no navigable waterways for freight or passenger transportation in the Black Diamond area. The region's primary river, Green River, is used primarily for recreational purposes.

Aviation Transportation

The nearest major airport facility is SeaTac airport located approximately 22 miles to the west. The City does not have a local airport; however, a privately owned field with a runway length of 1,500 feet is located along Roberts Drive west of SR 169. Nearby public use airports include Kent's Crest Airpark (6 miles), the Auburn Municipal Airport (14 miles) and the Renton Municipal Airport (18 miles).

Parking Facilities

On street parking is presently provided informally throughout the City in conjunction with the local street network. Parking is restricted on SR 169. Additional public parking is currently needed, particularly in Old Town, and along the SR 169 corridor for weekend bicyclists driving to the City to ride, and for weekday commuters who wish to use transit.

7.3.4. City of Black Diamond Functional Classification System

Roadway classifications define the character of service that a street is intended to provide. The City has classified its roadway system and adopted roadway design standards based on the roadway's functional and physical characteristics. The functional classification system is a hierarchical system providing for the gradation of

traffic flow from an access function to a movement function. The functional classification system for the City is described in Table 7-3 and the accompanying roadway design standards are summarized in Table 7-4.

The following list provides the planned classifications by roadway.

Principal Arterials

- SR 169

Minor Arterials

- SE 288th Street
- Roberts Drive
- North Connector*
- North-South Connector*/Abrams Road
- Black Diamond-Ravensdale Road
- Lake Sawyer Road
- Pipeline Road*
- Lawson Connector*

Collectors

- Annexation Road*
- Southeast Loop Connector*
- Morgan Street
- Baker Street (west of SR 169)
- South Connector*
- Railroad Avenue (Jones Lake Road)
- Lake Sawyer Extension*

Local Access

- All remaining roadways within the City

* New Roadways (for location, see Figure 7-2) Summaries of the design criteria and characteristics for these different classifications of roadways is provided in Tables 7-3 and 7-4. These tables serve as only a general guide for the different classifications and the City's Road Design Standards should be referenced for further clarification.

7.4. Current Transportation Plans and Improvements

The City is working to identify the near-term improvements that address transportation needs for its community.

7.4.1. Planned Roadway Improvements

The current planned roadway improvements consist of projects programmed by the City, County, and WSDOT.

WSDOT

WSDOT has jurisdiction over SR 169 through the City. While WSDOT has been developing a Route Development Plan for SR 169, the plan has not been completed. A conversation with WSDOT's Urban Planning Office and review of meeting minutes of the SR 169 Working Group, indicate the potential to widen SR 169 to as many as six lanes from Jones Road (in Maple Valley) to I-405 and four to five lanes from SE 291st Street. Within the City, WSDOT has proposed minor widening to allow for a two-way-left turn lane north of the historic core of the City and a truck climbing lane south of Green Valley Road. For purposes of this plan, the City is assuming a 3-lane section with bike lanes for SR 169, with potential widening at intersections to accommodate turn lanes.

King County

King County has identified future improvements in the Enumclaw Planning Area, which includes the City (detail is in the County's *2008 Transportation Needs Report*). The County's list of improvements in or around the City is shown in Table 7-5.

Table 7-3. Functional Classification System Definition of the Roadway Functions

Classification	Function	Continuity	Spacing (miles)	Direct Land Access	Minimum Roadway Intersection Spacing	Speed Limit (mph)	Parking	Comments
Principal Arterial	Primary - Intercommunity and intrametro area traffic movement Secondary - land access	Required	1/2 in CBD; 1 in urban residential; 1-5 in suburban and fringe	Limited - major generators only	1/2 mile	35-45 (fully developed areas)	Prohibited	
Minor Arterial	Primary - Intercommunity and intrametro area traffic movement Secondary - land access	Required	1/8 - 1/2 in CBD; 1/2 - 1 in urban; 1-3 in suburban and urban fringe	Restricted - some movements may be prohibited; number and spacing of driveways controlled	1/4 mile	30-35	Generally Prohibited	Backbone of the street system
Collector	Primary - collect/distribute traffic between local roads and arterial system; Secondary - land access; Tertiary - interneighborhood traffic movement	Desirable	Not less than 1/4 mile from higher Classified arterials	Safety controls; limited regulation	300 feet	25-30	Limited	Through traffic should be discouraged
Local (Residential)	Land Access	None	As needed	Safety controls only	300 feet	25	Permitted	Through traffic should be discouraged

Table 7-4. Road Classifications and Development Standards

Classification	Min. ROW (feet)	Min. Paved Width (feet)	Other
Arterial (major and minor)	66-100	30-62	Sidewalk, extra lane width for bicycles, planting strip storm drainage
Collector Road	60-72	28-40	Sidewalk, extra lane width for bicycles, planting strip, storm drainage or swales
Local Access (Industrial)	50	28	Sidewalk, planting strip
Local Access (Commercial)	60-68	36	Sidewalk, planting strip
Local Access (Residential)	48-60	22-32	Sidewalk, planting strip

Source: City of Black Diamond Engineering and Design Standards.

Table 7-5. King County Identified Black Diamond Area Facilities Improvements (2008 King County Road Needs Report)

Project No.	Project Action	Location	Priority	Cost
T-33	Black Diamond-Ravensdale Road - Non-Motorized	SR 169 to Kent Kangley	Low	$2,028,000
OP-RD-41	Covington-Lake Sawyer Road– Minor Capacity	From Thomas Road to 216th Avenue SE	Medium	$7,733,000
RC-135	Black Diamond-Ravensdale Road – Reconstruction (0.6 miles)	From SE Kent Kangley Road to 268th Avenue SE	Medium	$597,000
RC-142	SE Green Valley Road - Reconstruction	From 243rd Avenue SE to SR 169	High	$1,423,000
RC-6	Covington-Lake Sawyer Road - Reconstruction	From Covington C/L to 216th Avenue SE	High	$1,093,000
GR-35	Black Diamond-Ravensdale Road – Guardrail	City limits to Ravensdale Way	High	$12,000
GR-68	224th Avenue SE - Guardrail	From SE 296th Street to 228th Avenue	High	$81,000

City of Black Diamond

The City has identified several road improvements shown in Table 7-6. The City maintains a 6-year Transportation Improvement Program (TIP). The 6-year program proposes improvements to existing substandard roads and includes repairing and overlaying existing roadways, paving gravel roadways, constructing sidewalks, and widening roadways.

Table 7-6. Black Diamond Six-Year Transportation Improvement Program (2010-2015)

Rank	Year	Improvement	From	To	Type of Improvement
In process	2008	Railroad Avenue (Jones Lake Road)	Merino Street	Baker Street	Rebuild Existing Roadway/ Storm drainage/Parking
In process	2009	Morgan Street Sidewalk Phase II	Abrams Avenue	Roberts Drive	Install new sidewalk
1	2010	233rd Avenue SE	SE 293 Place	South to end	Repair and overlay existing roadway
2	2010	Auburn - Black Diamond Road	Rock Creek	West City Limits	Repair and overlay existing roadway
3	2010	Lawson Street & Newcastle Drive Intersection Repair	Lawson Street	Newcastle Drive	Repair and overlay existing intersection
4	2011	Roberts Drive	SR 169	West City Limits	Corridor Study/Preconstruction Engineering
4	2011	Roberts Drive Pedestrian Trail/ Sidewalk	SR 169	Morganville Neighborhood	Install new sidewalk, curb gutter and storm drainage on one side
5	2011	Black Diamond/ Ravensdale Road Intersection	East City Limits	SR 169	Right of Way Purchasing, minor widening, radius construction/ improvement, overlay, alignment
6	2012	Pacific Street Neighborhood Improvements	Lawson Street	Southerly Terminus of Pacific/ Fifth Avenue South	Widen and Pave existing gravel roads, install storm drainage improvements
7	2012	Intersection Improvements in Morganville Neighborhood	N/A	N/A	Acquire easements and construct new intersection radii.
8	2012	Roberts Drive Reconstruction	SR 169	Rock Creek Bridge	Overlay existing roadway, repair broken panels, widen to standard
9	2012	Sixth Avenue/ Baker Street	Lawson Street	SR 169	Minor widening and overlay of existing asphalt roadway
10	2013	Fifth Avenue North	Lawson Street	Northerly End	Minor widening and overlay of existing asphalt roadway with installation of storm drainage
11	2013	SE 288th Street	236th Avenue SE	216th Avenue SE	Overlay existing roadway
12	2013	Commission Avenue	Morgan Street	Appx 300' SW of Morgan Street	Repair and overlay existing roadway
13	2014	Alley from Park Street to Railroad Avenue to SR 169	Park Street	SR 169	Pave an existing gravel roadway
14	2014	Lawson Street	City Limits	SR 169	Overlay existing roadway
15	2014	Lawson Hill Sidewalk	City Limits	SR 169	Install new sidewalk
16	2015	Lake Sawyer/ Black Diamond Road	307th Place SE	SE 292nd Street	Overlay existing roadway
17	2015	Plass Road	SR 169	City Limits/ Existing Pavement	Pave an existing gravel roadway
18	2015	Pipeline Road	SR 169	Lake Sawyer/ Black Diamond Road	New roadway construction

Source: City of Black Diamond June 2008

7.5. Actions Needed to Meet LOS Standard

Two intersections operate below their respective LOS standards under existing conditions: Black Diamond Ravensdale Road/SR 169 and SE 288th Street/216th Avenue SE. Intersection control (e.g., a roundabout or traffic signal) and channelization improvements would be needed at these locations to meet acceptable LOS standards. These actions are included in the 2010-2016 improvements listed in Table 7-7.

7.6. Travel Forecasts

Regional and local historical traffic volume counts were compared to determine the magnitude of traffic volume growth that can reasonably be expected. A 1.0 percent annual growth rate was assumed for the Covington area along SR 516, and a 1.5% annual growth rate was assumed for all other intersections within the study area. In many areas, the historical annual growth in traffic volumes was less than these assumptions, and in some cases the exhibited trend was a decline in growth. As a result, these assumed growth rates were deemed conservative and were applied to the existing 2007 traffic counts to forecast future traffic volumes.

In addition to the annual growth rates, trips generated by two proposed Master Planned Developments (MPDs) (Lawson Hills and The Villages) were also accounted for. Based on a straight line trend; 40% of these MPDs were assumed to be constructed by 2016, with complete build out and occupancy by 2025.

7.6.1. Future Land Uses and Transportation Concepts

The City intends for the Black Diamond Comprehensive Plan Transportation and Land Use Elements work together to maintain the City’s "small town" character in the face of increasing regional traffic-related impacts. Regional traffic growth on SR 169 may be expected to continue as long as vehicular capacity is increased on that route. Similar conditions would be expected on other arterials that facilitate regional traffic. The need for planned transportation improvements will depend on the location, density and timing of area development occurs and may vary depending on market forces, availability of utilities and actions taken by the jurisdiction.

Forecast Horizons

The TIP is linked to the City’s planned land uses and the anticipated traffic volumes. There are two traffic forecasts analyzed in the comprehensive transportation plan:

- Short-Term: 2010 to 2016
- Long-Term: 2017 to 2025

The short term forecast coincides with the City's TIP and represents current growth trends and expected short term development within the City. Future levels and timing of land development were based on conversations with City staff, local land owners, and development firms. Changes to development patterns and priorities may vary the need for and the completion order of the transportation improvements. The long-term traffic forecast represents the future growth in housing and employment that will support the expected 2025 projections.

7.7. Transportation Improvement Recommendations

This section of the transportation plan establishes intersection and roadway improvement programs for the periods 2010 to 2016 and 2017 to 2025.

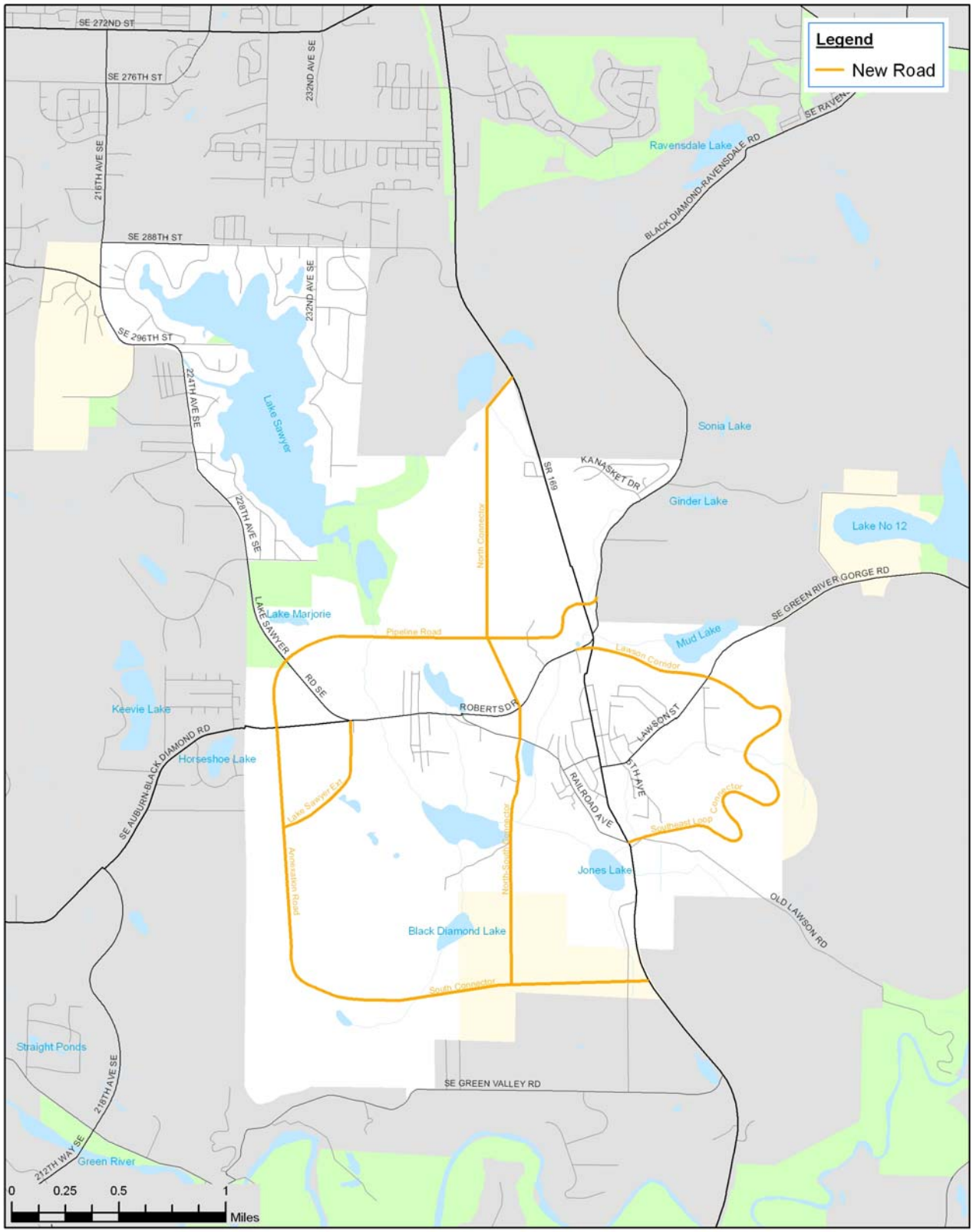
7.7.1. Arterial Roadway Improvements

A conceptual configuration for the future roadway system in 2025 is shown in Figure 7-2. New arterial roads include: Pipeline Road, Annexation Road, Lake Sawyer Extension, Lawson Connector, South Connector, Southeast Loop Connector, North Connector, and the North-South Connector.

The proposed roadways shown in Figure 7-2 are not specific to site or location. The intent is to show a basic concept and the exact locations would be determined after engineering and environmental review. For example, the City has reserved an interest in realigning the South Connector from its connection with SR 169 to a connection with SE Green Valley Road. These new roads will distribute future traffic growth throughout the City that would otherwise have been concentrated on the few existing major arterials.

The Pipeline and North Connector Roads would enhance the circulation for industrial development. The Annexation Road would provide north-south and east-west circulation through the southwestern portion of the City's Expansion Area. Other new facilities are proposed to improve general circulation.

Figure 7-2. Future Road Network Concept



Agency Coordination

Improvements on SR 169 will require coordination with WSDOT; however, the Comprehensive Plan should include a vision for SR 169 through the City. The City could use the vision to begin discussions with the State of Washington to coordinate the future design of the road. Then as development occurs along the highway, improvements (such as lanes, sidewalks, bike lanes, median planting, turn pockets, driveways, and signals) could be implemented consistent with the overall design. The City will continue to participate in the development of the SR 169 Route Development Plan and in its future implementation.

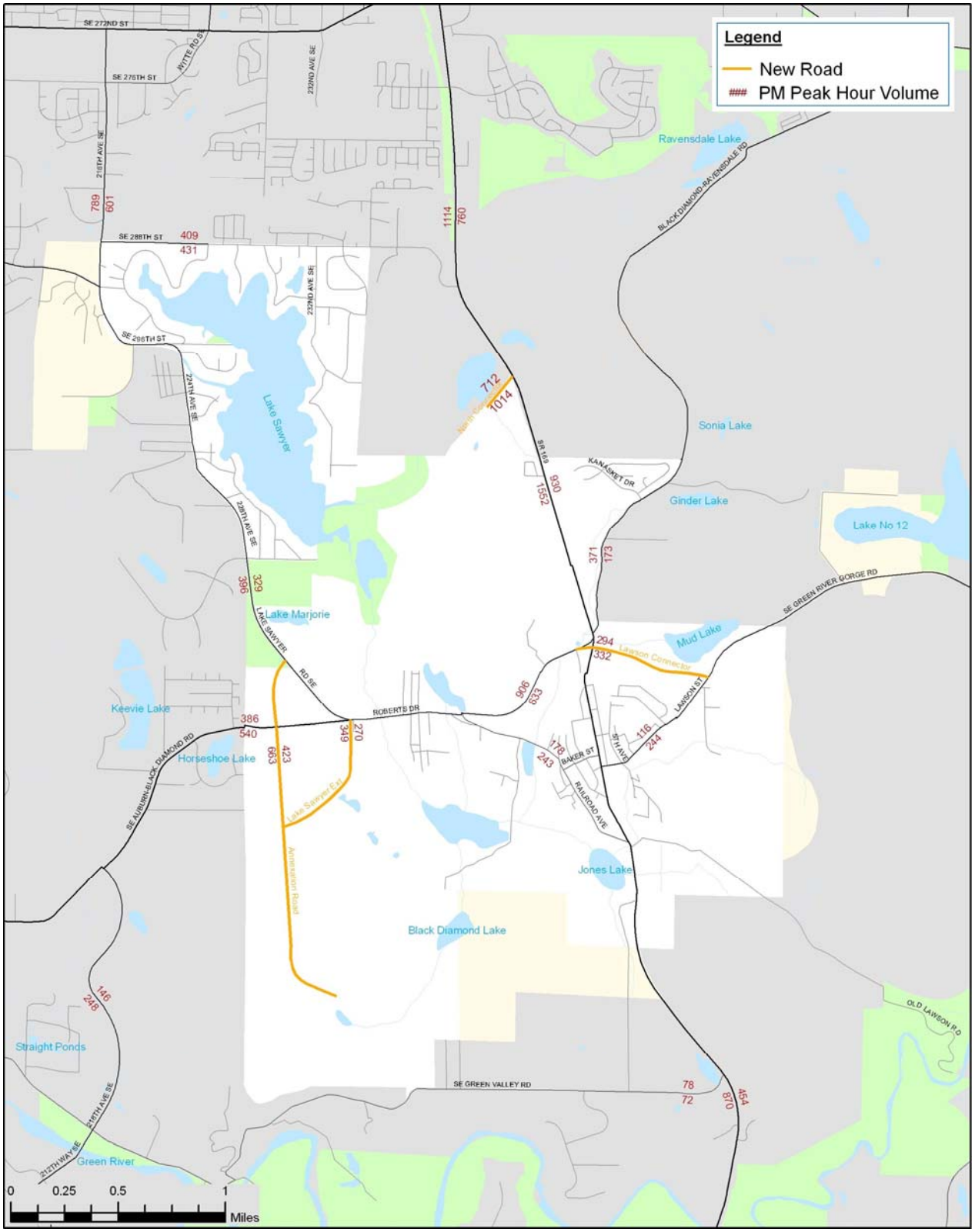
Intersection Control Requirements

Although the construction of new collector roads and connecting arterials will help distribute traffic, key intersection will warrant traffic control and intersection improvements to meet the City‘s LOS standards in the future. The City identified roundabout-controlled intersection improvement as the preferred solution to address the increasing turning movements at intersections. Where it is shown that the traffic movements cannot be handled and or the site conditions will not allow for a roundabout, signalization of the intersection can be considered. The necessity for and location of intersection improvements would be established at the time development occurs. The City will look to avoid locating signals in its historic downtown area. Many intersection control improvements are expected and warranted during the 20-year planning period. The improvement for roads and intersections will be implemented incrementally with developments as traffic volumes increase.

7.7.2. Roadway Conditions – 2016

This plan anticipates future conditions for the year 2016 to derive the 6-year improvement program. The PM peak hour volumes anticipated on study area roadways for 2016 are depicted in Figure 7-3. The 2016 analysis includes the roadway projects identified in the Six-Year 2010-2016 TIP plus additional improvements needed to ensure that the roadway system meets the City’s LOS C and LOS D standards.

Figure 7-3. 2016 PM Peak Hour Traffic Volumes and Roadway Network



2010 to 2016 Recommendations

Development and increasing traffic from neighboring jurisdictions will increase traffic volumes throughout the City. Table 7-7 and Figure 7-4 list the 2010 to 2016 recommended actions. The transportation improvements recommended are expected to meet the projected travel needs throughout the City.

Table 7-7. Transportation Improvements (2010–2016)

Improvement	Action	Comments
A1, Annexation Road	Construct City-standard collector roadway	Provides access to new development
A2, Lake Sawyer Extension	Construct City-standard collector roadway	Provides access to new development
A3, Lawson Connector	Construct City-standard minor arterial roadway; realign across from Roberts Drive	Provides access and serves as vital connection to areas to the east of SR 169
A4, Black Diamond Ravensdale Realignment	Roadway realignment	Realigns Black Diamond Ravensdale Road north of existing intersection with SR 169
A5, North Connector	Construct City-standard minor arterial roadway	Provides access and improves circulation in area
SR 169/Black Diamond-Ravensdale Road	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR169/Roberts Drive/Lawson Connector	Roundabout/Signal and Channelization Improvements; connect to Lawson Connector	Improves intersection operations
SR 169/North Connector	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/ SE 288th Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SE Auburn Black Diamond Road/Morgan Street	Channelization Improvement	Improves intersection operations
SE Auburn Black Diamond Road/Lake Sawyer Road/Lake Sawyer Extension	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SE Auburn Black Diamond Road/Annexation Road	Roundabout/Signal and Channelization Improvements	Improves intersection operations
216th Avenue SE/SE 288th Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations
Existing Roadways	Widen/Pave/Overlay	Per Six-Year TIP

Note: Ultimate road design will be subject to engineering requirements and design guidelines.

Level of Service – 2016

With the completion of the recommended 2010 to 2016 projects, the City's intersections would generally meet the LOS C and LOS D standards. Table 7-8 summarizes the intersection LOS operations for 2016.

Table 7-8. Future Intersection Level of Service Summary (2016)

Intersection	Control	Direction	LOS	Delay (s)
SE 288th Street/232nd Avenue SE	Stop-Controlled	Northbound	C	19.0
Covington-Sawyer Road/216th Avenue SE	Signal	Average	B	19.3
216th Avenue SE/219th Avenue SE	Signal	Average	A	10.0
Black Diamond Ravensdale Road/SR 169	Signal	Average	D	54.5
Roberts Drive/SR 169	Signal	Average	F	200
Lawson Street/Lawson Connector	Stop-Controlled	Southbound	B	12.1
Auburn-Black Diamond Road/Lake Sawyer Road SE	Signal	Average	B	17.1
Roberts Drive/Morgan Street	Stop-Controlled	Northbound	C	24.7
Auburn-Black Diamond Road/Annexation Road	Signal	Average	B	16.9
Baker Street/SR 169	Stop-Controlled	Eastbound	D	26.3
Baker Street/Railroad Avenue (Jones Lake Road)	Stop-Controlled	Westbound	A	9.4
Lawson Street/SR 169	Stop-Controlled	Westbound	C	22.0
Railroad Avenue (Jones Lake Road)/SR 169	Stop-Controlled	Eastbound	C	18.3
SE 288th Street/216th Avenue SE	Signal	Average	A	9.0

As shown in Table 7-8, the Roberts Drive/SR 169 intersection is expected to operate below the LOS D standard in 2016. This intersection could be mitigated to acceptable conditions by constructing three additional turn lanes; however, these channelization improvements are not included in the long-term list of projects identified for the 2017 to 2025 timeframe and would not be necessary with construction of the 2025 improvements. Alternatively, full construction of the 2025 improvements by 2016, which includes additional through lanes on SR 169, would improve operations to acceptable conditions.

Roadway Conditions – 2025

The traffic volumes anticipated for the year 2025 are depicted in Figure 7-5. The City expects that additional arterial roads will be needed in the planning area. SR 169 and Roberts Drive will continue to carry the largest volumes of traffic. The Morgan Street and the Railroad Avenue connection between Auburn-Black Diamond and SR 169 would serve as a prominent collector road. Southbound PM peak hour volumes on SR 169 could be as high as 1,700 vehicles per hour and northbound volumes are expected to reach 1,200 vehicles per hour (north of SE 288th Street).

Figure 7-4. Transportation Improvements (2010-2016)

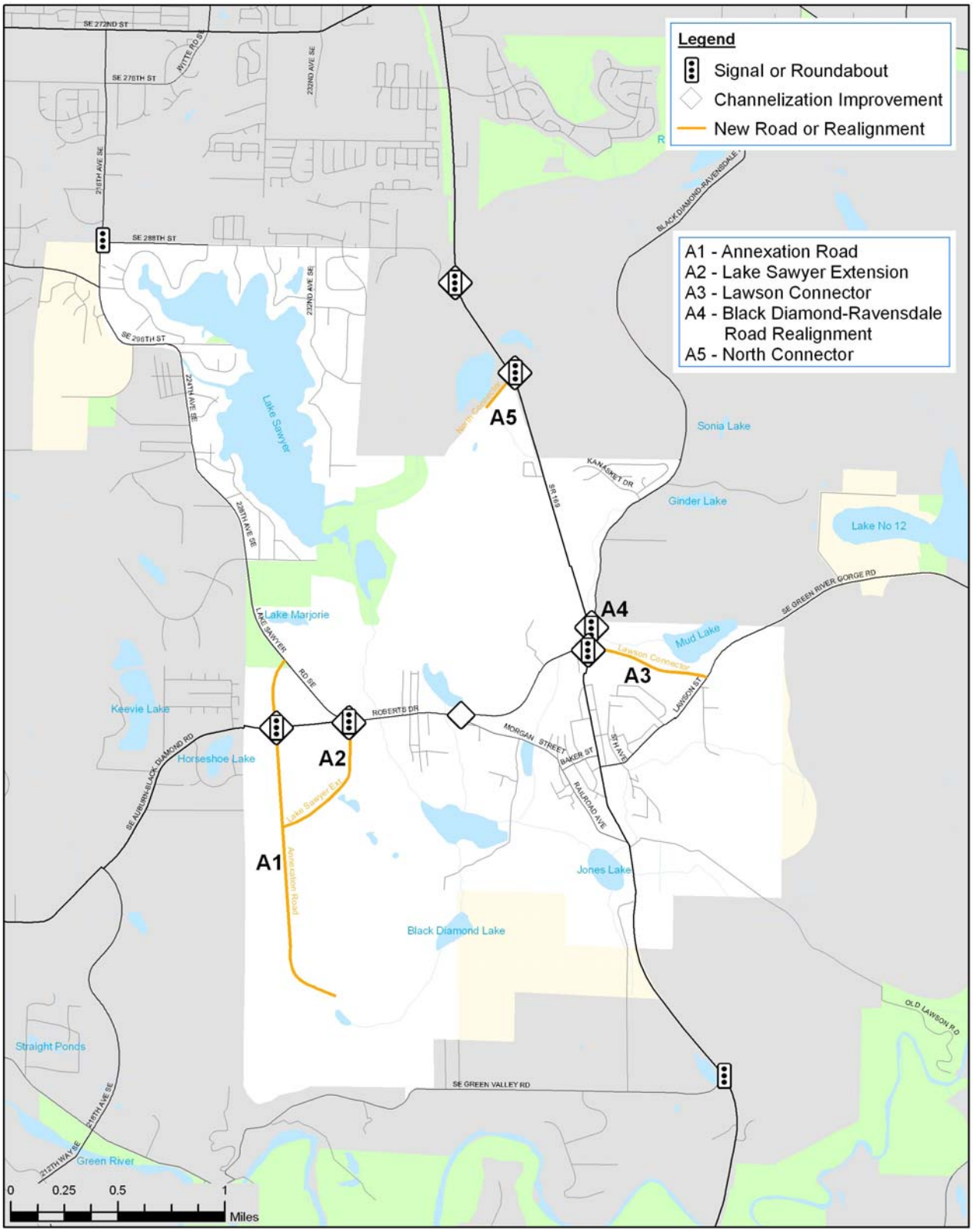
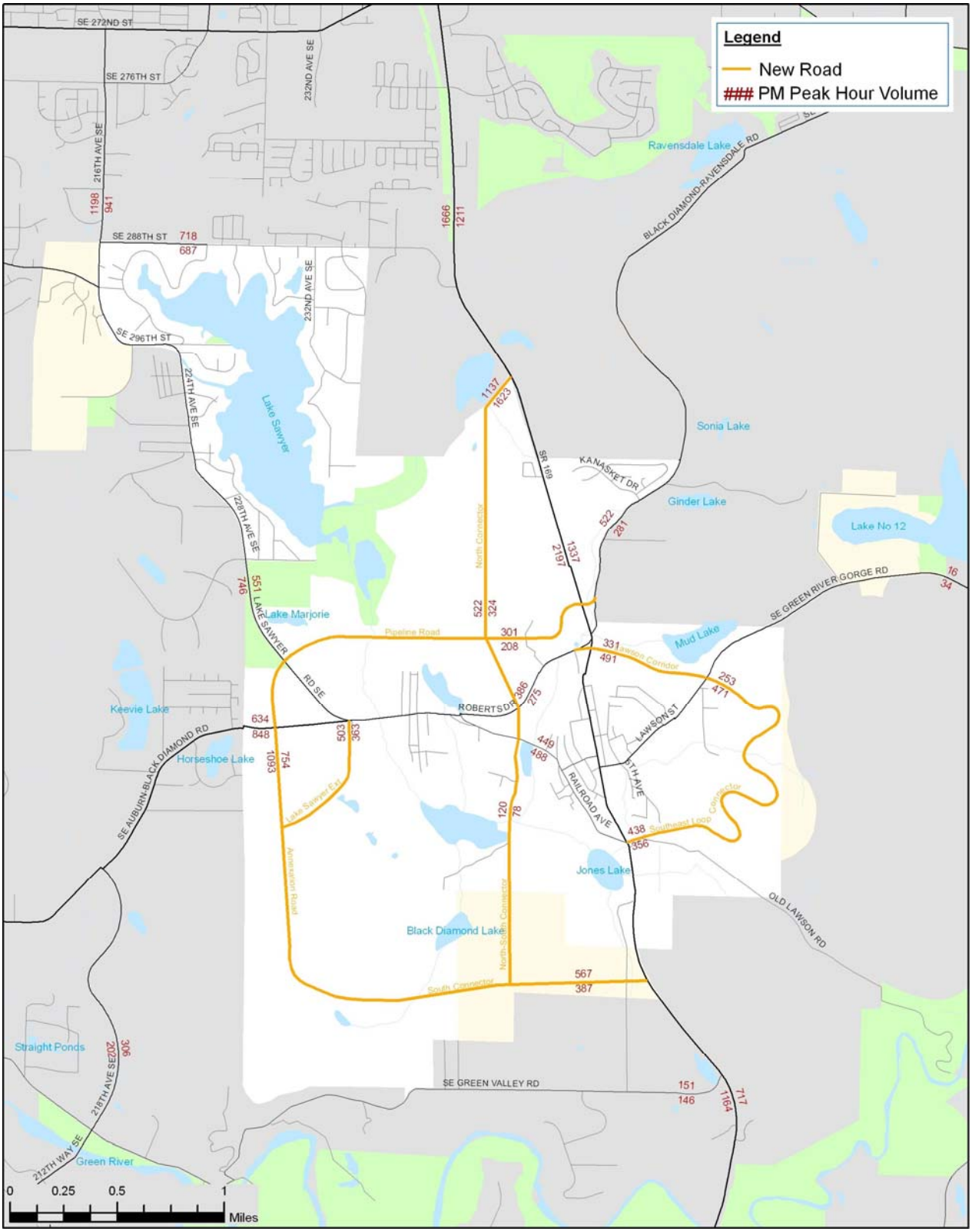


Figure 7-5. 2025 PM Peak Hour Traffic Volumes and Roadway Network



2017 to 2025 Recommendations

Future transportation recommendations for the 2017 to 2025 time horizon are shown in Table 7-9 and Figure 7-6. The program improves existing facilities, provides connections to "fill-in" the existing system, and constructs new facilities to meet the projected travel needs throughout the City.

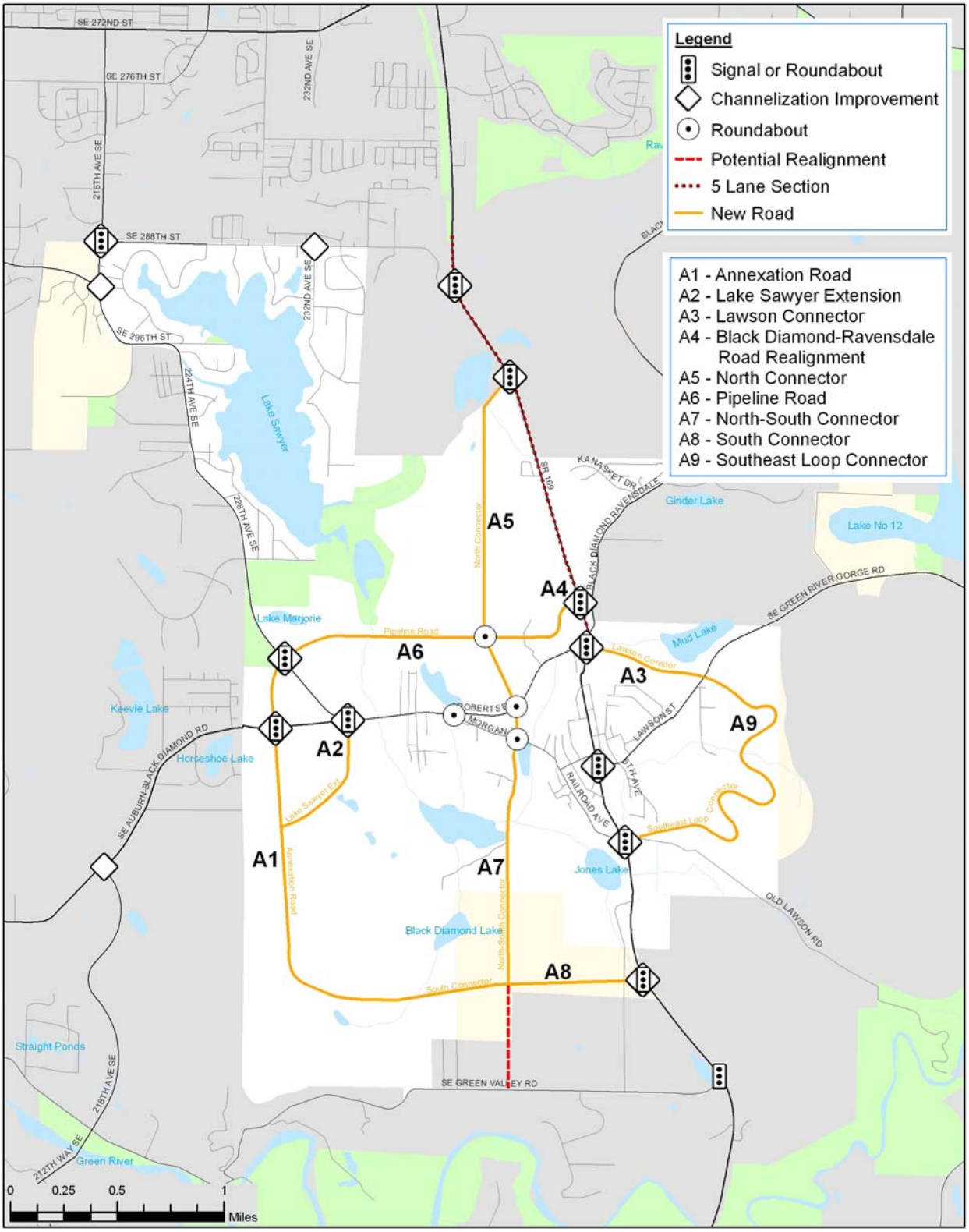
Table 7-9. Transportation Improvements (2017–2025)

Improvement	Action	Comments
A1, Annexation Road (Completed in 2010-2016)	Construct City-standard collector roadway	Provides access to new development
A2, Lake Sawyer Extension (Completed in 2010-2016)	Construct City-standard collector roadway	Provides access to new development
A3, Lawson Connector (Completed in 2010-2016)	Construct City-standard minor arterial roadway; realign across from Roberts Drive	Provides access and serves as vital connection to areas to the east of SR 169
A4, Black Diamond Ravensdale Realignment (Completed in 2010-2016)	Roadway realignment	Realigns Black Diamond Ravensdale Road north of existing intersection with SR 169
A5, North Connector (Completed in 2010-2016)	Construct City-standard minor arterial roadway	Provides access and improves circulation in area
A6, Pipeline Road	Construct City-standard minor arterial roadway	Provides alternative east -west arterial to Auburn - Black Diamond Road
A7, North-South Connector	Construct City-standard collector roadway	Provides access to new development
A8, South Connector	Construct City-standard collector roadway	Provides access to new development
A9, SE Loop Connector	Construct City-standard minor arterial roadway	Provides access and serves as vital connection to areas to the east of SR 169
SR 169 Improvements	Widen to 4 lanes from SE 288th Street to Roberts Drive	Provides additional capacity and improves operations
SR 169/Roberts Drive	Roundabout/Signal and Channelization Improvements; connect to Lawson Connector	Improves intersection operations
SR 169/Black Diamond Ravensdale Road	Roundabout/Signal and Channelization Improvements	Improves intersection operations
North Connector/SR 169	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/SE 288th Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/Baker Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/Lawson Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations

Improvement	Action	Comments
SR 169/Railroad Avenue/SE Loop Connector	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/South Connector	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SR 169/SE Green Valley Road	Roundabout/Signal	Improves intersection operations
SE Auburn Black Diamond Road/Morgan Street	Roundabout/Signal	Improves intersection operations
SE Auburn Black Diamond Road/Lake Sawyer Extension	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SE Auburn Black Diamond Road/Annexation Road	Roundabout/Signal and Channelization Improvements	Improves intersection operations
Lake Sawyer Road/Pipeline Road	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SE 216th Avenue SE/ Covington Sawyer Road	Channelization Improvements	Improves intersection operations
SE 216th Avenue SE/ SE 288th Street	Roundabout/Signal and Channelization Improvements	Improves intersection operations
SE 288th Street/232nd Avenue SE	Channelization Improvements	Improves intersection operations
North Connector/Pipeline Road	Roundabout/Signal	Improves intersection operations
North-South Connector/Roberts Drive	Roundabout/Signal	Improves intersection operations
North-South Connector/Morgan Street	Roundabout/Signal	Improves intersection operations

Note: The projects listed identify needed facilities within the City if the projected growth takes place during the 20-year period. Not all of the projects will be the City's responsibility to provide. New development, which necessitates the new roads, will contribute to the new roads. New development will also be responsible for providing on-site roads and circulation, which is not identified in the TIP.

Figure 7-6. Transportation Improvements (2017–2025)



Level of Service–2025

With the listed improvements for 2017 to 2025, the City's arterial and collector road system should operate within acceptable LOS. Table 7-10 indicates the intersection LOS operation for 2025. With the intersection improvements described in Table 7-9, all intersections will meet the City's LOS C standard.

Table 7-10. Future Intersection Level of Service Summary (2025)

Intersection	Control	Direction	LOS	Delay (sec)
SE 288th Street/232nd Avenue SE	Stop-Controlled	Northbound	C	22.6
Covington-Sawyer Road/216th Avenue SE	Signal	Average	C	32.4
216th Avenue SE/219th Avenue SE	Signal	Average	B	12.9
North Connector/SR 169	Signal	Average	D	47.7
Black Diamond Ravensdale Road-Pipeline Road/SR 169	Signal	Average	D	49.3
Pipeline Road/North Connector	Roundabout	Average	.72*	NA
Roberts Drive/SR 169	Signal	Average	D	46.8
Pipeline Road/Lake Sawyer Road SE	Signal	Average	C	24.2
Lawson Street/Lawson Connector	Stop-Controlled	Southbound	B	12.0
Auburn-Black Diamond Road/Lake Sawyer Road SE	Signal	Average	C	34.7
Roberts Drive/Morgan Street	Roundabout	Average	0.39*	NA
Roberts Drive/North Connector	Roundabout	Average	0.35*	NA
Auburn-Black Diamond Road/Annexation Road-Pipeline Road	Signal	Average	C	33.8
Morgan Street/North Connector	Roundabout	Average	0.48*	NA
Baker Street/SR 169	Signal	Average	D	46.7
Baker Street/Railroad Avenue (Jones Lake Road)	Stop-Controlled	Westbound	B	11.9
Lawson Street/SR 169	Signal	Average	C	20.5
Railroad Avenue (Jones Lake Road)/SR 169	Signal	Average	D	47.1
South Connector/SR 169	Signal	Average	C	30.3
SE 288th Street/216th Avenue SE	Signal	Average	C	23.4

* The measure of effectiveness of a roundabout is typically the volume-to-capacity (v/c) ratio, which is provided in the LOS column. A v/c ratio of 0.80 is approximately equal to LOS C.

7.7.3. Public Transportation

Metro is expected to continue the three transit routes into the 2016 horizon year depending on ridership levels and available funding. Service frequency may be increased, however, depending upon demand in the City and Maple Valley and Enumclaw areas. By the 2025 forecast year, additional park-and-ride facilities and transit service may be needed along SR 169. Other transit facilities may be necessary to serve new residential and employment within the City. The likely locations would be along Roberts Drive or Lake Sawyer Road. Long-range planning actions should identify potential parking facilities that could be used as park-and-ride facilities while being shared with other land uses.

7.7.4. Pedestrian and Bicycle Facilities

Sidewalks, walkways, and bicycle paths are integral parts of road design, as they are typically located within the roadway right-of-way. Sidewalks should be located on roads providing access to downtown areas, schools, parks, shopping centers, office buildings, and along transit routes. Sidewalk design standards should be applied by the City to address areas with high pedestrian activity, to increase pedestrian comfort and to allow for street plantings.

Bicycle lanes or paths are especially useful where bicycle traffic is high; especially near parks, schools, and other uses generating bicycle traffic. Bicycles can sometimes be accommodated without a bicycle lane on low volume local or collector roads. A 5-foot minimum bicycle lane should be developed on higher volume roadways.

Bicycles are not appropriate on sidewalks designed for pedestrians. In low volume areas where bicycles and pedestrians share the sidewalk, an 8 to 10-foot-wide path is needed. In areas with high bicycle traffic volumes, a separate 5-foot bicycle path is needed.

The City recognizes the importance of pedestrian facilities for recreation and commuter uses. The Black Diamond Park Plan (1989) set development of the City’s trail system as its first objective, "Develop a trail system which will connect the City's historic district, neighborhoods, Jones Lake and Morganville with an integrated King County regional trail system and state trail system along the Green River."

Also, the park plan's fifth objective states, "Wherever possible encourage the construction and interconnection of trails."

The trail system is a major component of the City’s proposed non-motorized transportation system. The City will identify future trail improvements in its update to the City’s Park Plan.

Recommendations

Presently, the City has an incomplete sidewalk system. Sidewalks are provided at various locations within the City. The City road construction standards now require sidewalks on all new roads. It is recommended that sidewalks, walkways, or trails be constructed on all new and reconstructed facilities within City limits.

There is not a system of bicycle paths or lanes in the City. New roadways should include bike lane provisions along arterial and collector facilities in the City. It is recommended that bike lanes be constructed along existing arterial and collector roadways in the future when they are scheduled for rehabilitation or reconstruction.

As stated in the transportation policies (T-7), the City encourages the development of a network of off-road facilities for non-motorized travel. The City should seek these facilities in connection with new development and should attempt to identify potential off-street bicycle routes (Class I) for cyclists wherever sufficient public demand and space can be made available. These non-motorized transportation improvements will be identified in the update to the City's Parks Plan.

The recommended non-motorized facilities in this plan will have a positive impact on the transportation system. The plan's support for bicycle facilities would also help encourage alternatives for shorter length trips.

7.7.5. Transportation Demand Management Strategies

Transportation Demand Management (TDM) is a term encompassing a broad range of measures designed to promote alternatives to the single-occupant vehicle (SOV). By promoting these alternatives, mobility can be maintained without expanding the capacity of the road network.

TDM strategies generally include increased public transportation service, ride-sharing programs and other transportation systems management strategies, such as improved signal coordination and timing.

Commute Trip Reduction

Washington State's Commute Trip Reduction Law (RCW 70.94.521) requires all employers with more than 100 full-time employees in counties with populations greater than 150,000 (including King County) to implement a commuter trip reduction (CTR) plan. Although presently there are no employers within the City that employ more than 100 employees, anticipated employment growth may necessitate a CTR program in the future.

Reducing congestion includes strategies to reduce demands on the transportation system. Some elements of a CTR plan include:

- provision of preferential parking or reduced parking charges, or both for high-occupancy vehicles (HOVs) and institution of paid parking for single occupant vehicles;
- provision of commuter ride matching services to facilitate employee ridesharing for commute trips;
- provision for subsidies for transit passes or employee use of HOVs;
- vehicles for car pooling and van pooling;
- permitting flexible work schedules to facilities employer's use of transit, car pools, and van pools;
- cooperation with transportation providers to provide additional service to the work site;
- provision for bicycle parking facilities, lockers, changing areas, showers for employees who bicycle or walk to work;
- establishment of a program to permit employees to work part or full time at home or at an alternative work site closer to their homes (telecommuting);
- establishment of a program of alternative work schedules such as compressed work week (4-day work week); and
- employer-guaranteed ride home for employees who use alternative transportation modes. This program allows employees to use a company vehicle or provides a taxi reimbursement if there is a family emergency or they are required to work outside their normal work hours.

The City encourages drivers of single occupancy vehicles to consider alternate modes of travel such as carpools, vanpools, transit, non-motorized travel, and alternative work schedules.

Land Use Policy

A city's ability to regulate land use is the most effective way available to manage travel demand. Land use plans and the planning and zoning sections of city codes are the principal instruments for implementing land use policy. Some examples of land use policy instruments are discussed below:

Prohibition on Development

Prohibiting development is the most effective way of impacting traffic. Without development, traffic impact from a parcel is virtually non-existent. Imposing low density agricultural or open space zoning, where appropriate pursuant to GMA, is an example.

Zoning and Land Use Designation

Zoning and land use designation of individual parcels are very important in determining traffic impacts. In general, retail (particularly fast-food and convenience stores) generates the most traffic per employee or square foot of development. Conversely, industrial developments (such as heavy manufacturing and warehousing) generally have lower traffic impacts. Most other commercial activities (offices, medical, etc.) and residential areas fall somewhere in between these extremes.

Standards for Transportation Facilities

City codes may also regulate the number and location of driveways, the required minimum (and in some cases, maximum) number of parking spaces, the number and convenience of bicycle parking spaces, and sidewalk requirements. These requirements can provide for good design that can maximize the efficiency of the roadway system and can promote use of commute alternatives.

Recommendations

The City should encourage demand management of the transportation system. This can be accomplished by the following:

- Encourage the use of buses, carpools, and vanpool programs through both private programs and the direction of Metro Transit;
- Promote flexible work schedules allowing use of transit, carpools, or vanpools;
- Promote reduced employee travel during the daily peak travel periods through flexible work schedules and programs to allow employees to work part- or full-time at home or at an alternate work site closer to home; and
- Encourage employers to provide TDM measures in the work place through such programs as preferential parking for high-occupancy vehicles, improved access for transit vehicles, and employee incentives for using HOVs.
- Develop zoning and land use policies that promote land uses and development that are consistent with the City’s goals and visions and which require new development to adequately provide for the transportation needs of that development.

7.7.6. Parking Facilities

Residents of the City have expressed a concern for the lack of available parking in the “Old Town” area of the City, which is generally defined as the commercial area between SR169 and Jones Lake Road along Baker Street. As roads are improved or rebuilt, formal on-street parking should be considered.

In addition, vacant lots in the vicinity could be identified and considered for off-street parking within the “Old Town” area. The City should encourage, allow, or facilitate private construction of parking lots.

Likewise, available areas to provide parking facilities for weekend bicyclists driving to the City to ride should be identified. On-street parking should continue to be discouraged along the SR 169 corridor.

7.8. Funding Strategy

The Comprehensive Transportation Plan recognizes the planning and improvement programming process as ongoing and provides a basis for initiating the funding strategy. A funding analysis is included that examines the available sources to pay for the recommended improvements and new roadways. This analysis recommends those strategies which would be most beneficial for the City to pursue when identifying funding for the improvements outlined in the Six-Year TIP.

During the TIP process each year, the City confirms the construction costs of the recommended improvements and new roadways and matches the appropriate funding strategy to construct the planned improvements. The TIP review also allows the City to reevaluate the need and timing for additional improvements.

Proposed Six-Year Financing Plan

The City is required to create a 6-year financing plan for both transportation and capital facilities.

The Six-Year TIP is the result of an interactive process that balances the goals of all comprehensive plan elements. Financial planning for transportation uses the same process as the financial planning for capital facilities; however, the timing and funding for transportation are restricted by the concurrency requirement and the binding nature of LOS standards.

Costs

The costs associated with transportation planning and transportation improvement programming include the following:

- maintenance and operation of the existing and proposed system;
- costs for designing and constructing new and/or expanded facilities;
- capital costs;
- transportation program costs; and
- general costs associated with administering, planning, and operating the system.

Costs associated with the transportation environment in the City include the cost of maintaining the existing City transportation facilities (roads, etc.); upgrading or expanding the vehicular road network, expanding the pedestrian system; and, providing bicycle facilities, system control (signage, markings, etc.), as well as transportation system planning and design. It should be noted that the City is not fiscally responsible for the costs associated transportation improvements required by new development.

Funding Sources

A number of financial strategies are available to the City to finance the transportation improvements identified in the comprehensive transportation plan. Table 7-11 lists these strategies, their availability, and recommendations for the City to consider when implementing the improvement program. Historically, the City has relied on general fund monies and contributions from land developers to construct roadway improvements.

Strategies

To provide a more consistent strategy for funding roadway improvements, the City should consider a more proactive strategy for transportation funding.

Historically, the City has relied on general fund monies and contributions from land developers to construct roadway improvements within the City. This strategy has resulted in a “piece-meal” development of the transportation system, where small improvements are made to an intersection rather than implementing improvements based on an overall plan for an intersection. The following section compares the City’s current method of relying on developer contributions and to an impact fee-based strategy.

Table 7-11. Summary of Possible Local Funding Sources for Transportation Improvements

Comments	Potential of Revenue Generation	Realistic Acceptance	Comments
Local Motor Vehicle Fuel Tax	Good	In-place	Funds distributed on a per capita basis
Local option Sales Tax	Good	Difficult	Requires County implementation
Impact Fees	Good	Good	Allows equitable funding of system improvements; some resistance by development community
Developer Contributions	Good	In-place	Development may support facilities that provide direct access; not likely to fund general system needs
Local Improvement Districts	Good	Difficult	Good for local access assessments for specific needs (e.g. sidewalks in commercial area); not good for mitigating through volumes
Bond Financing	Good	Moderate	Contrary to "pay-as-you-go" policy; may be little public acceptance if considered region wide bond measure
State and Federal Grants	Competitive	Fair	City has had some success in obtaining funds

Developer Contributions

Description. Site developers contribute or build transportation facilities as part of their mitigation of traffic impacts to the road network. This strategy relies on Traffic Impact Analysis studies to identify intersections that no longer operate at acceptable standards. The City then requires developers to make necessary improvements to bring the intersection or roadway back to the City's standard. The use of developer contributions requires careful review of traffic studies and proposed mitigation measures by City staff.

Benefits. The primary benefit is the potential for immediate concurrency of the traffic impacts created by the development. The improvement is in-place and open to traffic as the development becomes operational. Contributions can also accelerate construction of some long-range transportation facility projects within the local jurisdiction. Both the developer and the City have the option of determining exactly when the improvement will be constructed. The option exists to have the developer do the work or fully fund a City administered project.

Disadvantages. The primary disadvantage is that developer improvements are focused on fixing the "immediate problem" and can result in solutions that may not be desired by the City. As mentioned earlier this "piece-meal" approach can often result in some unforeseen off-site impacts that may cause more traffic congestion or result in improvements that will need to be torn-out in the future to accommodate future improvements. If an intersection already operates below the standard, developers are only required to pay their "fair share" of the cost of an improvement—often requiring the City to fund a portion of the improvement. Further issues can arise over how to deal with developments which are approved after the original developer has completed a major improvement (late-comers agreements).

City Application. There are several recommendations that have been made to not only accommodate growing background traffic volumes, but also to meet the needs of future development. Direct contributions by the planned development in that area would expedite construction of these roadways links. Improvement construction is closely linked to the actual development of the land. In some cases, development of the City's recently annexed areas as identified in the Black Diamond Urban Growth Area Agreement of 1996 require that certain transportation improvements (e.g., Pipeline Road) be in place prior to the time of development and/or the impacts of this development upon the road system.

Impact Fees

Description. Local jurisdictions may assess impact fees on development to mitigate the impact caused by growth. This is based on the general acceptance of the principle that development adds to traffic congestion. Washington State law enables local jurisdictions to fund transportation improvements by assessing and collecting impact fees

Methodology. Impact fees can be assessed in several ways. The most popular way determines the traffic generated by the proposed development and applies a per-trip fee. The per-trip fee is developed through a traffic impact fee study, which determines the amount to be assessed. The assessment is based on the number of trips generated by expected levels of land development and the costs of the improvements needed to meet the future traffic development. The per-trip fees are converted into land use-related measures such as dwelling units or square feet.

The City must develop and administer an accounting system. The funds are closely monitored to ensure that they are expended within a suitable timeframe (generally within 6 years from the date of payment) following development of the parcel on transportation-related improvements near the development.

Benefits. The City directly receives the funds, marked for specific transportation improvements, directly from the source of traffic generation—the developer. These

funds can be used to leverage grant funding by meeting the local matching requirements for cities.

Disadvantages. In general, the fees collected would not be expected to fully-fund the planned improvement thus requiring funding from additional sources. Careful analysis is needed to determine the appropriate fee structure that considers factors such as traffic related to adjacent communities and general growth in traffic levels. Questions can be raised on the methodology used to develop the "per trip fee" and the validity of assessing a generic broad-based fee on unique traffic impacts. Implementation of an impact fee system may also cause some areas to remain undeveloped, which would have otherwise been developed.

City Application. Impact fee systems are useful for communities that experience rapid development of multiple large vacant parcels. In the City, the primary cause for needed transportation improvements is the future growth associated with and caused by planned development of several large undeveloped parcels. An impact fee analysis is needed to determine whether or to what extent an impact fee system would generate the revenue needed for the system improvements and to determine the appropriate fee structure. Following the Black Diamond City Council adoption of an ordinance enabling impact fee collection, a suitable accounting system will need to be developed to ensure collection of fees on all future developments.

7.9. Plan Administration

7.9.1. Funding Matrix

Table 7-12 presents the recommended improvements, their estimated cost, and the timeframe in which they would be constructed, along with a suggested funding source. Future detail for each project will be developed as part of the annual TIP process. This section summarizes concurrency for the City to use in administering the comprehensive transportation plan.

7.9.2. Concurrency

Legislative Requirement

The GMA requires that each city and county incorporate a Concurrency Management System (CMS) into their comprehensive plan transportation element. A CMS is a policy to determine whether adequate public facilities are available to serve new developments.

> "Local jurisdictions must adopt and enforce ordinances which prohibit development approval if the development causes the level of service on a transportation facility to decline below standards adopted in the transportation element of the comprehensive plan, unless transportation improvements or strategies to accommodate the impacts of development are made concurrent with the development." (RCW 36.70A.070)

The term "concurrent with the development" is defined to mean that improvements or strategies are in place at the time of development, or that a financial commitment is in place to complete the improvements or strategies within 6 years of development.

Strategies that could be used in order to maintain compliance with concurrency include:

- Increasing roadway capacity or adopting transportation system management (TSM) strategies to accommodate the increase in demand use to development; and
- Adopting TDM strategies, such as increased transit access and rideshare programs, to offset the increase in demand.

Often it is a combination of improvements and strategies that create the most effective CMS.

CMS Implementation

The GMA also requires cities to formalize a CMS into a process that shows measurable results. The City established a position on concurrency in a Concurrency Policy (T-12). The City's CMS program is further defined below.

LOS standards and providing adequate funding

The City recommends the following LOS standards:

Roadway. LOS D for all intersections along SR 169 and LOS C for all other arterials and collectors within the City. The City will evaluate stop-controlled intersections on an individual basis when the LOS standard is exceeded.

Transit. LOS standard is expressed in terms of a goal to monitor existing transit facilities and to improve transit operations as demand dictates.

Other. LOS standard is expressed in terms of a goal to provide pedestrian and bicycle facilities throughout the City.

Table 7-12. Transportation Improvement Project–Cost Estimates (2008 Values)

Figure 7-10. 18 Year Transportation Improvement Program

2008 Cost Estimates

Improvement	From	To	Length (miles)	Total Project Cost	2008	2009	2010	2011	2012	2013	2014	2015-2025	Type of Improvement	Potential Funding
New Roads														
Annexation Road	Robert's Drive	Appx. Location on SR	1.5	$10,166,371								$10,166,371	New roadway construction	Development
Pipeline Road	SR 169	Lake Sawyer/Black	1.5	$9,142,984								$9,142,984	New roadway construction	Development
Roberts Drive Reconstruction	SR-169	Rock Creek Bridge	1.09	$2,100,000					$2,100,000				Construct 36' wide minor arterial roadway	Grant/Local/Development
North Connector	SR 169	South Connector	1.9	$6,813,145								$6,813,145	Construct 36' wide minor arterial roadway	Development
Lake Sawyer Road Extension	Auburn-BD Rd	Annexation Rd	0.4	$2,682,581								$2,682,581	Construct 36' wide minor arterial roadway	Development
South Connector	Annexation Rd	SR-169	1.5	$5,996,613								$5,996,613	Construct 36' wide minor arterial roadway	Development
Overlays														
Lake Sawyer Road	Auburn Black Diamond Rd.	320th blk	0.5	$100,000	$100,000								Overlay	Grant/Local
233rd Avenue SE	SE 293 Pl	South to end	0.1	$35,000		$35,000							Repair and overlay existing roadway	Local
Auburn Black Diamond Road	Bruckner's Way	West City Limits	0.06	$100,000		$100,000							Repair and overlay existing roadway	Grant/Local
SE 288th St	236th Ave SE	216th Ave SE	0.7	$230,000			$230,000						Overlay existing roadway	Grant/Local
Pacific Street Neighborhood Improvements	Lawson St.	Southerly Terminus of Pacific/ Fifth Ave South	0.2	$500,000					$500,000				Widen and Pave existing gravel roads, install storm drainage improvements	Grant/Local
Commission Avenue	Morgan Street	Appx 300' SW of Morgan St.	300'	$20,000							$20,000		Repair and overlay existing roadway	Local
Alley from Park Street to Railroad Ave to SR-169	Park St.	SR-169	0.06	$31,000							$31,000		Pave an existing gravel roadway	Local
Lawson Street	City Limits	SR-169	1.06	$500,000							$500,000		Overlay existing roadway	Grant/Local
Lk Sawyer/ Black Diamond Road	307th PL SE	SE 292 ST	1.2	$225,000							$225,000		Overlay existing roadway	Grant/Local
Plass Road	SR-169	City Limits/Existing Pavement	0.3	$85,000							$85,000		Pave an existing gravel roadway	Local/ LID
Overlay with minor widening														
Sixth Avenue/ Baker Street	Lawson St.	SR-169	0.25	$26,000							$26,000		Minor widening and overlay of existing asphalt roadway	Local
Fifth Avenue North	Lawson St.	Northerly End	0.2	$26,000							$26,000		Minor widening and overlay of existing asphalt roadway with installation of storm drainage	Local
Minor Road Improvements														
Lake Sawyer Road Safety Improvement and Culvert Replacement	South Creek Crossing	North Creek Crossing	N/A	$300,000						$300,000			Safety Improvement/Install guard rail both sides of roadway. Install new culvert(s).	Grant/Local
Major Road Improvements														
SR-169 widening	300 ft. South of Lawson St.	300 ft. North of Baker St.	0.2	$1,350,000					$1,350,000				Widen SR 169 to three lanes and widen approaching intersections	Grant/Local/Development
Railroad Ave Construction	Merino Street	Baker Street	0.21	$1,700,000	$1,700,000								Rebuild Existing Roadway/Stormdrainage	Grant/Local
Traffic Controls														
SR169/Roberts Dr/Lawson ConnectorStreet				$435,484							$544,355		Roundabout or Signal	Development/Local
Jones Lake Rd/Loop Connector/SR-169				$435,484							$544,355		Roundabout or Signal	Development/Local
Pipeline Road/SR-169				$435,484								$544,355	Roundabout or Signal	Development
North Connector/SR-169				$435,484								$544,355	Roundabout or Signal	Development
Pipeline Road/North Connector				$435,484								$544,355	Roundabout	Development
Pipeline Road/Lake Sawyer Rd				$435,484								$544,355	Roundabout	Development
Roberts Drive/North Connector				$435,484								$544,355	Roundabout	Development
Auburn-Black Diamond Rd/Pipeline Rd				$435,484								$544,355	Roundabout	Development
Morgan St/North Connector				$435,484								$544,355	Roundabout	Development
Lake Sawyer Ext/Annexation Rd				$163,306								$163,306	Roundabout	Development
South Connector/North Connector				$435,484								$544,355	Roundabout	Development
Channelization														
SR 169/Jones Lake Road				$300,000						$300,000			Channelization Improvements	Grant/Development
Intersection Improvements in Morganville Neighborhood				$80,000						$80,000				Grant/Local
Lawson St. & Newcastle Dr. Intersection Repair				$25,000			$25,000							Grant/Local
B.D./ Ravensdale Road Intersection				$227,000				$227,000						Grant/Local/Development
Sidewalk														
Morgan Street Sidewalk Phase II	Abrams Avenue	Robert's Drive	0.3	$580,000		$580,000							Install new sidewalk	Grant/Local
Robert's Drive Pedestrian Trail/Sidewalk	SR 169	Morganville Neighborhood	0.8	$1,500,000			$1,500,000						Install new pedestrian trail/sidewalk	Grant/Local
Lawson Hill Sidewalk	City Limits	SR 169	1.06	$450,000							$450,000		Install new sidewalk	Grant/Local
TOTALS				$49,809,839	$1,800,000	$715,000	$1,755,000	$227,000	$3,950,000	$680,000	$2,451,710	$39,319,839		

A TIP with a potential funding plan has been prepared in connection with the comprehensive plan. All facilities meet the LOS standards based on existing, 6-, and 20-year forecasts. The potential funding plan identifies possible sources for improvements identified in the comprehensive transportation plan.

Monitoring/Analyzing Available Transportation Capacity

The City requires a Traffic Impact Analysis (TIA) for developments that impact the transportation system. A TIA is a specialized study of the impacts a development will have on the surrounding transportation system. It is specifically concerned with the generation, distribution, assignment, and accessibility of traffic to and from the development, and the impact of development traffic on the adjacent roadway system. The City's guidelines for TIAs are similar to those of other communities in western Washington regarding when a TIA is required for a development and the scope of work needed to effectively analyze the impacts of site generated traffic. Generally, if a development adds 10 or more vehicles in the PM peak hour a TIA is required. If deemed necessary by the City, the TIA may also address transit and other modes for impact assessment. The City uses the adopted LOS standards as guidelines for assessing concurrency and mitigation.

A system to monitor concurrency was developed and is illustrated in Figure 7-7. The most important process is monitoring available funding for necessary improvements. As noted in the chart, there are four options for the City to consider:

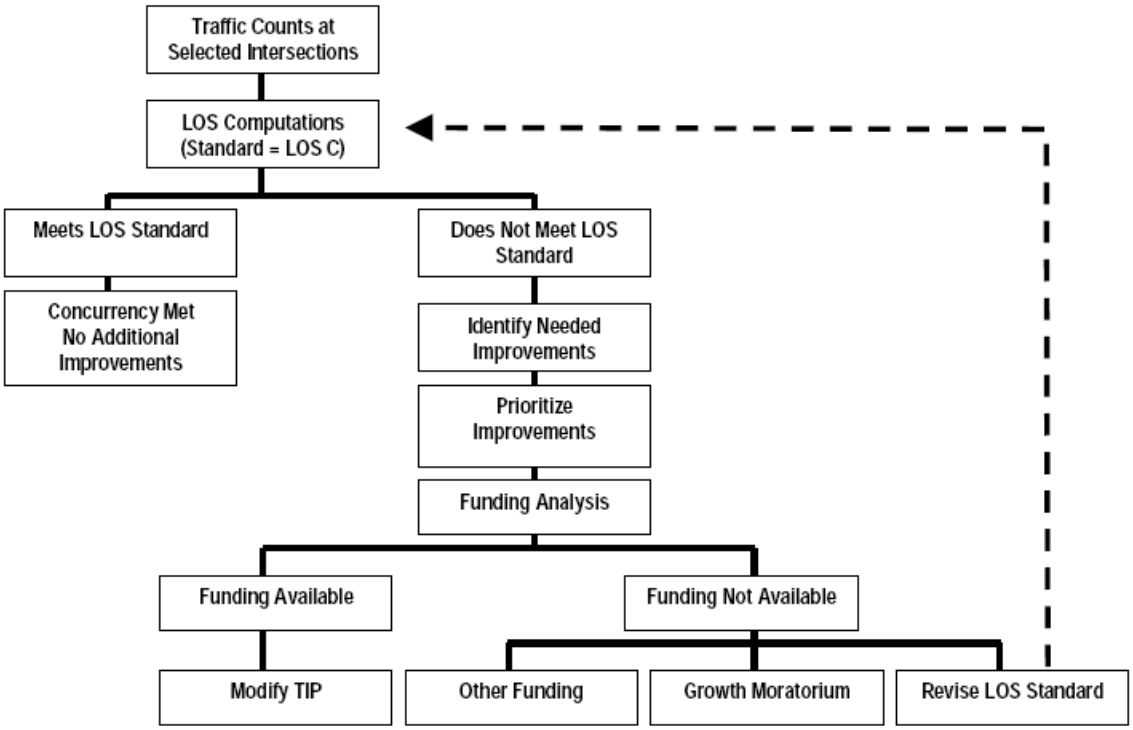
- Other Funding Sources. Look for other funding sources, such as dedicating the second 1/4 of 1 percent of the Real Estate Excise Tax for street projects.
- Reassess LOS standards. GMA allows a community to change LOS standards annually. Any changes to LOS standards should be done in connection with annual TIP reviews.
- Reassess Land Use. GMA requires that if the funding for capital improvements (such as roads) cannot be met, the land use or levels of development within the plan should be re-assessed.
- Growth Moratorium. Per GMA requirements. If funding cannot be met, and the LOS standard unchangeable, then GMA requires development to be stopped until either issue can be resolved.

C. Analyzing External Influences on Concurrency Management System.

The City's LOS standards will also be used to evaluate impacts to the transportation system created by development outside the City. The City's annual TIP development process will evaluate if concurrency standards have been exceeded and identify the

improvements needed to maintain the City's standards. The City should seek appropriate funding sources to mitigate through traffic impacts.

Figure 7-7. Concurrency Management System



7.10. Transportation Plan

The Black Diamond Comprehensive Transportation Plan emphasizes that the transportation system should be designed to provide safe and efficient vehicular circulation, while at the same time maintaining a pedestrian-oriented "small town" environment. The City plans to continue developing its transportation network as a grid system. The Plan will use a grid of similar smaller roads as well as linking existing and planned neighborhoods to accommodate future growth. Street construction standards are to be used to reinforce the transportation goals and policies.

The plan's policy guidance includes using the existing transportation system efficiently and encouraging transportation alternatives, such as transit, HOV use, and pedestrian and bicycle facilities. Cooperation between affected jurisdictions (the City, State of Washington, King County and the Puget Sound Regional Council) in planning for state highways and county roads is also supported by City policies. The presence of both state and county roads as the primary arterial system requires coordination with King County and Washington State in the planning of these roads.

7.10.1. Alternative Modes

The Comprehensive Plan identifies that a comprehensive network of non-motorized facilities, including trails, sidewalks, and bicycle facilities to be developed. These facilities would enhance non-motorized mobility options and reduce automobile dependency. Similarly, an off-street parking plan for Old Town, a park-and-ride for City residents, and visitor parking to serve bicyclists who come to the City to ride on weekends are identified as desired elements of the plan.

7.10.2. Funding Strategies

To provide for the necessary transportation facilities, the plan identifies an ongoing program of transportation facility planning and development funded through impact fees, developer contributions, and public funds. The plan identifies that the private-sector should fund its fair share of transportation facility improvement costs.

7.10.3. Transportation Improvement Program

Road improvement projects for existing deficiencies are identified for the short term (2010 to 2016) as required by GMA. New roads are identified for both the short-term and the long-term (2017 to 2025) for better circulation for vehicles. The road system

identified in Figure 7-4 and Figure 7-6 form the basis for the long-term motorized transportation improvements. Non-motorized transportation improvements will be identified in the City's update to the trails plan.

The improvements proposed for the short and long term are intended to mitigate the impacts of anticipated traffic growth. Construction of additional roads identified in the proposed Arterial and Collector System Plan will serve to divert and spread traffic flows.

7.10.4. Transportation and Land Use Element Coordination

The Black Diamond Comprehensive Plan Transportation and Land Use Elements are intended to work together to maintain the City's "small town" character in the face of increasing regional traffic. Surrounding King County land uses and other regional land use patterns may produce adverse effects on City traffic. Land use patterns that perpetuate automobile dependency would be expected to increase traffic in the City. It should be noted that an isolated change of land uses within the City may not, by itself, be expected to produce improved City-wide mobility.

7.10.5. Transportation Facilities and LOS Standards Coordination

Intergovernmental coordination is essential for the cost-effective provision of transportation services. The City does not possess the resources nor is it fiscally responsible for addressing all the of the transportation circulation system needs that might be identified through transportation planning. The City has reviewed the plans of the County and State Department of Transportation and has assessed the impact of their plan on the transportation facilities in the City. The LOS standards and proposed transportation improvements to be adopted by this element are not inconsistent with the LOS standards or plans of other jurisdictions. In addition, the City is committed to actively seek financial resources necessary to achieve the goals of the Comprehensive Transportation Plan.

7.11. Transportation Goals and Policies

Transportation goals and policies provide a framework for the comprehensive transportation plan and also a means for making decisions. The goal of providing a high quality transportation system must be constantly balanced with the goal of minimizing public expenditures. Similarly, the goal of quality transportation must be balanced with the effects a particular project may have on the environment.

The goals and policies presented below are to be used to help guide the City's decision making. Because it is possible that some goals and policies could conflict with one another in particular circumstances, the City and the public may be called upon to balance the various goals. The analysis of any given proposal should consider all modes of transportation and all methods of efficiently managing the transportation system. Included in the text is a discussion of the concepts that support the goals and policies.

7.11.1. Transportation Goals and Policies

The goals set forth below form the foundation for this transportation plan. The planning policies describe how the goals will be measured and evaluated.

Goal T-1: Establish an adequate and well-maintained transportation system that provides safe and cost-efficient movement of people and goods

Design, Construction and Maintenance Policies

The following policies guide the design, construction, operation, and maintenance of the City's transportation system. An underlying objective is to develop a multi-modal transportation system to serve all existing and future land uses. The policies address design and construction standards of transportation facilities to accommodate all types of transportation safely and efficiently. Level of Service standards, maintenance standards, and the need for Transportation Demand Management strategies are also addressed.

Policy T-1 **Roadway Design Policy:**

Ensure adequate and safe access to property via a system of primarily public and limited private roads.

A range of design and construction standards for all facilities should be adopted by the City. All roadway design will be coordinated with King County, Washington State, the Federal Highway Administration, and Metro Transit to achieve compatible design criteria, where applicable. The standards will comply with federal and state design criteria. The City will also investigate allowing "low impact development" designs that minimize pavement width and emphasize the use of storm drainage techniques to increase natural treatment and infiltration.

Policy T-2 **Connectivity Policy:**

Provide an interconnected network of roads and trails for ease and variety of travel.

The City of Black Diamond recognizes that increasing connections throughout the City not only reduces traffic congestion but also increases the sense of unity in the community. Therefore, the City will limit the use of cul-de-sacs, dead end roads, loops, and other street layouts that form barriers to travel. Private streets should generally only be allowed to serve a limited number of lots/dwelling units and/or only in unique circumstances. Private streets should not detract from overall motorized and nonmotorized circulation. The City will encourage the use of trails and other connections that provide ease of travel between neighborhoods and community centers.

Policy T-3 **Level of Service Standard Policy:**

Adopt levels of service that reflect the preference of the community. Ensure that new development does not degrade transportation facilities below adopted standards.

The City will adopt a level of service "C" for peak-hour traffic flow on roadways and intersections within the Black Diamond city limits. The levels of service are based upon the *Highway Capacity Manual* and are detailed in the Transportation Element.

Policy T-4 **Maintenance Policy:**

Maintain the City's transportation system at a level that is comparable with the design standards applied to new facilities.

The City will establish programs and schedules, such as a pavement overlay program, for the level and frequency of maintenance on its roadways, bikeways, and sidewalks.

Policy T-5 **Access Policy:**

Limit and provide access to the road network in a manner consistent with the function and purpose of each roadway.

The City will seek consolidation of access points to state highways, arterials, and major collectors. This will complement the highway

and arterial system, reduce interference with traffic flows on arterials, and discourage through traffic on local roads.

Policy T-6 **Local Access Policy:**

Establish a standard to limit the number of dwelling units that may be served before a second point of access is required. Limit the length of dead end streets by either distance or number of lots served.

Safe and convenient access requires multiple routes of ingress and egress. This is important for both residential convenience and for fire and police protection. A standard should be developed that balances unique topographic characteristics, future development plans, and the need for providing adequate access.

Policy T-7 **Transportation Demand Management (TDM) Policy**:

The City of Black Diamond will encourage demand management of the transportation system by:

1. Encouraging the use of High Occupancy Vehicles - Buses, carpools, and vanpool programs through both private programs and the direction of Metro Transit;

2. Promoting flexible work schedules allowing use of transit, carpools, or vanpools;

3. Promoting reduced employee travel during the daily peak travel periods through flexible work schedules and programs to allow employees to work part- or full-time at home or at an alternate work site closer to home; and

4. Encouraging employers to provide TDM measures in the work place through such programs as preferential parking for HOVs, improved access for transit vehicles, and employee incentives for sharing rides.

Policy T-8 **Pedestrians, Bicycles, and Transit Policy:**

Lessen dependence upon and the influence of the automobile by encouraging travel by other means. Provide for the safety of pedestrians and bicyclists. City actions will:

1. Develop design standards for new roadways that incorporate features required by pedestrian, bicycle and transit facilities;

2. Promote transit by developing design standards that provide accessibility through bus pullouts, pedestrian access to bus stops and bus shelters; and,

3. Seek to complete its sidewalk system and pursue development of a network of off-road facilities for non-motorized travel.

4. Cooperate in regional efforts in exploring the feasibility of DMU service to southeast King County.

Policy T-9 **"Old Town" Parking Policy:**

Encourage the construction of additional parking in the historic "Old Town" area of Black Diamond, both within the public right-of-way and in off-street lots.

The City recognizes that parking in the "Old Town" area of Black Diamond is essential to the continued growth and prosperity of the businesses in this area of the City. Therefore, the City will promote the addition of parking spaces in the "Old Town", possibly to include the use of a Local Improvement District to fund these parking improvements.

Goal T-2: Provide a transportation system that preserves the "small town" character of the City and minimizes the environmental impact to critical areas.

Road Character and Right-of-Way Policies

Policies contained in this subsection promote the unique "small town" characteristics of Black Diamond and address issues regarding land use development emphasizing desired locations for development throughout the City of Black Diamond. These policies also address the City's view on right-of-way issues.

Policy T-10 **"Small Town" Character Policy:**

Enhance the "small town" character that the City currently possesses.

This can be done by the following:

7. Discourage widening of SR 169 to a four or five lane facility thus creating a "thoroughfare" that will tend to divide the City;

8. Encourage landscaping, parkway trees, and compatible architecture in the design and construction of roadways,

especially SR 169, and other facilities along selected corridors. Minimize obtrusive signs through provisions in the zoning code;

9. Limit the number of traffic signals within the City of Black Diamond by considering the use of roundabouts as the first solution where appropriate; and

10. Adopt new road standards and development guidelines to minimize paving widths; preserve desirable trees and vegetation through minimized right-of-way clearing; and allow creative designs.

11. Adopt separate road standards for the older, historic portions of the City that are specific to individual street geometries, with the goal of not causing undue disruption to existing neighborhoods.

Policy T-11 **Environmental Protection and Conservation Policy:**

Design transportation facilities within the City of Black Diamond that minimizes adverse environmental impacts resulting from both their construction and operation.

The City will fulfill this need by:

12. Aligning and locating transportation facilities away from environmentally sensitive areas;

13. Encouraging storm drainage system designs to avoid direct drainage into environmentally sensitive areas;

14. Mitigating unavoidable environmental impacts; and

15. Soliciting and incorporating the concerns and comments of interested parties provided such comments are consistent with the goals, objectives, and policies of the Comprehensive Plan.

Policy T-12 **Right-of-Way Policy:**

Retain all existing transportation system rights-of-way, and to identify, acquire, and protect rights-of-way for future roadway and bikeway facilities.

The policies provided in this Transportation Plan will be used by the City to identify current and future transportation system needs. The City will identify specific transportation corridors and protect needed rights-of-way as soon as possible. Some methods used to acquire and preserve rights-of-way include:

16. Requiring dedication of rights-of-way as a condition for development when the need for such rights-of-way is linked to the development;

17. Requesting donations of rights-of-way to the public;

18. Purchasing rights-of-way by paying fair market value when donations and/or required dedications are not possible;

19. Acquiring development rights and easements from property owners; and,

20. Protecting rights-of-way from encroachment by structures, substantial landscaping, or other obstruction is also encouraged by the City. Protection methods may include minimum setback requirements for property improvements and development of guidelines regarding installation and maintenance of landscaping within the public right-of-way.

Goal T-3: Provide a transportation system that has the adequate financing needed to fund the necessary transportation improvements. Funding will come from both public and private sector participation.

Funding, Concurrency, and Impact Mitigation Policies

The City faces the challenge of making the best use of the limited funds available to finance transportation projects. Issues addressed by these policies include concurrency, identifying favorable funding sources, and deciding impact mitigation assessments.

Policy T-13 **Concurrency Policy:**

Ensure that transportation improvements or strategies are constructed or financed concurrent with development. This also includes concurrency with plans of other transportation agencies.

The City requires either a construction or financial commitment for necessary transportation improvements from the private or public sector within 6 years of development. To monitor these commitments, the City's Concurrency Management System includes the following:

21. Adopting a traffic impact fee program;

22. Assessing level of service;

23. Determining compliance with the adopted level of service standards;

24. Identifying facility deficiencies; and,

25. Making appropriate revisions to the Six-Year TIP.

Policy T-14 **Funding Sources Policy:**

Secure adequate long-term funding sources for transportation through all feasible and available methods.

These methods may include:

26. Taking advantage of state funds, such as the Transportation Improvement Account (TIA), and the Public Works Trust Fund (PWTF);

27. Encouraging Washington State Department of Transportation improvements on the state highway system;

28. Encouraging the use of Local Improvement Districts (LID) by property owners to upgrade roads to meet City road standards;

29. Requiring impact mitigation for projects as guided by this Plan. Impact mitigation payments and/or seeking voluntary contributions from developers may also be pursued; and

30. Seeking funding from the federal and all other available grant sources.

31. Traffic impact fees may also be pursued for selected projects.

Policy T-15 **Financial Impact Mitigation Policy:**

Require developers to contribute their fair share towards the transportation improvements required to meet the LOS standards. Impact mitigation efforts may include:

32. Requiring developers to assist in providing additional transportation facilities and services in proportion to the impacts and needs generated by development; and,

33. Encouraging developers to design projects that generate less vehicular traffic.

Goal T-4 A transportation system that is compatible with Washington State, King County, neighboring cities, and other transportation providers.

Coordination and Consistency Policies

The policies contained in this subsection address such issues as multi-agency planning and coordination, consistency of transportation improvement programs and designs among jurisdictions, and cooperation among agencies that fund, build and operate the transportation system within the City of Black Diamond.

Policy T-16 **Traffic Impact Analysis Policy:**

Require that a Traffic Impact Analysis (TIA) be prepared for new developments.

The City will require a TIA for new developments that are proposed in the city limits of Black Diamond that generate ten (10) or more vehicle trips in the PM peak hour or are otherwise determined to have the potential for an adverse impact upon the City's transportation system. The study should include site access points, arterial and collector roadways and intersections of arterials and collectors that are impacted by 10 or more PM peak hour trips, and may not be limited to intersections located within the City of Black Diamond. The TIA shall be prepared by a licensed traffic engineer and will be accepted after approval by the City.

Policy T-17 **Intergovernmental Agency Coordination Policy:**

Coordinate planning, construction, and operations of transportation facilities and projects with other governmental agencies.

This policy supports and complements the transportation functions of Washington State, King County, neighboring cities, Puget Sound Regional Council, Metro Transit, and other entities responsible for transportation facilities and services in the City of Black Diamond.

Policy T-18 **Multi-modal Coordination Policy:**

Coordinate planning and operation of efficient and varied means of transportation for the City of Black Diamond's transportation system.

This will be accomplished by the following:

34. Metro Transit provides transit service in the Black Diamond urban area. The City invites Metro to evaluate expanding regular fixed transit service within Black Diamond.

35. The City will continue to coordinate with Metro Transit to provide transit connections between Black Diamond and other parts of King County.

36. The City will support development of regional park-and-ride lot facilities by Metro Transit and the Washington State Department of Transportation. The City encourages such lots on sites promoting compatible land uses and along primary travel corridors for travel to King and Pierce County urban areas.

37. The City will provide for pedestrian and bicycle facilities in the City's road system through provisions in the City's design standards.

Chapter 8. Capital Facilities

8.1. Introduction

8.1.1. Purpose of the Capital Facilities Element

This Capital Facilities Element has been prepared in accordance with Section 36.70A.070 of the Growth Management Act (GMA) to address the need for and the financing of capital facilities in the City of Black Diamond (City) and the surrounding Potential Annexation Area (PAA). The GMA requires all comprehensive plans to include a Capital Facilities Element that analyzes the need for future capital improvements to support the development goals stated in the Land Use Element, as well as the funding mechanisms available for implementation.

The Capital Facilities Element includes the following:

- Inventory of existing City-owned capital facilities, showing the approximate location and identifying the approximate capacities of those facilities;
- Forecast of future needs (for the next 6 years minimum);
- The proposed locations and capacities of expanded or new capital facilities;
- A 6-year plan that also identifies potential revenue sources needed to fund the timely construction of the capital facilities, including specific identification of funding programs or sources of public money for such purposes; and
- Coordination with the Land Use Element of the City of Black Diamond Comprehensive Plan to provide consistency with each other.

The GMA requires the Capital Facilities Element to address all public facilities except transportation facilities, which are addressed separately in the Transportation Element of this plan. The GMA also requires that the Transportation Element and Capital Facilities Element each identify facility/system capacity and funding mechanisms/sources for future necessary capital improvements. These items have been consolidated, for ease of reference, and appear in this section of the plan.

The GMA contains requirements pertaining to the concept of *concurrency*, which mandate that the City adequately demonstrate within this plan that public utilities and modes of transportation will be available to support growth at the time such development (growth) occurs. Thus, the financial planning section included herein (as required by GMA) identifies a financial program for implementing this set of compiled improvements.

Planning Area

It is the intent of the GMA that all development requiring urban services will be located in the Urban Growth Area (UGA), and will have these services available to them in a timely and financially feasible manner. The Capital Facilities Element is intended to guide the City in its decision making process in order to achieve the community's goals; in particular, to provide utility service at an acceptable standard (approved minimum level of service [LOS]) without compromising the existing LOS currently provided to its citizens.

Organization of Chapter

Sections 8.3 to 8.14 of this chapter are organized in the following manner for each capital facility or service:

- Inventory
- LOS
- Forecast of Future Needs

Larger capital facility sections include a brief introduction that includes a concept description and relevant goals prior to the inventory.

8.1.2. Future Considerations for Capital Facilities Planning

Growth Uncertainties

The City has had a development moratorium in place since 2001 in order to give it time to upgrade necessary infrastructure, including water and sewer systems, to

accommodate future development, and to update required plans and regulations. There has been little development outside of that vested prior to 2001.

Given the potential development within the City and areas anticipated to be annexed soon, a large wave of development is almost certain in the near future. Following the lifting of the development moratorium, building permit activity is anticipated to increase significantly begin in 2010. The City of Black Diamond Comprehensive Plan contemplates significant residential growth in the City limits and the impact of that growth on capital facility needs.

Additional Long-Term Planning

There are many unresolved and unknown issues related to the residential development expected in the near future once the moratorium is lifted. Once the moratorium is lifted and development projects begin permitting, the City will have a window of time to revisit and consider how capital facility needs are to be met. During this time, the City may wish to develop a series of work plans for administrative maintenance services, police, parks, and utilities to consider how the City could most appropriately and effectively deal with meeting its long-term needs.

These work plans could address:

- reevaluating long-term facility needs once a clearer picture of the amount, timing, location, and scale of development is known;
- revisiting and adjusting LOS standards to balance services with the ability to provide them; and
- exploring alternative forms of service provision.

8.1.3. Overview of City Staffing

Considerations in Setting LOS Standards

LOS standards are a management tool that establishes benchmarks or measures to determine the adequacy of public services provided. They also represent those values that are deemed most important to the community's quality of life. The establishment of LOS standards provides a useful basis from which to project future staffing and facilities needs based on anticipated population growth. These standards are intended as planning guidelines, with actual staffing decisions to be made by the City Council during the annual budget process, taking into account both actual needs and financial feasibility.

LOS standards allow planners to estimate approximate staff and facilities that will be needed to provide basic municipal services to growing populations. Washington

State law establishes that "those public facilities and services necessary to support development shall be adequate to serve that development at the time the development is available for occupancy and use without decreasing current levels below locally established standards." (Revised Code of Washington [RCW] 36.70A.0202(12))

LOS measures are typically presented as ratios of facility capacity to demand. Examples include number of acres of parks per 1,000 population, or the response time in minutes/seconds for a fire distress call. However, it is important to note that LOS measures are generally quantitative, and therefore measure the *output* and not necessarily the *outcome* of public services.

LOS measures should reflect local values. The values and needs of each community will differ, and this uniqueness should be reflected in the LOS standards that are adopted. Several overarching criteria should be considered when developing standards for a community.

LOS standards should:

- assure that the community's most important service needs are met;
- recognize the limitations of any measure and strive for a balance between quantitative and qualitative measures; they should ensure a balance between input, output, and outcome measures;
- be realistic, achievable, and flexible;
- be tailored to the needs and values of the individual jurisdiction; and
- represent the values and needs of the community, and should be embraced by local decision makers and the general public; national LOS standards present the framework for which local LOS measures may be developed, but ultimately, local LOS measures should be a reflection of the community and the unique characteristics and values that are important to its residents and businesses.

8.2. Capital Facilities Goal and Objectives

Capital Facilities Goal: Ensure that public services are available to support development consistent with the Land Use Element.

Objective CF-1: Ensure public utilities and facilities provision maximizes public safety, minimizes adverse environmental impacts, and is compatible with surrounding land uses.

Objective CF-2: Consider economic development when planning the capital facilities infrastructure.

Objective CF-3: Ensure that those public services and facilities necessary to support development are adequate to serve the City both during construction and completion of development.

Objective CF-4: Require new developments to pay their fair share of the cost of providing public services.

8.3. Administrative Services

8.3.1. Administrative Services Concept and Policies

Administration and Maintenance Services

Funding for City administrative services should be sufficient to provide needed services, and where possible, “economies of scale” should be realized. New growth, which necessitates or benefits from these services (residential, commercial, or industrial), should pay its fair share of associated facilities costs. The City recognizes that employees and businesses, as well as residents, will contribute to demand for City services.

Administrative and Maintenance Services Policies

Policy CF-1: Provide adequate City Hall and other municipal space as needed to meet the demands for City services.

Policy CF-2: Provide for the necessary additional services while recognizing appropriate "economies of scale" as growth occurs in the City.

Policy CF-3: Require new development to finance the facilities and services needed to support the development wherever a direct connection of benefit or impact can be demonstrated.

8.3.2. Inventory

Municipal Buildings

The City’s facilities include the former City Hall on Lawson Street, which houses the police department, the City Council chambers and the Black Diamond Municipal Court; the Black Diamond Cemetery at Morganville; and the City shop across from former City Hall, which consists of one garage, storage room, and yard. City administrative offices are currently located within leased modular buildings and leased office space at 24301 Roberts Drive. The City also owns the Black Diamond

Museum property on Railroad Avenue and leases the facility to the Black Diamond Historical Society.

Equipment

The City's maintenance and operation equipment includes the following: road grader, slope mower, dump truck, and several general public works vehicles.

Other Facilities

A Community Center and a King County Library System branch are also located in the City. The Community Center, located on Highway 169 near the Roberts Drive intersection, contains approximately 12,000 square feet on two floors. The center, which opened in October 1990, now offers programs for seniors and youth and classes and meeting space for community groups. The center is owned and operated as a nonprofit entity, the Black Diamond Community Center Association, with its own Board of Directors. The center has also acquired the old 3,740 square foot elementary school gymnasium and relocated it to a site between City Hall and the City shops

The Black Diamond branch of the King County Library System is located on Roberts Drive. The library is open 59 hours a week. In addition to the collection of books, the library maintains collections of magazines, videos, and compact discs (CDs). The library computer system allows the public to order any book in the King County system and have it mailed directly to their home.

8.3.3. Level of Service

LOS standards for administrative buildings and services are not subject to concurrency and are listed here as a helpful management tool. The size of City facilities will be dictated by the number of employees needed to serve City residents. The recommended LOS standard for municipal building space is to provide 330 square feet of space per each full-time equivalent employee (FTE).

8.3.4. Future Needs

Municipal space needs will be affected by several variables, including the development of large residential developments, commercial/ industrial growth, and policy decisions on how to deliver governmental services. The City already lacks enough permanent administrative office space to meet LOS standards, and this will increase as City staff increases. However, without any funding sources for new administration facilities, it may be some time before the facilities are built.

Within the next year, the City should create a work plan to address the long-term facility needs for administrative and maintenance services.

The work plan should:

- evaluate how services are provided and explore other forms of service delivery, either directly or contracted;
- develop a facility needs assessment as part of a Facilities Master Plan, based on service delivery decisions; and
- create a prospective capital projects list that the City might undertake or fund in the future.

8.4. Police

8.4.1. Police Concept, Objective, and Policies

Police Services Concept

The police department will continue its programs that support community policing to maintain a positive presence and sense of safety within the community.

As the City grows over the next 20 years, additional personnel and equipment will be required to maintain current service levels. An expanded police station would also be required. Reducing the turnover of police personnel is also necessary to maintain an efficient and adequate LOS.

Police Protection Objectives and Policies

Objective CF-5: Ensure that adequate provisions are made to accommodate the demands of new development on police services.

Policy CF-4: The City shall maintain no less than the existing ratio of 3.5 police officers per 1,000 population. As the department reaches a higher economy of scale, the ratio may be reduced to 2.75 officers per 1,000.

8.4.2. Inventory of Department Staff, Facilities, and Programs

The Black Diamond Police Department is a full-service law enforcement agency serving the citizens and business population of the City. The police department currently is staffed by 12 commissioned police officers, one reserve officer, one records manager, and one part-time support position. Core services include

responding to calls for service, proactive patrol, special operations, traffic enforcement, marine services, records, evidence, crime prevention, and narcotics and criminal investigation.

The police fleet currently consists of 11 patrol cars, two administrative vehicles, one undercover vehicle, one off-road Jeep, one marine boat, and one marine Jet Ski™.

The police department responds to calls 24 hours per day, 7 days per week, through requests for service via contracted dispatch with Valley Communications. The department is housed in approximately 1,600 square feet of space in a building shared with the Municipal Court, City Council Chambers, and the Emergency Operations Center.

The department is committed to active involvement and participation with the community. Community policing is a partnership of community and police working together to promote a feeling of safety and security among members of the community. These efforts are accomplished by:

- home and business security checks,
- extra patrols upon request,
- extra traffic control upon request,
- referrals to domestic violence counseling,
- Drug Abuse Resistance Education (D.A.R.E.) and early childhood education programs,
- supervision of and participation in block watch programs,
- instruction of traffic school program,
- marine safety courses,
- court security,
- the McGruff housing program,
- National Night Out Against Crime and other community activities participation, and
- the Narcotic K-9 handler program.

The Black Diamond Police Department received 2,511 calls for service in 2007; these calls do not include officer initiated traffic stops. Matters investigated include property crimes, traffic issues, and violent crimes. The City has seen a sharp rise in

violent crimes in recent years with a continuing street level drug problem and a sharp rise in methamphetamine related problems in recent years.

The department also provides a marine patrol presence on Lake Sawyer during the summer months, which serves a large recreational user population. This enforcement effort was implemented after the annexation of Lake Sawyer into the City.

The average response time in high priority calls is between 3 and 4 minutes; lower priority calls average 4 to 8 minutes.

The department is also an active member of the Coalition of Small Police Agencies (CSPA) of King County, which has proven to be an extremely effective group to consolidate training and other cooperative efforts to bring citizens the most value for their tax dollars. The Major Crimes Task Force and Special Operations Team are just two of CSPA's programs that have proven to be highly utilized.

8.4.3. Level of Service

The current LOS for police is 3.5 officers per 1,000 residents. As the City grows, the LOS standard can be reduced to 2.75 officers per 1,000 residents through efficiency gains in the provision of police services. The LOS for police is proposed to decrease with each 1,500 to 2,000 increment of population growth, as shown in Table 8-1. .

Table 8-1. Police Level of Service

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

8.4.4. Future Needs

Currently, the most pressing need for the police department is additional office space. The department has studied adequate space requirements, and a 4,500 to 5,500-square-foot facility is currently needed to meet immediate needs as well as anticipated growth over the next 5 to 10 years.

The growth in population for the City will require additional officers and capital facilities, which will include vehicles, administrative office space, and equipment.

As county jail costs continue to rise, particularly in light of King County's funding issues, additional resources will be necessary. The Buckley City Jail continues to be the primary holding facility for misdemeanor offenders. The City also contracts jail services with the cities of Enumclaw and Issaquah.

8.5. Parks, Recreation, and Open Space

8.5.1. Parks, Recreation, and Open Space Concepts, Goal, Objectives, and Policies

Parks, Recreation, and Open Space Plan Concept

The City is rich in recreational potential but poor in existing facilities. Given demand for trail and park use in town, and given the potential corridors and open space opportunities, the City has the opportunity to provide for a first-rate park, recreation, and trail system.

To meet the community's park and recreational needs, however, the City will have to focus on existing gaps in its park and recreational system, and the future needs of the City as it grows over the next 20 years. Current and future needs include having a full variety of park types, such as open space and neighborhood parks, as well as enough recreational facilities, such as baseball diamonds, to support the City's population.

These needs can be met through the strategic location of new parks and facilities as well as the maintenance and upgrading of existing facilities. New park and recreational facility standards for the City will guide the type and location of the new parks and facilities needed, and enable the City to require new development to pay its "fair-share" of such facilities.

Park, Recreation, and Open Space Goal, Objectives, and Policies

Parks, Recreation, and Open Space Goal: Foster and support the stewardship of natural resources throughout the community in the form of parks, open space, and recreation to serve the needs of the City's residents.

Objective CF-6 Parks should include a variety of active, passive, developed, and natural parks and open space.

Objective CF-7: Retention of the area's natural beauty and ecology should be represented in the park and open space system.

Policy CF-5: Provide the City with a system of recreation facilities that are attractive, safe, functional, and available to all segments of the population.

Policy CF-6: Encourage development of a trail system which will connect the City's historic district, neighborhoods, Jones Lake, and Morganville with an integrated King County regional trail system, the new park site at Lake Sawyer, and a state trail system along the Green River.

Policy CF-7: Repairing deficiencies and maintaining the existing park and recreation facilities should be a top priority.

Policy CF-8: Development of new parks within the City shall involve:

a. Obtaining land by purchase or dedication.

b. Developing parks with emphasis on active play areas, park benches, a creek trail or trail connections, and highlighting the historical aspects of the town's development.

Policy CF-9: Current Parks, Recreation, and Open Space LOS guidelines include:

a. Active Parks: 5 acres per 1,000 population - neighborhood and community parks.

b. Passive Parks: 2 acres per 1,000 population.

c. Open Space: As identified in the Open Space Plan and Policies.

Policy CF-10: Maintain an up-to-date Parks Plan.

8.5.2. Inventory

City of Black Diamond Park Facilities

Currently, the City has limited park and recreational lands, facilities, and programs. The City has 195 acres of parkland ranging from passive open space to a BMX bicycle track. The largest park is the 143-acre Lake Sawyer Regional Park (undeveloped) located at the south end of the lake.

Recreational facilities the City owns and operates include a basketball court, a tennis court, and a skate park at "School Park," which is adjacent to the Black Diamond Elementary School. The only other recreational facilities within the City are the playfield located at the elementary school, a gymnasium operated by the Black

Diamond Community Center, and a BMX bike track next to the community center's gymnasium. In-town recreation programs are minimal due to the lack of facilities.

Two pocket parks (Coal Car Memorial Park and "Union Stump") are formed from public right-of-way, and serve as gateway elements for the City. Coal Car Memorial Park, at the intersection of State Route (SR) 169 and Roberts Drive, contains a coal car marker reminiscent of the City's mining history. "Union Stump," which is near Morganville, served as the speaker platform during the union/mining era. Each site is less than 0.30 acre, and neither provides recreational opportunities.

In 1995, the City acquired 14 acres of land adjacent to Jones Lake with county open space funds. Plans for this open space park include the construction of a trail around the lake. The City has also acquired the Webb (Ginder Creek) open space parcel northwest of the City Center.

Table 8-2. Parks Inventory

Facility	Type	Acreage	Features
Union Stump	Passive	0.23	Historical Marker
Coal Car Park	Passive	0.27	Historical Marker
Jones Lake Site	Passive	14.06	Undeveloped
Ginder Creek Site	Passive	27.59	Undeveloped
Eagle Creek Community Park	Active	0.43	Basketball Court
Lake Sawyer Boat Launch	Active	1.80	Boat Launch
BMX Park	Active	2.96	Dirt Bike Track
School Park	Active	4.75	Baseball Diamond, Basketball Court, Tennis Court, Skate Park
Lake Sawyer Park	Undeveloped	143.05	Undeveloped
Total Park Acreage		195.14	

8.5.3. Level of Service

The City adopted the current Parks Plan in December 2008. To help best identify park needs and guide the timing and implementation of the Parks Capital Improvement Program, new park LOS standards and recreational facility standards are being proposed. The City's existing LOS standards are based on a ratio of capacity (park acres) to demand (population); however, the Washington Recreation and Conservation Office has recommended a spatially based approach for LOS standards. Spatially based standards emphasize access to different types of park and recreational facilities, which ensure all residents are adequately served. This approach is the basis for the new LOS standards.

Redefined Park Types and Standards

More comprehensive park classification systems, in place of the old active and passive classifications, will better meet the diversity of user needs in the community. The proposed new park types include:

- **Pocket Parks** – small pedestrian-oriented areas, one-half acre or less, that provide greenery and open-space in higher-density developed areas. They may include features such as play equipment, community gardens, historical/information markers, landscaping, seating, and public art.
- **Open Space** – undeveloped areas or areas with limited development intended to preserve natural areas within the City for environmental, health, and/or aesthetic reasons. They may include features such as picnic areas, trails, and/or interpretive facilities.
- **Neighborhood Parks** – small pedestrian-oriented parks, one acre or less, that serve residents of the immediate, usually residential, area. They may include features such as play areas, basketball courts, community gardens and/or open areas.
- **Community Parks –** large parks, 1 to 5 acres in size, which provide active recreation facilities for the broader community. They may include features such as parking areas, baseball or softball diamonds, soccer fields, aquatic facilities and/or natural areas.
- **Trails (Non-motorized) –** a network of pedestrian or bicycle-oriented paths for recreational and transportation uses. They can be within an existing park or open area or separate. Ideally, they should create a well connected city- or region-wide system. They may include features such as parking areas, paved or graveled paths, picnic areas, and/or historical/informational markers.

Table 8-3 shows the proposed park types and associated LOS standard, while Table 8-4 shows how existing facilities have been reclassified.

Table 8-3. New Park LOS Standards

Park Types	LOS Standard
Pocket Park	None
Open-Space	10% of City's Land Area
Neighborhood Park	75% of population within 0.5 mile of a neighborhood park
Community Park	90% of population within 1.5 miles of community park
Trails (Non-motorized)	75% of population within 0.5 mile of a trail

Table 8-4. Park Type Reclassification

Facility	Type	Reclassified Type	Features
Union Stump	Passive	Pocket	Historical Marker
Coal Car Park	Passive	Pocket	Historical Marker
Jones Lake Site	Passive	Open-Space	Undeveloped
Ginder Creek Site	Passive	Open Space	Undeveloped
Eagle Creek Community Park	Active	Neighborhood	Basketball Court
BMX Park	Active	Community	Dirt Bike Track
School Park	Active	Community	Basketball Court, Tennis Court, and Skate Park
Lake Sawyer Boat Launch	Active	Community	Boat Launch
Lake Sawyer Park	Undeveloped	Community	Undeveloped

Recreational Facility Standards

In addition to new park LOS standards, recreational facility standards are being proposed to ensure specific community recreational needs are met. These are citywide recreational needs that are usually met through the development of new or existing community parks. The combination of the recreational facilities standards and the park LOS standards will serve as a comprehensive guide for park and recreational development for the City. Table 8-5 shows the proposed recreational facility standards.

Table 8-5. Recreational Facility Standards

Facility Type	Minimum Units Per Population
Basketball Court	1:2,000
Soccer Field	1:2,000
Tennis Court	1:2,000
Play Area	1:2,000
Youth Baseball/Adult Softball Field	1:2,000
Adult Baseball Diamond	1:5,000
Community Center	1:10,000
Skate Park	1:10,000
Youth Football Field	1:10,000
BMX Track	1:20,000
Swimming Pool/Beach	1:20,000

8.5.4. Future Needs

An analysis of the City's current parks inventory using the new park type classifications and LOS standards indicates the City is lacking a number of neighborhood parks, trails, and dedicated open-space, and a number of recreational facilities.

LOS Conditions

Currently, almost every household is within a 1.5-mile radius of a community park, meeting the 90% standard. One park, "School Park," provides most of the recreational facilities for the community. However, "School Park" is not an official City park because the City does not own the property. Instead, the City has an agreement with the property owner, Palmer Coking Coal, to only use the property for green space and recreation.

The City has 1% of its gross area designated as open space, but this is still well below the 10% LOS standard. Two parks have been designated open space, the Ginder Creek site and the Jones Lake site, for a total of 41.65 acres. The City only has one neighborhood park, Eagle Creek Community Park, which is relatively new. Currently, the City has no recreational trails.

Table 8-6. Existing Park LOS

Type	LOS Standard	Existing LOS
Pocket	None	Two
Open space	10% of gross land area	1% of land area
Neighborhood	75% of population within 0.5 mile	11% within 0.5 mile
Community	90% of population within 1.5 miles	100% within 1.5 miles
Trail (Non-motorized)	75% within 0.5 mile	0% within 0.5 mile

Table 8-7.Existing Recreational Facility Standards

Facility Type	Minimum Units Per Population	Existing Units Per Population
Basketball Court	1:2,000	1:2,060
Soccer Field	1:2,000	0
Tennis Court	1:2,000	1:4,120
Play Area	1:2,000	0
Youth Baseball/Adult Softball Field	1:2,000	1:4,120
Adult Baseball Diamond	1:5,000	0

Facility Type	Minimum Units Per Population	Existing Units Per Population
Community Center	1:10,000	1:4,120
Skate Park	1:10,000	1:4,120
Youth Football Field	1:10,000	0
BMX Track	1:20,000	1:4,120
Swimming Pool/Beach	1:20,000	0

Existing Need

To meet the current LOS deficit, new parks and trails will have to be added in the City, in addition to more extensive development of existing park land. The location of new parks will need to account for the "geographic deficit" in certain areas of the City.

For example, the City will need several new neighborhood parks to meet the LOS standard. One of these new parks would have to be located in the northern end of the City around Lake Sawyer, where there is a large amount of housing but no existing neighborhood park. Other gaps in neighborhood park coverage include the northeast corner of the City, in the vicinity of SR 169, and the area around the City Center.

Extensive development of a trail system will be required to bring the City up to the proposed LOS standard. Any new trail locations will need to be planned so that they enable at least 75% of households to have access to a trail.

Existing open space needs include an additional 439.3 acres of dedicated open space within the City.

Recreational facilities needed include: a second youth baseball or softball field, a second tennis court, two soccer fields, and two additional play areas.

Future Need

In addition to the existing park and recreation needs, the City needs to consider the effects of future development on its park and recreational facilities needs. The potential future needs of the City are determined by applying the proposed LOS standards to the City's projected 2025 population (16,980). However, delays in development of the Lawson Hills and The Villages Master Planned Developments (MPDs) likely mean the projected population increases will be delayed by a minimum of 2 years. Thus, the number of additional facilities may be higher than the number actually needed.

Table 8-8 below lists the number of additional recreational facilities—beyond the current facilities—the City needs to meet its LOS standards at its projected 2025 population.

Table 8-8. Future Recreational Facility Needs–2025

Facility Type	Minimum Units Per Population	Additional Facilities Needed
Basketball Court	1:2,000	6
Soccer Field	1:2,000	8
Tennis Court	1:2,000	7
Play Area	1:2,000	8
Youth Baseball/Adult Softball Field	1:2,000	7
Adult Baseball Diamond	1:5,000	3
Community Center	1:10,000	0
Skate Park	1:10,000	0
Youth Football Field	1:10,000	1
BMX Track	1:20,000	0
Swimming Pool/Beach	1:20,000	1

The City should be able to meet its LOS standard for community parks and open-space by 2025. Much of the City, developed and undeveloped, is already within 1.5 miles of a community park. Also, MPDs are required to dedicate at least 50% of their total area to open space, except as modified by historic agreements such as the Black Diamond UGA Agreement (BDUGAA). As development occurs, this would result in more than 10% of the City's land area being open space.

This is not the case with neighborhood parks and trails, however. The City will need to ensure neighborhood parks and trails are developed concurrently as new residential development occurs to meet the established LOS standards.

8.5.5. Individual Projects

The following is a summary listing of individual parks projects prioritized for development and improvements for the 2009-2014 Capital Facilities Plan.

Table 8-9. Park Projects and Estimated Cost and Funding Sources

	Estimated Cost							
Park	2009	2010	2011	2012	2013	2014	6-Year Total	Funding Source
School Park	$25,000	-	-	-	-	-	$25,000	REET 1
Union Stump Memorial Park	$15,000	-	-	-	$20,000	-	$35,000	REET 1
Lake Sawyer Boat Launch	$40,000	$55,000	$788,000	-	-	-	$962,000	General Fund, REET 1, Grants
Lake Sawyer Regional Park	-	-	$500,000	$2,500,000	$1,647,000	-	$4,647,000	KC Regional Park Fund, Grants, Impact Fees
Trail System	$20,000	$20,000	$100,000	$100,000	$100,000	-	$340,000	KC Regional Park Fund, REET 1, Grants
BMX Park	$20,000	$20,000	-	$210,000	-	-	$250,000	REET 1, Grants
Eagle Creek Community Park	$25,000	-	-	-	-	-	$25,000	REET 1
Total	$145,000	$95,000	$1,388,000	$2,810,000	$1,764,000	$0	$6,284,000	

8.6. Schools

8.6.1. Schools Concept, Objective, and Policies

Schools Concept

The City supports the location of elementary schools, and a junior high/high school. Schools within the community contribute significantly to community identity and offer the possibility of joint use of facilities. It is also important to residents of the City that their children attend schools within or near the City. Local schools will also encourage more local participation in school activities.

Specific future actions should include:

- Coordinating City and school district facility planning.
- Developing a joint-use agreement for all school facilities within the City.

Schools Objectives and Policies

Objective CF-8: Coordinate with the school districts serving the City to encourage the provision of safe, secure, and permanent education space for all students.

Policy CF-11: Work with the school districts serving the City to identify new school sites within City limits and encourage school districts to acquire those sites at the earliest possible time.

Policy CF-12: Support the City's representation on the Enumclaw School Board, by a resident from within the City.

Policy CF-13: Encourage City residents to participate in school activities.

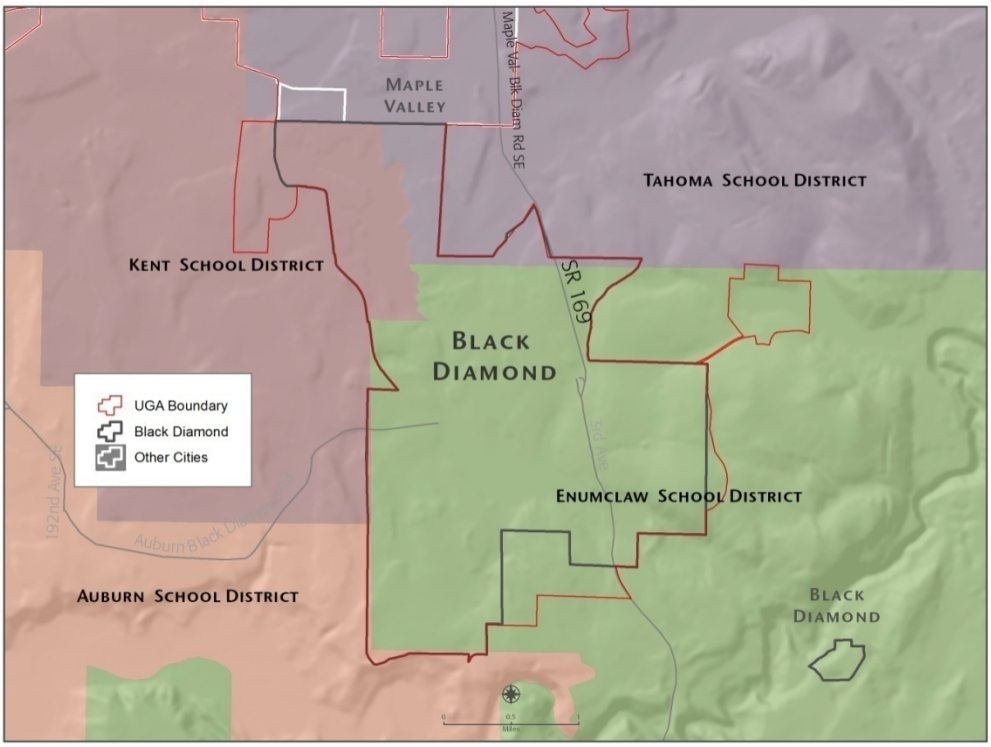
Policy CF-14: Maintain a joint-use agreement for all facilities and land.

Policy CF-15: Develop and implement an impact fee ordinance for the future development of schools within the City.

Policy CF-16: School district comments shall be solicited prior to approval of residential development projects.

8.6.2. School District Overview

Figure 8-1. School Districts Serving Black Diamond



Enumclaw School District

The original Black Diamond School District was merged with the Enumclaw School District in 1975, to provide education and programs equivalent to the Enumclaw Schools. Most of the City now lies within the Enumclaw School District No. 216, except for a portion of the area surrounding Lake Sawyer. The majority of new residential development within the City is anticipated to occur within the Enumclaw District. The lake and areas to the west are served by the Kent School District, and the area immediately to the east of Lake Sawyer is part of the Tahoma School District. A very small area along the Green Valley Road is within the Auburn School District.

The Enumclaw School District encompasses a 440 square mile area, the northwestern portion of which contains the City. The district service area is centered in the City of Enumclaw where the district offices, high school, junior high, and several elementary schools are located. The district has five elementary schools, one of which is located in the City. Enrollment within the district has recently declined by about 100 students per year. Based on population projections, growth is anticipated beginning in the next 2 years within both the cities of Enumclaw and Black Diamond.

Black Diamond Elementary School had a January 2009 enrollment of 284 students. According to the district's program capacity, the maximum population for the school without portables is 226 students. With the seven portables it is using, the school is operating over its capacity. A multi-purpose addition was constructed in 1990. No other room for expansion exists, although some space conversion (to classroom space) could occur.

Students from the City currently attend Thunder Mountain Middle School and Enumclaw High School.

Kent School District

In 1998, the City annexed Lake Sawyer and the surrounding neighborhoods. Areas on the western side of the lake were already served by the Kent School District, and children from these households continue to attend Kent schools. The Kent School District is the fourth largest in the State of Washington, with an enrollment of nearly 27,000, and operates 40 schools, including four high schools, seven middle schools, 28 elementary schools, and one academy. Students living in the portion of the City served by the Kent School District attend Sawyer Woods Elementary located just west of the City limits, Cedar Heights Middle School in Covington, and Kentlake High School located west of Lake Sawyer.

Tahoma School District

A small portion of the City immediately to the east of Lake Sawyer is served by the Tahoma School District. The Tahoma School District operates 10 schools with a combined enrollment of approximately 7,000. Tahoma School District students from the City attend Glacier Park Elementary, Tahoma Middle School, and Tahoma Senior High School.

8.6.3. Future Needs

The areas with greatest potential for growth in the City are mostly within Enumclaw School District. Kent and Tahoma School Districts have little potential for growth from within the City.

Enumclaw School District

The district is looking for school sites in the City, including the area near Black Diamond Lake, but no specific action has been taken to date.

Because the school system is run by the district, the City does not establish LOS standards for school facilities. LOS standards have been established by the

Enumclaw School District in its 2008 Capital Facilities Plan, which is adopted by reference herein. The following standards of service are used by the district:

- Class size for grades K-4 should not exceed 23 students.
- Class size for grade 5 should not exceed 26 students.
- Class size for grades 6-8 should not exceed 28 students.
- Class size for grades 9-12 should not exceed 28 students.

The district anticipates using the following student generation rates for single and multiple family dwelling units cited in their 2008-2013 Capital Facilities Plan.

Table 8-10. Student Generation Rates

Students per unit	Single Family	Multifamily
Elementary	.401	.137
Middle School	.135	.045
High School	.166	.056
Total	.702	.238

Source: Enumclaw School District (5/08)

To accommodate the current student population and future needs, it is anticipated that the district will need four new elementary schools, two middle schools, and one high school in the City over the long term. The existing Black Diamond Elementary School is slated for reconstruction to add capacity, and is scheduled to open in 2011.

The school attendance area for the elementary and secondary schools would likely extend beyond the City limits to serve students within the district. It should be noted that these projections include the areas surrounding Lake Sawyer currently served by the Tahoma and Kent School Districts. Depending on variable growth between individual portions of the planning area, the Enumclaw School District will only be required to absorb a portion of the growth occurring within the City.

8.7. Fire and Emergency Medical Services

8.7.1. Fire and Emergency Medical Service Concept, Objective, and Policies

Fire and Emergency Medical Services Concept

The Capital Facilities Element requires adequate fire flow through the water system and adopted standards for fire flow. T he water systems within new development should be served off a looped line, if required to achieve fire flow. These new systems should also be designed and constructed to meet fire flow standards.

Fire and Emergency Medical Services Objectives and Policies

Policy CF-17: The City shall contract with the district to maintain a ratio of 1.4 on-duty career firefighters per 1,000 population to protect the suburban and urban areas of the City until such time as 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 firefighter per 1,000 population. The district will continue to foster and support the volunteer system utilizing volunteers to augment the LOS provided by the career staff.

The staffing level of 1.4 on-duty career firefighters per 1,000 population is consistent with national averages, but is greater than the 2007 staffing level of 0.5 on-duty firefighters per 1,000 population inside the City.

Policy CF-18: The City shall take reasonable action to ensure development is within 1.5 miles travel distance of a fire station upon built roads.

Policy CF-19: It is determined that 8,000 square feet is an adequate size for satellite fire stations.

Policy CF-20: Implement impact fees for Fire and Emergency Medical capital facilities and equipment. Impact fees will be waived for sprinklered buildings less than 32 feet in finished height and properly sprinklered residences.

Policy CF-21: Replace Station 99 and Engine 99.

Policy CF-22: The City shall negotiate with King County Fire Protection District 44 to develop a staffing and equipment plan providing the best possible

fire, rescue, and emergency medical services for citizens as the City grows.

Policy CF-23: The City shall pursue a Concurrency Management Plan for fire and BLS services.

8.7.2. Inventory

Mountain View Fire and Rescue, King County Fire Protection District 44, provides fire protection, fire prevention, rescue, emergency medical services, and other services that protect life or property via a contract with the City pursuant to a 2006 inter-local agreement (ILA).

Mountain View Fire and Rescue is a combination department, consisting of both career and volunteer personnel, and has 26 career firefighters and approximately 100 volunteers, 32 of which are assigned to the City. It services a combined area of approximately 70 square miles encompassing an estimated population of 27,000. Of the total population served, 4,200 live in the City.

The district operates out of eight stations, two of which are located in the City: Station 98 located on SE 296th Street, near Lake Sawyer, and Station 99 located in the City Center. The ILA requires that Station 98 have one career lieutenant and one career firefighter/emergency medical technician (EMT) on duty during the day. Staffing at night is provided by two volunteer firefighter/EMTs. Station 99 is staffed solely by volunteers.

District equipment includes 12 structure fire apparatus, including three water tenders (2,000 gallons each), three brush trucks, one medium rescue vehicle, one light rescue vehicle, five aid vehicles, a special operations support vehicle, a 14-person transport van, a five-ton flatbed truck, various four-wheel drive command vehicles, and a training/safety officer vehicle. Of this equipment, the City owns three of the fire engines, one brush truck, one aid car, and two staff vehicles counted.

Advanced Life Support (ALS) services are provided by King County Medic One. ALS services are funded separately through a countywide property tax assessment of $0.30 per $1,000 valuation.

8.7.3. Level of Service

The City has an LOS standard of 1.4 on-duty career firefighters per 1,000 population. Pursuant to the April 2006 ILA between the City and District 44, one career lieutenant and one career firefighter/EMT are on duty at the Lake Sawyer station between 0600 hours and 1800 hours each day. Staffing at night is provided by two

volunteer firefighters/EMTs. Station 99 is staffed only by volunteers responding from home. The staff the City is supported by a cadre of volunteers assigned to Station 98 and Station 99, as well as career staff assigned to nearby stations. Nighttime coverage, between 1800 hours and 0600 hours, is augmented by volunteer staff at Station 92, Station 93 on SE Covington Sawyer Road, Station 97 on Green Valley Road, and Station 94 near Krain Corner.

The National Fire Protection Association (NFPA) establishes six trained firefighters arriving to a scene within 14 minutes of an alarm 80% of the time for volunteer fire departments in rural areas (defined as areas with a population density less than 500 people per square mile; District 44 has roughly 350 people per square mile) as a sufficient number of members to operate safely and effectively.

2007 response data indicates Station 98 had a response time of 6.98 minutes or less 80% of the time, and Station 99 has a response time of 8.28 minutes or less 80% of the time. Both stations' response times are well below the NFPA's standard. Note, both fire and EMS responses were considered together because of the limited database.

8.7.4. Future Needs

As the City and district increase in population, the district may need to increase the number of volunteer and career firefighters available per shift.

The City should create a work plan to address its long-term fire and emergency services needs as a result of anticipated development and growth.

8.8. Utilities

This Utilities Element has been developed in accordance with Section 36.70A.070 of the GMA. It describes how the existing and planned utility capacity will be financed, and supports the City's Land Use Element.

Suggested items to be included in the Utilities Element and recommendation for preparing the element are delineated in WAC 365-195-320. These are as follows:

- Integration of the general location and capacity of existing and proposed utility lines with the Land Use Element of the City of Black Diamond Comprehensive Plan. For the purposes of this step, proposed utilities are understood to be those awaiting approval when the comprehensive plan is adopted.

- An analysis of the capacity needs for various utilities over the planning period to serve the growth anticipated at the location and densities proposed within the jurisdiction's planning area.
- A schematic identification of the general location of utility lines and facilities required to furnish anticipated capacity needs for the planning period within the jurisdiction's planning area. This should be a part of the process of identifying lands useful for public purposes to be carried out by planning jurisdictions.
- Evaluation of whether any utilities should be identified and classified as essential public facilities, subject to the separate siting process established under the comprehensive plan for such facilities, and if so, provision for applying that process as appropriate.
- Creation of local criteria for siting utilities over the planning period, involving:

  a. Consideration of whether any siting proposal is consistent with the locations and densities for growth contemplated in the Land Use Element.

  b. Consideration of any public service obligations of the utility involved.

  c. Evaluation of whether the siting decision will adversely affect the ability of the utility to provide service throughout its system.

  d. Balancing of local design considerations against articulated needs for system-wide uniformity.

- Policies should be adopted which call for:

  e. Joint use of transportation rights-of-way and utility corridors, where possible.

  f. Timely and effective notification of interested utilities of road construction, and of maintenance and upgrades of existing roads to facilitate coordination of public and private utility trenching activities.

  g. Consideration of utility permits simultaneously with the proposals requesting service and, when possible, approval of utility permits when the project to be served is approved.

It is the intent of this section to fulfill the RCW requirements relating to the Capital Facilities Element and Utilities Element of the comprehensive plan.

The Utilities Element has also been developed in accordance with the Countywide Planning Policies (CPPs) and has been integrated with all other planning elements to ensure consistency through the comprehensive plan. The Utilities Element

specifically considers the location and LOS of all existing and proposed utilities, including electrical, telecommunication, natural gas, and non-city water transmission line; public schools; and fire protection. This element also provides a process and policies for the siting of "Essential Public Facilities" as defined by the GMA.

8.8.1. Inventory and Analysis

The inventory presented in this element provides information useful to the planning process. The inventory summarizes general information pertaining to the existing utility service system in the City. Many public and private agencies are involved in regulation, coordination, production, delivery, and supply of utility services. This section of the element identifies those providers as well as the legislation regulating the utility. The inventory includes:

City-Provided Utilities

- Water (except around Lake Sawyer)
- Sanitary Sewer (except around Lake Sawyer)
- Stormwater

Utilities Provided by Other Entities

- Electricity (Puget Sound Energy)
- Telecommunications (Qwest and Comcast)
- Natural Gas (Puget Sound Energy)
- Tacoma Water Transmission Pipeline #5 provides wholesale water supply
- Covington Water District provides water service around Lake Sawyer
- Soos Creek Water and Sewer District provides sewer service to a small area in the northwest corner of the City and has a sewer service around Lake Sawyer.

Federal and State Utility Laws and Regulations

RCW and Washington Utilities and Transportation Commission – Utilities and transportation are regulated in Washington by the Washington Utilities and Transportation Commission (WUTC). The WUTC, composed of three members appointed by the governor, is empowered to regulate utilities (including but not limited to, electrical, gas, irrigation, telecommunication, and water companies). State law (WAC 480-120) regulates the rates and charges, services, facilities, and practices of utilities. Any change in customer charges or service provision requires WUTC approval.

Federal Energy Regulatory Commission – The Federal Energy Regulatory Commission (FERC) is an independent agency led by a five-member commission. FERC establishes rates and charges for the interstate transportation and sale of natural gas, for the transmission and sale of electricity, and the licensing of hydro-electric power projects. In addition, the Commission establishes rates or charges for the interstate transportation of oil by pipeline.

Northwest Power Planning Council – The Northwest Power Planning Council (NWPPC) focuses on the generation of electricity. The NWPPC has directed the region to develop cogeneration as an energy resource and hydro-firming as a power back-up system. Cogeneration is the use of heat, as a by-product of power generation, for industrial processes or for space and water heating. Natural gas is often used as a fuel source for cogeneration. Hydro-firming is the back-up of the region's intermittent excess spring hydro generation with gas-fired combustion turbines to provide backup if hydroelectric power is insufficient.

The State Department of Health - The State Department of Health regulates the operations of all public water utilities in the state.

Washington State Department of Ecology (Ecology) –Ecology regulates the operations of all public sewer systems in the state.

1991 Clean Air Amendments – The passage of the Washington State Clean Air Act in 1991 indicates a state intent to promote the diversification of fuel sources for motor vehicles. This is in response to a need to both reduce atmospheric emissions and to reduce the nation's reliance on gasoline for strategic reasons. This act promotes the use of alternative fuels by requiring 30% of newly purchased state government vehicle fleets to be fueled by alternative fuel by July 1992, increasing 5% each year. It also studies the potential and encourages the development of natural gas vehicle refueling stations.

8.9. Water System

8.9.1. Water System Description and Concept

The Black Diamond Water System is operated and maintained by the City of Black Diamond's Public Works Department. The Lake Sawyer area, which was annexed in 1998, is currently served by the Covington Water District and is not included in the existing Black Diamond Water Service Area.

The City's water system is expected to serve a population of 16,980 by 2025. The City has adequate supply and wholesale water contracts with the City of Tacoma to provide for the future growth as planned in this document.

In response to several large-scale development proposals, Ordinance 700, which placed a moratorium on the development of new lots within the City, was passed by the City to provide time to evaluate and update its development regulations. Thus, there has been a very limited increase in the number of water connections in recent history.

Adjacent Purveyors

Water systems adjacent to the City of Black Diamond Water System include the Covington Water District.

The Covington Water District is the purveyor for the area around Lake Sawyer within the City limits. The Covington Water District has a service area of approximately 53 square miles and provides water to the cities of Covington, Maple Valley, and Black Diamond, as well as unincorporated areas of King County. The district is a member of the Cascade Water Alliance and its primary water supply comes from nine production wells located at two well-field sites. The district has 18 million gallons (MG) of storage in ground-level steel tanks at five sites, and 210 miles of pipeline.

System Overview

The City's primary water source is the Black Diamond Spring Field, located approximately 2 miles southeast of the City. Water from the Black Diamond Spring Field is pumped across the Green River to the 4.3 MG reservoir by an electric pump station located on the north side of the river. An additional source of water for the City is a recent intertie with the City of Tacoma Second Supply Pipeline (SSPL).

The City has two reservoirs and its distribution system currently operates with three pressure zones: an upper pressure zone at a pressure head of approximately 965 feet, a middle pressure zone at a pressure head of approximately 850 feet, and a lower pressure zone at a pressure head of approximately 750 feet. The system operates with high pressures, so there are individual pressure-reducing valves (PRVs) on all service connections throughout the City.

Source of Supply

Black Diamond Spring Field

The City's primary source of water is from a series of natural springs. The springs are located approximately 2 miles southeast of the City on a large City-owned parcel.

There are four major collection areas associated with the Black Diamond Spring Field. Water from two of the four collection areas is currently used for the City's

drinking water system. One of the collection areas has been placed out of service at this time, and the fourth collection area is considered a future of supply for the City.

A hydrogeology report prepared for the City in 1989 estimated that the average total combined discharge from Collection Areas #1, #2, and #3 was approximately 20 cubic feet per second (cfs) (12.9 MGD). The capacity range was estimated from 5 to 40 cfs (3.2 MGD to 25.9 MGD). The discharge flow from collection Area #4 was estimated to be approximately 10 cfs (6.45 MGD) with a range of 4 to 25 cfs (2.6 MGD-16.2 MGD).

Water Rights

The City has two water rights certificates currently on file with Ecology. The source of water for both certificates is the Black Diamond Spring Field. Certificate of Water Right No. 3580 authorizes diversion of 2.93 cfs continuously for production of power to operate a hydro-pump. Certificate of Water Right No. S1-00506C authorizes maximum instantaneous diversion of 8.0 cfs with an annual limit of 551 acre-feet.

City of Tacoma Intertie

Water system interties are physical connections between two adjacent water systems. Interties are normally separated by a closed isolation valve or control valve. Emergency supply interties provide water from one system to another during emergency situations only. An emergency situation may occur when a water system loses its main source of supply or a major transmission main and is unable to provide a sufficient quantity of water to its customers. Normal supply interties provide water from one system to another during non-emergency situations and are typically supplying water at all times.

The City negotiated a Wholesale Water Agreement with the City of Tacoma in 2003 wherein the two agencies agreed that the City of Tacoma would supply wholesale water to the City. Under the terms of the agreement, the City is responsible for significant System Development Charges (SDCs) associated with the connection to the City of Tacoma to be repaid over a 10-year period.

The intertie connection to the City of Tacoma's SSPL project was constructed in 2005. Amendment No. 1 to the agreement was approved in 2007 and included the purchase of an additional 500,000 gallons per day of water.

Storage

0.5 MG Reservoir

The 0.5 MG Reservoir is located on a City parcel that is approximately 1,200 feet easterly up a gravel road from the intersection of HL Botts Drive SE and

SE Mountain View Drive. This reservoir was constructed in 1986 and has a capacity of 500,000 gallons. The 0.5 MG Reservoir is at an approximate elevation of 930 feet, with an overflow elevation of approximately 965 feet.

4.3 MG Reservoir

The 4.3 MG Reservoir is located just west of the intersection of Lawson Road and SE Botts Drive on a City parcel. This reservoir was constructed in 2006 and has a capacity of 4.3 MG. The Lower Reservoir is at an approximate elevation of 770 feet, with an overflow elevation of approximately 850 feet.

Treatment Facilities

The City's water system is currently disinfected via a hypochloride chlorination system at the North Bank Pump Station. Corrosion treatment is provided at the pump station located at the 4.3 MG reservoir site.

Table 8-11. Pipe Inventory (2007)

Pipe Size Diameter	Material	Approximate Length (Linear Feet)
2 inches or less	Galvanized Iron PVC	3,800 6,250
3 inches	PVC	200
4 inches	Ductile Iron Asbestos Cement	400 3,600
6 inches	Ductile Iron Asbestos Cement PVC	550 11,400 3,800
8 inches	Ductile Iron Asbestos Cement PVC	42,000 15,000 2,500
10 inches	Asbestos Cement	500
12 inches	Ductile Iron	13,300
16 inches	Ductile Iron	1,000
20 inches	Ductile Iron	3,700
Total Length	–	108,000

Source: 2007 Black Diamond Water System Comprehensive Plan

8.9.2. Future Needs

A complete hydraulic analysis of the system has been completed as part of updating the Water System Comprehensive Plan. The City currently has the storage capacity and water supply capacity to provide for approximately another 10,500 residential

connections. Projects recommended for the 6-year funding program are shown in Table 8-12. 6-Year Water System Needs

8.10. Sanitary Sewer System

8.10.1. Sanitary Sewer System Concept, Objectives, and Policies

Sanitary Sewer System Concept

The City provides sewer collection services to all portions of the City that are currently developed except around Lake Sawyer, which is within the Soos Creek Water and Sewer District. Only a small portion in the northwest portion of the Soos Creek Sewer district within the City is currently served. The City sewer system delivers all of the City sewage to the City-owned and King County Waste Water Department-maintained sewage pump station near Jones Lake. King County Wastewater Division operates the Jones Lake Pump Station and transmits all of the flow via regional City owned and King County Wastewater maintained transmission facilities to the Soos Creek system. By interlocal agreements with Soos Creek, the City's sewage is wheeled through the Soos Creek system back to King County regional facilities further west. Ultimately the City's sewage is delivered to the Renton Treatment Plant.

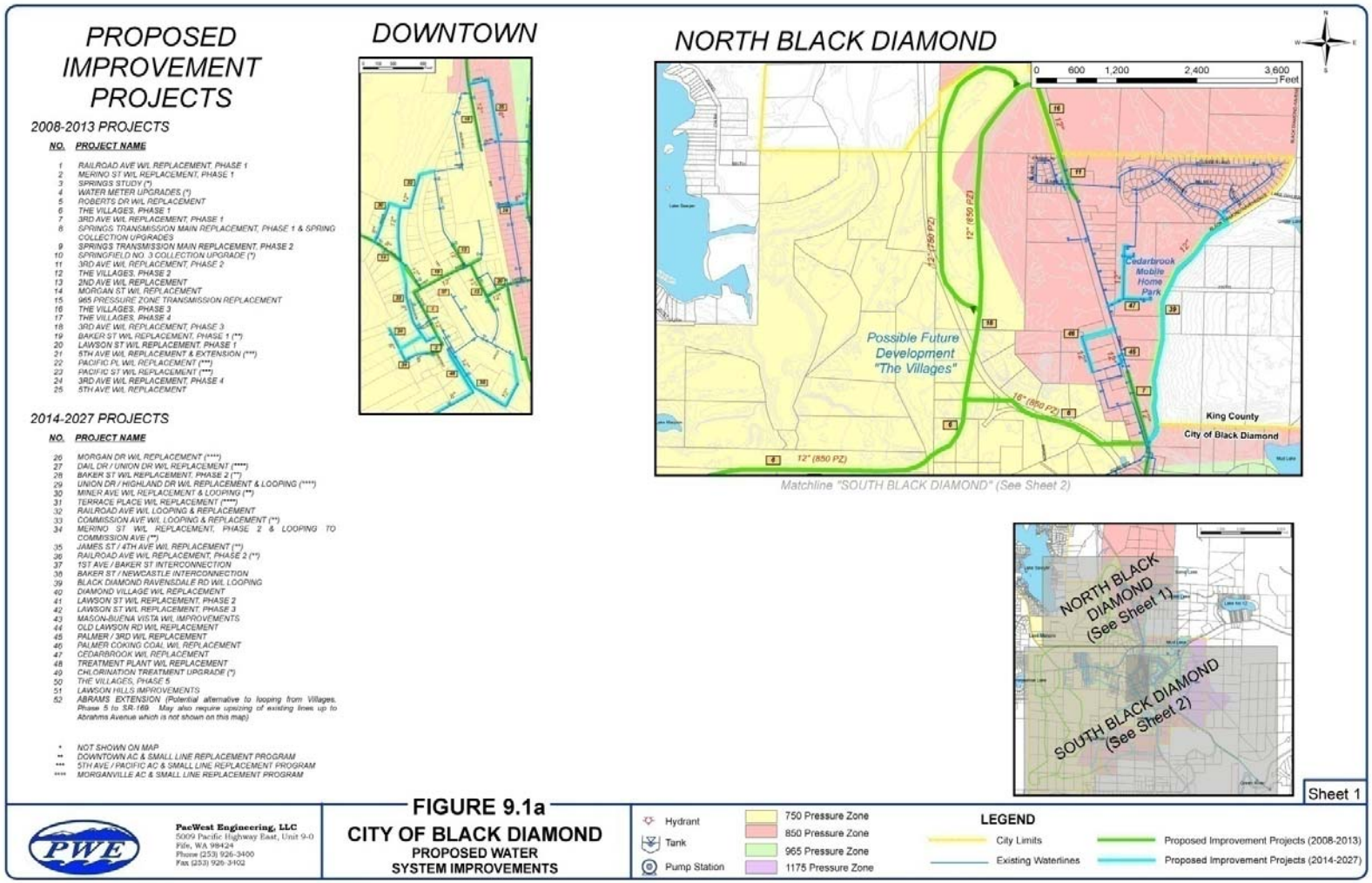
The sanitary sewer service collection capacity within the City is adequate to service the existing City and allow for some growth. As the City grows, several new pump stations and sewer trunk lines will be needed to provide sewer service to undeveloped portions of the City as identified in Figure 8-2. King County is in the preliminary engineering phase of a peak flow storage project to reduce the peak flows from the City and extend the capacity of the regional transmission facility to the Soos Creek System. The peak-flow storage project is expected to be completed in 2012. King County is bound by contract and has adopted policies to meet the sewer transmission and treatment demands of the City. The City intends to coordinate with King County for interim and long-term transmission and sewage treatment needs. The City has a contract with Soos Creek Water and Sewer District to transmit City flows to the King County Sewer system. This contract limits the City to 3,600 equivalent residential unit connections until further capacity improvements are funded and agreed to. The City is expecting to turn the wheeling responsibility over to King County in the near future and the capacity improvements through the Soos Creek System will become an obligation of the King County Wastewater Division and Soos Creek.

Table 8-12. 6-Year Water System Needs

		Estimated Cost							
Project Number	Project Name	2009	2010	2011	2012	2013	2014	6-Year Total	Funding Source
1	Railroad Ave. W/L Replacement, Phase 1	$186,000	-	-	-	-	-	$186,000	Rates
2	Merino St. W/L Replacement, Phase 1	$30,000	-	-	-	-	-	$30,000	Rates
3	Springs Study	$50,000	-	-	-	-	-	$50,000	Rates
4	Water Meter Upgrades	$70,000	$70,000	$60,000	-	-	-	$200,000	Rates
5	Roberts Dr. W/L Replacement	$440,000	-	-	-	-	-	$440,000	Development
6	The Villages, Phase 1	$3,780,000	-	-	-	-	-	$3,780,000	Development
7	3rd Ave. W/L Replacement, Phase 1	-	$250,000	-	-	-	-	$250,000	Connection Charges
8	Springs Transmission Main Replacement, Phase 1 & Collection Upgrades	-	$1,000,000	-	-	-	-	$1,000,000	Development
9	Springs Transmission Main Replacement, Phase 2	-	$1,274,000	-	-	-	-	$1,274,000	Development
10	Springfield No. 3 Collection Upgrade	-	-	$100,000	-	-	-	$100,000	Rates
11	3rd Ave. W/L Replacement, Phase 2	-	-	$200,000	-	-	-	$200,000	Connection Charges
12	The Villages, Phase 2	-	-	$5,790,000	-	-	-	$5,790,000	Development
13	2nd Ave W/L Replacement	-	-	-	$190,000	-	-	$190,000	Rates
14	Morgan St. W/L Replacement	-	-	-	$416,000	-	-	$416,000	Rates
15	965 Pressure Zone Transmission Replacement	-	-	-	$300,000	-	-	$300,000	Connection Charges

		Estimated Cost							
Project Number	Project Name	2009	2010	2011	2012	2013	2014	6-Year Total	Funding Source
16	The Villages, Phase 3	-	-	-	$1,820,000	-	-	$1,820,000	Development
17	The Villages, Phase 4	-	-	-	$689,000	-	-	$689,000	Development
18	3rd Ave. W/L Replacement, Phase 3	-	-	-	$398,000	-	-	$398,000	Development
19	Baker St. W/L Replacement, Phase 1	-	-	-	-	$100,000	-	$100,000	Rates
20	Lawson St. W/L Replacement, Phase 1	-	-	-	-	$150,000	-	$150,000	Rates
21	5th Ave. W/L Replacement & Extension	-	-	-	-	$208,000	-	$208,000	Rates
22	Pacific Pl. W/L Replacement	-	-	-	-	$72,000	-	$72,000	Rates
23	Pacific St. W/L Replacement & Extension	-	-	-	-	$228,000	-	$228,000	Rates
24	3rd Ave. W/L Replacement, Phase 4	-	-	-	-	$440,000	-	$440,000	Connection Charges
25	5th Ave. W/L Replacement	-	-	-	-	$440,000	-	$440,000	Connection Charges
	Total	$4,556,000	$2,594,000	$6,150,000	$,3,813,000	$1,638,000	$0	$18,751,000	

The maps below show the locations of the major extensions to the water distribution system and how the water will be distributed to service new development within the City.



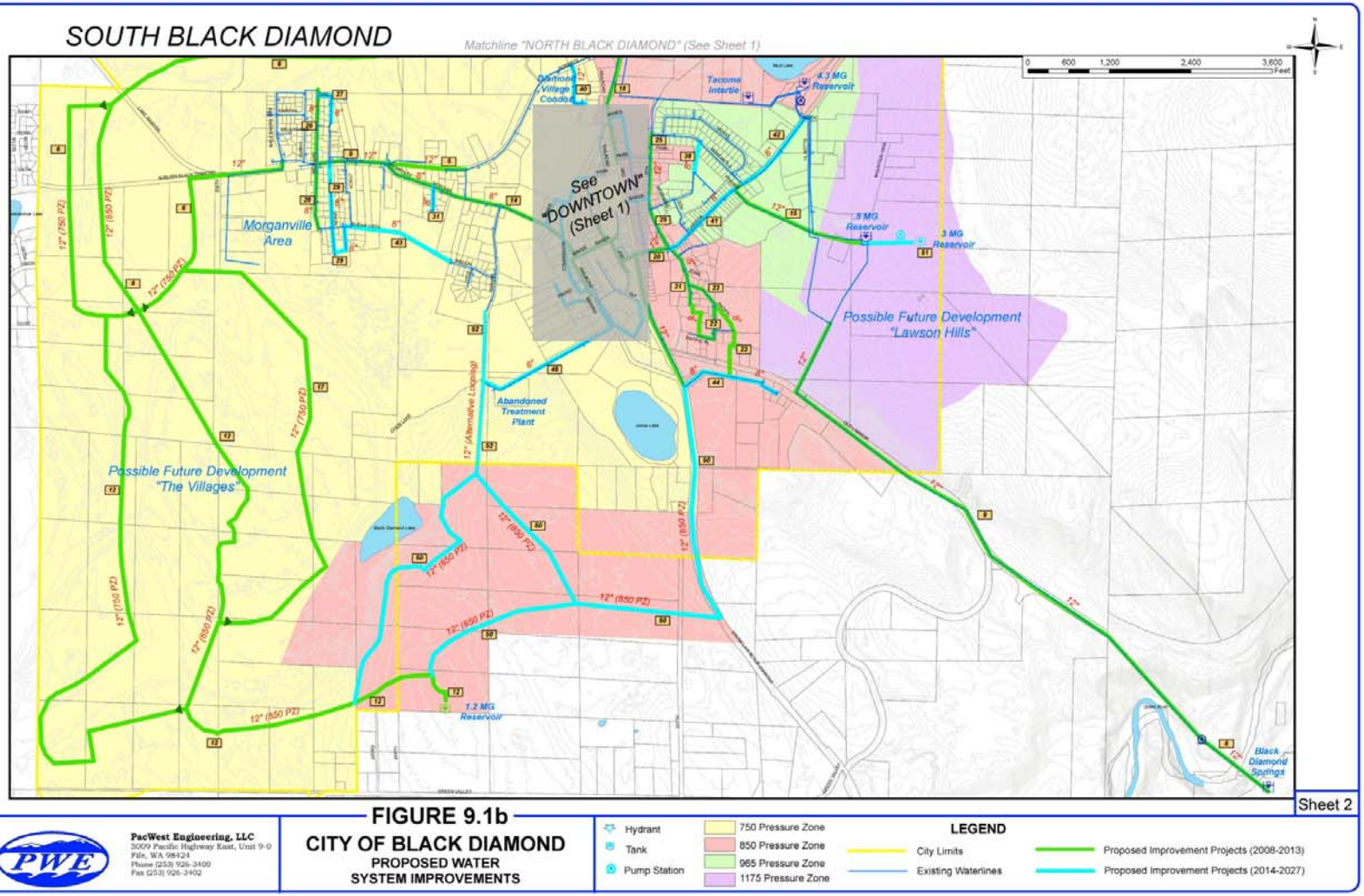


FIGURE 9.1b

CITY OF BLACK DIAMOND

PROPOSED WATER SYSTEM IMPROVEMENTS

PacWest Engineering, LLC
3009 Pacific Highway East, Unit 9-0
Fife, WA 98424
Phone (253) 926-3400
Fax (253) 926-3402

LEGEND

- Hydrant
- Tank
- Pump Station
- 750 Pressure Zone
- 850 Pressure Zone
- 965 Pressure Zone
- 1175 Pressure Zone
- City Limits
- Existing Waterlines
- Proposed Improvement Projects (2008-2013)
- Proposed Improvement Projects (2014-2027)

Sanitary Sewer System Objectives and Policies

Objective CF-9: Provide and maintain a sanitary sewer collection system that protects public health and water quality.

Objective CF-10: Require public sewer connections for all new subdivisions and commercial /industrial developments. Require public sewer connections for all new residential construction and redevelopment on existing lots of record where sewer is available within 300 feet. New residential construction and redevelopment on existing lots of record will be allowed where sewer is not within 300 feet, provided that 1) all King County Wastewater Disposal Regulations are met; 2) the property owner signs and records a no protest covenant forming a local improvement district for sewer and 3) makes some future provision for sewer frontage costs and connection fee costs.

Policy CF-24: Provide sanitary sewer to only those areas inside the City limits and designated sewer service areas.

Policy CF -25: Utilize the identified sanitary sewer service capacity of the City owned and King County maintained downstream trunk main when allocating availability of sewer service. This shall serve as the sewer capacity until more capacity is obtained by the City through improvements planned for completion by 2012 by King County. King County is planning for peak day storage within the City in order to extend and maximize the use of the transmission facilities from the City to the west.

Policy CF-26 Coordinate with King County for improvement in the downstream regional conveyance of sewage to insure that needed capacity improvements are in place as needed for growth in the City.

Policy CF-27: Prior to approving development, ensure that the sanitary sewer system necessary to support development meets City requirements and is adequate to serve the development at the time the development is available for occupancy and use.

Policy CF-28: Track the total sewer hook-ups to the sanitary sewer system, as a means to monitor available sanitary sewer capacity. Initiate a certificate of sanitary sewer availability requirement for proposed development.

Policy CF-29: Upgrade any deficiencies in the sewer system within 6 years as they come up.

Policy CF-30: Design new sewer facilities to allow for efficient and economical provision of sanitary sewers and require new development to provide those new facilities following the general concepts in this chapter.

Policy CF-31: Encourage parcels on septic systems to connect to the municipal sanitary sewer when it becomes available to the property. Septic systems that fail will be required to connect to the sanitary sewer system if they are within 300 feet.

Policy CF-32: Plan for regional pump stations and minimize the use of neighborhood scale pump stations. Neighborhood scale pump stations will only be allowed on a case-by-case basis and must be funded totally by the developer.

Policy CF-33: Maintain an updated Sanitary Sewer Comprehensive Plan.

Policy CF-34: Ensure coordination between the City and all other utilities providing sanitary sewer service within the Black Diamond planning area.

Policy CF-35: Create a Reserve Fund to pay for replacement of existing facilities and equipment.

Policy CF-36: Update the capital facility charge calculations regularly, and consider a capital facility charge based on sewer flow and waste water strength, compared to single-family residential flow characteristics.

Policy CF-37: New development will be required to pay its fair share of expansion of the sewer system through capital facility charges, built, and dedicated facilities.

Policy CF-39: The City will consider late comer fees and Local Improvement Districts as a way encouraging investment in public infrastructure.

8.10.2. Inventory

Collection System

The City's existing sanitary sewer system consists of approximately 16 miles of gravity and pressurized piping systems. Table 8-13 itemizes the piping systems and pump station capacities in the existing sanitary system.

Table 8-13. Black Diamond Sanitary Sewer System Inventory as of 2000

Facility	Size	
Gravity Main Piping: Size & Type	Total Length (Approximate lineal footage)	
6" PVC & Conc.	1,350 LF	
8" PVC	61,750 LF	
10" PVC	4,750 LF	
15" PVC	1,650 LF	
18" RCP	2,700 LF	
Total	72,200 LF	
Force Main Piping: Size & Type	Total Length (Approximate lineal footage)	
2 & 2-1/2"*	400 LF	
4"*	350 LF	
6"*	3,200 LF	
10"*	8,750 LF	
Total	12,700 LF	
Sanitary Sewer Lift Stations (Name)	Pump Size	Existing Capacity
City of Black Diamond	50 HP-2 Each	1,060 gpm
Morganville	20 HP-2 Each	313 gpm
Ridge	1.5 HP-2 Each	105 gpm
Diamond Glen	1.5 HP-2 Each	94 gpm

*All Pipe is PVC or HDPE

Source: 1996 Comprehensive Plan updated with 2000 Sewer Plan information

Treatment System

The City currently has no sanitary sewer treatment system in operation. All sanitary flows tributary to the City's system are conveyed to King County's South Treatment Plant in Renton. As an alternative to transporting all future sewage flows to Renton, King County is currently exploring local water reclamation plants in the south county area to accommodate future sewage treatment needs, provide for local water uses, and provide water for the environment.

Collection System

The minimum LOS for the City's sanitary sewer system (both existing and future) shall be provided in compliance with those minimum standards and guidelines identified in the *Criteria for Sewage Works Design*, as published by Ecology (1998) and the Development Guidelines and Public Works Standards adopted by the City (1995) by City ordinance No. 533.

Generally, conventional gravity type service will be required. Individual private pressure sewer systems and/or septic systems will only be considered on a case-by-case basis, and permitted or approved due to the City's evaluation of extenuating circumstances.

New stations will be sized to serve the "regional" area to eliminate the need for redundant stations. At a minimum, the design of these new facilities shall comply with the minimum design criteria for pumping stations as outlined in the aforementioned Ecology design standards and City standards. The City will also require that emergency auxiliary power be provided at any future lift station(s).

8.10.3. Future Needs

The capital improvement projects recommended in this plan are based on existing system deficiencies, a 6-year population projection, and the anticipated maximum build-out development within the UGA boundary.

All calculated future sewage flow rates were developed by applying per capita flow rates and peaking factors to the estimated population figures developed for various periods of the planning period, as have been presented within the Land Use Element section of this report.

Collection System

Using King County standards and Ecology sewage design criteria, the expected flow rate (not including infiltration or inflow) for residential land uses is 60 gallons per capita per day. The expected flow rate is 35 gallons per employee per day for retail/commercial uses, and 75 gallons per employee per day for industrial uses. Ecology's standards call for a peaking factor of 3.0 for trunk lines and sewer interceptors, and a peaking factor of 4.0 for sewer mains and laterals. These are typical numbers, and more specific peaking factors from Ecology's design criteria should be used for actual system design.

For system analysis, the UGA was divided into several subsections or tributary basins, based on both topography and the location of existing sewer interceptor lines. Maximum discharge quantities (sewage flows) were then calculated for each sanitary basin based on zoning, area, and projected growth rates. Cumulative totals for population, average and peak flows, and the necessary gravity pipe size needed to accommodate each basin were calculated for each of the sub-basins. Gravity pipelines were sized by assuming minimum pipe slopes as recommended by Ecology, and minimum pipe scouring velocities of two feet/second would be required when flowing full.

The evaluation of the City's collection and conveyance system identified several capital improvement projects which are required to serve both existing and future customers. These projects are briefly discussed below.

Infiltration and Inflow Study of System and Infiltration and Inflow Project

The City will aggressively and efficiently seek to reduce infiltration and inflow by studying the existing system to locate inflow and leaks into the system, adopt policies that prohibit misuse of the sewer system and provide for private upgrade to side sewers, and schedule targeted sewer collection system repairs and upgrades.

This project will be funded by capital facilities charges and customer rates. As infiltration and inflow are reduced, capital and operational costs are reduced. Lower I & I also improves the possibilities for a water reclamation plant in the City. If this project is effective, additional downstream transmission capacity will also be provided.

Manhole Rehabilitation

Conducting repairs to manholes to prevent leaking of groundwater into the wastewater system. Repairs will provide additional system capacity.

Treatment System

Preserve and Protect the Old Treatment Plant for Future Use

The City currently is using the old sewage treatment plant to treat the remaining bio-solids. A period of anaerobic treatment is complete, and the lagoon needs to be prepared for aerobic treatment of the bio-solids.

Capacity Projects

NPS1 (New Pumps Station #1) - The sizing of this facility will be determined through the Sewer Comprehensive Plan in progress. This facility is roughly estimated to cost $6,000,000 and is scheduled for 2012. This project will be funded by the developer of The Villages. There is a possibility that the facility could be upgraded to become the central pump station for King County Wastewater Treatment Division.

NPS2 (New Pump Station #2) - The sizing of this facility will be determined through the update of the Sewer Comprehensive Plan in progress. This facility is roughly estimated to cost $6,000,000, and is scheduled for 2015.

Trunk Line #1 - Trunk line #1 will collect sewage from the initial phases of The Villages and route the sewage to NPS1. Trunk Line #1 is estimated to be 10,000 feet of 12- to 18-inch gravity sewer main costing $3,000,000 and is scheduled for 2012.

Trunk line #2 - Trunk Line #2 will collect sewage from Lawson Hills MPD, and discharge the collected sewage flows to a force main that routes the sewage to the western storage facility. Trunk Line #2 is estimated to be 2,500 feet of 12-inch sewer main from Lawson Street to SR 169 costing $750,000 and is scheduled for 2015.

Trunk Line #3 - Trunk Line #3 will collect sewage from the north triangle and portions of the Morgan Kame Pit delivering sewage to NPS2. Trunk Line #3 is estimate to be 600 feet of 12-inch sewer main costing about $1,800,000 and is scheduled for 2017.

Trunk Line #4 - Trunk Line #4 will collect sewage from the south area of the City (later phases of The Villages) and deliver the sewage to the west to NPS1. Trunk Line #4 is estimated to be about 8,000 feet of 12-inch sewer main costing about $2,400,000 and is scheduled for 2017.

Force Main #1 - Force Main #1 will deliver sewage from NPS1 to a distribution box and storage facility along Roberts Drive. The force main is estimate to be about 8,000 feet costing $960,000 and is scheduled for 2012.

Force Main #2 - Force Main #2 will deliver sewage from the Lawson Hill's gravity line and NPS2 to the distribution box and storage facility along Roberts Drive. It is scheduled for 2015.

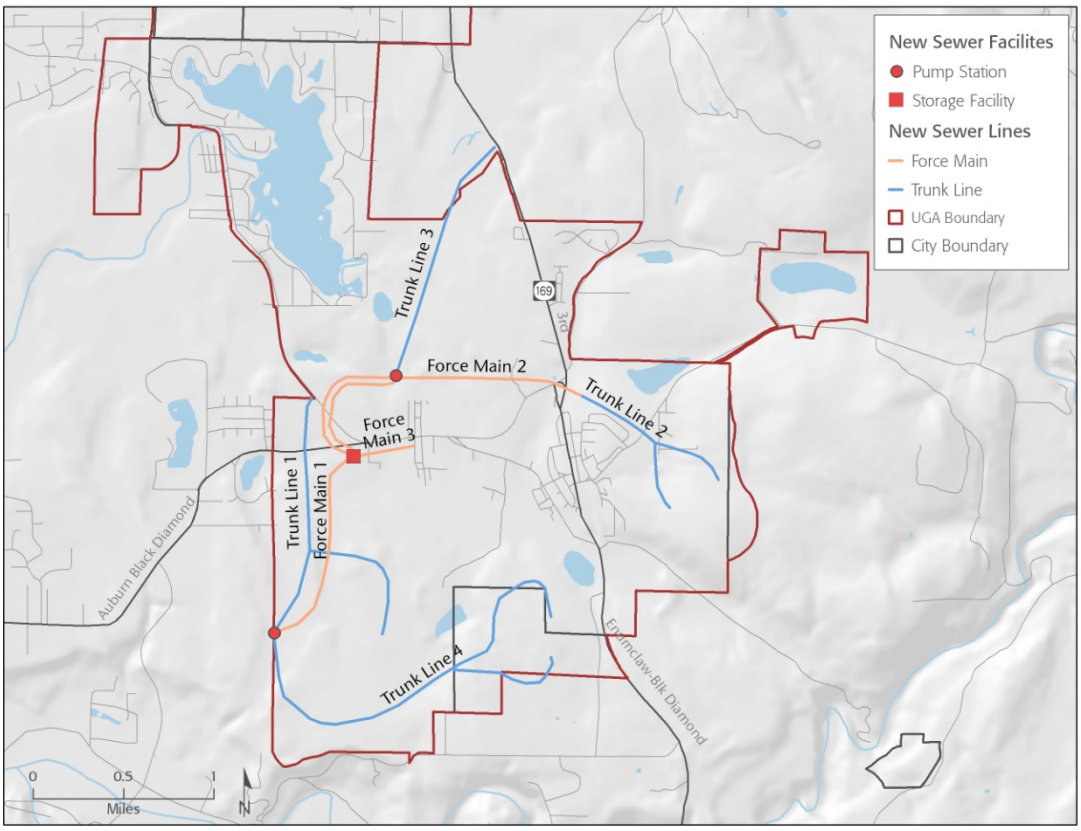
Storage Project #1 - The Storage Project #1 will accept all of the flows from the various pump stations around the City and attenuate the flows. Initially the flows will be routed through a distribution facility that will direct flows to the gravity transmission main. During very high peak flow events the storage facility will store the peak flow and limit the flows to the gravity transmission line to approximately 1.6 MG per day, and flows in excess of that will overflow into storage.

This project is a King County Wastewater Treatment Division project and is only mentioned here as the City is involved in the location decision. If King County decides to locate their regional facilities other than where shown in Figure 8-2, the sewer comprehensive plan will need to be revised.

The projects listed above are intended to provide general guidance for future development of the City's sewer system in coordination with King County Wastewater Division. The actual implementation of the concepts described in Figure 8-2 may be made in smaller increments or interim type projects. Interim projects that

do not build toward the City Sewer System Plan will not be granted Sewer Capital Facility Charge Credit.

Figure 8-2. Sewer Capacity Projects



8.11. Stormwater System

8.11.1. Storm Drainage System Concept, Objective, and Policies

Storm Drainage System Concept

The City recognizes that a Comprehensive Storm Drainage Plan is needed to manage the stormwater runoff within the City. The plan should emphasize measures to address the adverse impacts of poor water quality of the stormwater runoff to the natural drainage systems. This plan should also address the volume of water impacts on receiving waters. Of primary concern are the steep channel of Lawson Creek and the outflow of Mud Lake. Larger creeks are less of a concern because of the shallow slopes and the large receiving bodies of water including the Rock Creek Wetland,

Frog Lake, and Lake Sawyer. Proper construction practices, especially with regard to erosion control, shall be required. Zoning regulations, construction, and development standards should allow for low impact development measures.

Development regulations should encourage ways to provide stormwater cleansing and infiltration. The loss of current biofiltration opportunities in roadside ditches should be replaced as ditches are replaced with pipes. The City should be prepared to respond to new federal or state requirements, which may require the treatment of stormwater releases. The City should encourage the potential for regional detention facilities where development was not built with drainage facilities. Dual use of storm drainage facilities for open space/recreation uses is encouraged where feasible. The overall Storm Drainage Plan must balance the needs of an urban community and the natural drainage system, which provides significant fish and wildlife habitat.

Storm Drainage System Objective and Policies

Objective CF-11: Manage the quality of stormwater runoff to protect public health and safety, surface and groundwater quality, and the natural drainage systems.

Policy CF-40: Complete the Storm Drainage Plan that addresses both quantity and water quality concerns, and complies with NPDES Phase II permitting requirements.

Policy CF-41: Design storm drain lines or pathways to minimize potential erosion and sedimentation, discourage significant vegetation clearing, and preserve the natural drainage systems such as rivers, streams, lakes, and wetlands.

Policy CF-42: Development regulations should encourage the reduction of impervious surface and retention of natural vegetation.

Policy CF-43: Ensure that the storm drainage facilities necessary to support construction activities and long-term development are adequate to serve the development at the time construction begins and when the development is available for occupancy and use.

Policy CF-44: Design new development to allow for efficient and economical provision of storm drainage facilities, and require new development to pay its fair share of providing service.

Policy CF-45: The City of Black Diamond Stormwater Utility shall be responsible for implementing the Storm Drainage Plan.

Policy CF-46: New development should minimize increases in total runoff quantity, should not increase peak stormwater runoff, and should prevent flooding and water quality degradation.

Policy CF-47: Ensure coordination between the City and adjacent drainage systems.

8.11.2. Inventory

Conveyance System

The City's stormwater conveyance system is a combination of piped and open channel drainage systems and sheet flow, with outfalls to Ginder Creek, Rock Creek, or Jones Lake. The overall City and natural drainage systems are shown in Table 8-14. . The City reports no known major flooding problems; however, minor ponding does occur at some locations during larger storm events and/or during extended wet weather conditions.

The City's existing stormwater conveyance system consists of approximately 50,000 LF (9.4 miles) of gravity pipe, and 18,000 LF (3.4 miles) of open ditch. The pipe system is composed mainly of concrete culverts, corrugated metal pipe, and PVC pipe. Approximately 30% of the piped system is located in housing developments (Figure 8-3). Figure 8-3. Current City and Natural Drainage Systems

Table 8-14. itemizes the piping systems and open ditch systems. There are few stormwater ponds in the City. One of the more significant stormwater pond systems is the Greenbrier detention ponds located near Lake Sawyer.[1]

[1] Dal Santo, Dan, Black Diamond Utility Supervisor. Phone conversation, December 27, 2006.

Figure 8-3. Current City and Natural Drainage Systems

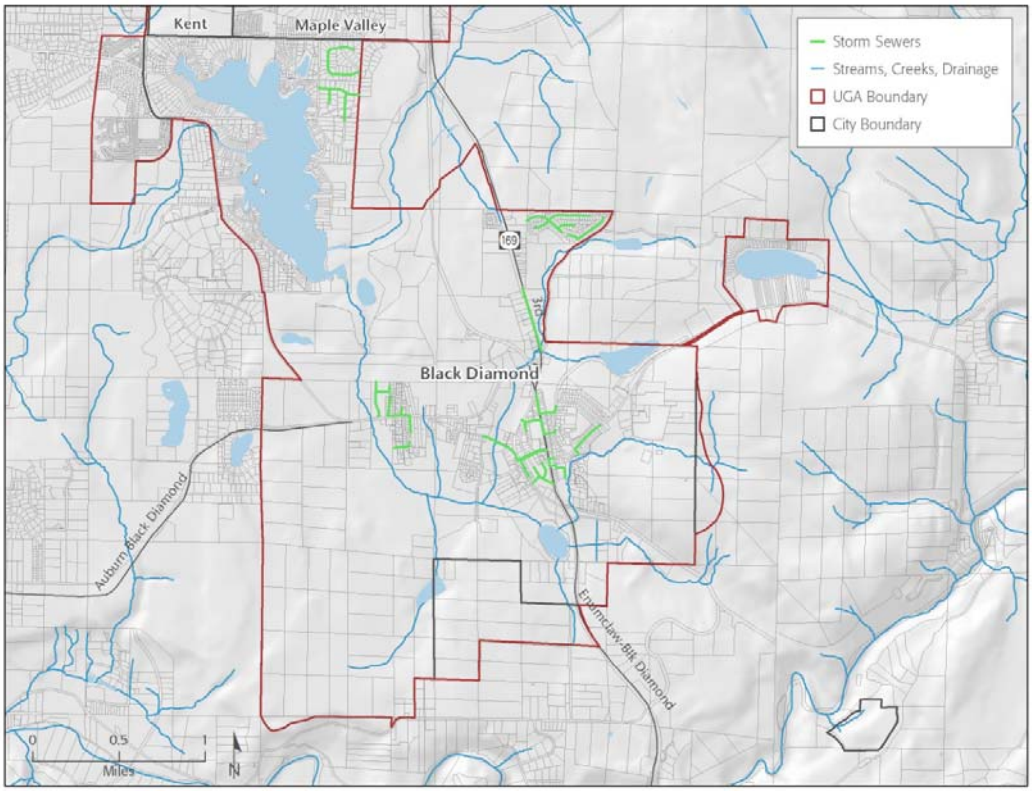


Table 8-14. Black Diamond Stormwater Conveyance System Inventory

Piped Storm Water System Size (Inches/Diameter)	Total Length Linear Feet (Approximate)
6	250
8	450
10	550
12	27,250
15	2,150
18	3,950
24	950
36	1,250
48	150
54	150
TOTAL	50,000
Open Ditch Size	
Variable	18,000

Source: City of Black Diamond Comprehensive Plan (1996)

Stormwater Runoff Treatment

Stormwater flow from the majority of the currently developed portions of the City does not receive treatment, other than some limited biofiltration. Stormwater detention ponds are located in the Lawson Hills and Morgan Creek developments and a 20-lot development in the Morganville area. There are additional stormwater detention ponds associated with the Greenbrier development near Lake Sawyer. These facilities may, and likely do, provide some minimum level of treatment of stormwater runoff from these developments.

8.11.3. Level of Service

Conveyance System

The LOS for the stormwater conveyance system capacity, as defined in the City's Stormwater Ordinance, requires that the conveyance system have sufficient capacity to convey the peak flow predicted for the 25-year, 24-hour design storm event within the storm pipe. The City will also require that the 100-year storm stay within the gutter system and that a route to a safe outfall for the overflow is planned for with a 10% safety factor. In addition, new and redeveloped areas of the City are required to provide sufficient detention so that the peak runoff from the site during the 2-year, 10-year, and 100-year storm event does not exceed peak runoff predicted under existing conditions. Looking forward, the City will be adopting Ecology's 2005 Stormwater Management Manual.

Stormwater Runoff Treatment

The City has adopted Ordinance No. 523, Stormwater Management. This ordinance requires all new development that creates 5,000 square feet or more of impervious surface, or redevelopment which increases the existing impervious area by 25% or more or increases the value of the property by 25% or more, to provide stormwater treatment that meets the criteria for stormwater treatment contained in the Ecology's, *Stormwater Management Manual for the Puget Sound Basin, 1992*. Additionally, it is the City's long-term goal to eventually provide stormwater treatment for all urban runoff.

8.11.4. Future Needs

Stormwater Planning

The Stormwater Comprehensive Plan is under development at this time. It will support and add definition to the general guidance of this chapter and address the following:

- Comprehensive Stormwater Management and Programs
- Detailed mapping and inventory of the stormwater systems
- Capital Project Planning will propose stormwater project concepts to minimize the environmental impacts of stormwater, minimize maintenance, and protect public and private property from storm runoff.

Capital Planning

A capital improvement plan is under development as part of the comprehensive stormwater planning. The projects that are needed to serve growth will be included in the City's capital planning just as recognition of the future facility. However, the projects supporting future development will not be included as City-funded projects. It is expected that each developer will provide for stormwater treatment and detention as needed for its projects. Given that much of the City will be developing as MPDs, the City preference for regional storm facilities can be coordinated with the developers through the permitting and development approval process. The majority of the projects listed in the Capital Improvement Plan are maintenance projects replacing old, rusted out culverts.

The City is investigating opportunities where regional storm facilities serving the new MPDs could provide a storm treatment or detention benefit to areas of the City that are already developed. If such a project is identified, this will be incorporated into the City of Black Diamond Comprehensive Plan during the next update.

Other Plans and Requirements

The **King County Stormwater Management Soos Creek Basin Plan** recommended two water quality enhancement projects for inclusion in the 6-year Capital Improvement Plan. The projects listed in this plan are now outdated as the John Henry Mine has very limited activity, and there are no longer are any livestock in the Jones Lake area.

Lake Sawyer Total Maximum Daily Load Restrictions (Department of Ecology Requirements to clean up a water body): The City will need to consider various measures through capital planning, policy development, coordination with Soos Creek Water and Sewer District, and development of designed and constructed facilities to reduce phosphorous loading into Lake Sawyer. Part of the solution to the phosphorous loading into Lake Sawyer will be the elimination of septic systems around Lake Sawyer and the education of homeowners.

8.12. Utilities Provided By Other Entities

As independent utilities, the private companies providing the services described in this section, for the most part, fund capital investments and ongoing operations and maintenance costs independently through their rate base.

This section describes how the goals in the other plan elements will be implemented through utility policies and regulation, and is an important element in implementing the comprehensive plan. The main purpose of this section is to ensure that the City will have utility capacity to adequately serve the Land Use Element.

8.12.1. Utilities Concept, Goal, Objective, and Policies

Utilities Concept

The City should consider, when reasonable and feasible, the co-location of new public (non-City owned) and private utility distribution facilities in shared trenches, and coordination of construction timing, to minimize construction-related disruptions to the public and reduce the cost to the public of utility delivery. The City will encourage provision of an efficient, cost effective and reliable utility service by ensuring land will be made available for the location of utility lines and utility facilities.

The City will review and amend existing regulations, including Critical Areas Ordinances (CAOs), as necessary within existing corridors to allow maintenance, repair, installation, and replacement of utilities in a timely manner.

The City will provide standard locations for gas, power, phone, and cable within the street section of the City's construction standards.

The City will encourage communication among the private utility providers to support service planning for the City. It will be important for the City to encourage system design practices intended to minimize the number and duration of interruptions to customer service. The City supports necessary amendments to the Utility and Public Services Element for the purposes of updating individual provider plans.

As a strategy, the City will facilitate and encourage conservation of resources to delay the need for additional facilities for electrical energy and water resources, and to achieve improved air quality. In addition, the City will support the conversion to cost-effective and environmentally sensitive alternative technologies and energy sources.

Utilities Goal, Objectives, and Policies

Utilities Goal: Coordinate City land use and utility facility planning to ensure consistency and to enable utility service providers to meet public service obligations.

Objective U-1: Design and construction standards will be environmentally sensitive, safe, cost effective, and consistent with utilities' public service obligations.

Policy U-1: Facilitate the development of all utilities at the appropriate levels of service to accommodate growth that is anticipated to occur in the City.

Policy U-2: Facilitate the provision of utilities and ensure environmentally sensitive, safe, and reliable service that is aesthetically compatible with the surrounding land uses and results in a reasonable economic cost.

Policy U-3: Process permits and approvals for utility facilities in a fair and timely manner and in accordance with development regulations which encourage predictability.

Policy U-4: Encourage conservation of all non-renewable non-municipal resources.

8.12.2. Utilities Overview

Electricity

Electricity is provided by Puget Sound Energy (PSE). Various facilities are located throughout the City and King County, including one substation and one overhead transmission line within existing City limits.

The Bonneville Power Administration has a 500 kV transmission easement and line that lies about one mile north of the City limits,

Telecommunications

The City is served by Qwest Communications. There are various facilities located throughout King County and the City. Many of the telecommunication facilities, including aerial and underground, are co-located with those of the electrical power provider.

Cellular service in the City is currently available through a variety of providers, including Verizon Wireless, AT&T Wireless, T-Mobile, and Sprint. There are at least three cellular towers located in or near the City. Additional cellular sites are located around the City in the vicinity of the cities of Maple Valley, Covington, and Enumclaw. Generally, locating new cellular tower sites would depend on the density and location of new cell phone users, not overall population trends.

Cable television service throughout the City is provided by Comcast. Comcast usually locates its cable lines on private property, or on the power company lines within street right-of-way. They will also locate their lines within other utility easements along the right-of-way. No new major facilities would be required to accommodate population increases. Only additional cable lines would need to be provided to new development. Comcast also uses these lines to deliver broadband internet and digital phone service to its customers.

Natural Gas

Puget Sound Energy provides natural gas via existing pipelines to the City. Gas service is generally extended to new development upon evaluations of requests based on an economic feasibility study. Currently the gas supply system meets the existing demand.

Tacoma Water Transmission Pipeline #5

The City of Tacoma, Department of Public Utilities Water Division completed a project to improve its water supply system with construction of the second supply pipeline (Pipeline No. 5) in May 2006. Construction of the project allows diversion and transmission of an additional 100 cubic feet per second (or an additional 65 MGD) of water from the Green River to the Tacoma Regional Water Supply Area. The pipeline begins at the headworks near Kanaskat located approximately 0.5 mile downstream of the diversion dam and river intake, and travels in a westerly direction through the City and other communities, terminating near the Portland Avenue Reservoir in Tacoma.

The section of the pipeline through the City first passes through a wetland east of Lake 12, then south of Lake 12, to within 150 feet of the north right-of-way of the Green River Gorge Road (along the edge of the John Henry Mine), then along the south boundary of the John Henry mine to SR 169. The pipeline continues north along SR 169 to the existing Palmer Coking Coal roadway and turns west, to Lake Sawyer Road then north along Lake Sawyer Road to SE 305th Street then west to where it leaves the City limits.

8.13. Essential Public Facilities

The GMA provisions include the identification and location of essential public facilities in the City of Black Diamond Comprehensive Plan. Essential public facilities are defined to be essential land and building uses that are typically difficult to site, such as airports, state education facilities, state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse facilities, mental health facilities, and group homes.

As specified in the GMA, local comprehensive plans may specify alternative sites, mitigating development conditions, and other particulars involved in the siting of essential public facilities. By statutory dictate, however, local comprehensive plans may not prevent outright the location and thereby the provision for essential public facilities as defined in the GMA.

When essential public facilities are identified for potential siting within the City, it will participate in the siting study. Essential public facilities are not limited to utilities, but represent a type of special land use. Thus, the objectives and policies for essential public facilities are contained in the Land Use Element.

8.14. Financial Resources

8.14.1. Revenue Sources

The 6-year Capital Facilities Plan includes improvements that the comprehensive plan elements indicate are necessary, along with potential funding sources. The funding sources identified below are potential long-term choices that may be available to the City for major capital improvement projects.

The following section describes several funding sources available to the City, organized by specified program use, but without reference to any specific project.

General Purpose Revenues for Capital Funding

Real Estate Excise Tax

Real Estate Excise Tax (REET) revenues are levied in two portions and must be expended on capital projects. The first 0.25% of property value may be used for the general purpose of financing capital improvements, and the second 0.25% may be used for only those capital projects listed in a comprehensive plan. Since the REET is based on the total value of real estate transactions in a given year, the amount of REET revenues a city receives can vary 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 high, and during softer real estate markets, revenues are lower.

Sales Tax

Of the 8.6% sales tax currently collected in the City, a 1% "local" share of the tax accrues to local jurisdictions. The City receives 85% of the 1% local tax and the County receives 15%. This tax is levied on businesses in the area, on construction activity, and on some transactions that are related to housing, such as certain online purchases and telecommunications services. Cities may discretionally use general fund revenues to fund capital improvements. By policy, some cities have chosen to dedicate a portion of their local sales tax toward the construction of their capital needs. All City residents and visitors to the City who make retail purchases within the City limits contribute to this revenue stream.

Utility Taxes

Utility taxes are a form of business and occupation tax levied on utilities, and a revenue source that is currently used by the City. These revenues contribute to the municipality's General Fund and may be used for many City expenses, including capital improvements. Washington State sets the maximum rate of tax on electrical, natural gas, steam energy, and telephone businesses at 6.0%, unless a higher rate is approved by voters. There is no tax rate limit on other utilities such as water, sewer, and garbage services. Utility taxes are paid by the companies that provide the utility service, but are likely passed on to the customers of those companies. Therefore, these funds are primarily paid by City residents.

General Obligation Bonds

The City, by special election or council decision, may issue general obligation bonds to finance almost any project of general benefit to the City. The bonds are paid off by assessments levied annually against all privately owned properties within the City. This type of bond issue is usually reserved for municipal improvements that are of general benefit to the public, such as arterial streets, bridges, lighting, municipal buildings, fire-fighting equipment, and parks. Inasmuch as the money is raised by assessment levied on property values, the business community also provides a fair share of the funds to pay off such bonds. General obligation bonds have the best market value and carry the lowest rate of interest of all types of bonds available to the City because they are backed by the good faith of the entire City's assets.

Parks and Recreation-Specific Revenues

Park Impact Fees

Park impact fees are a financing tool that requires new development to pay a portion of the costs associated with infrastructure improvements that are "reasonably related" to that development. The impact fee must be related to improvements to serve new development and not existing deficiencies, assessed proportionally to the impacts of new development, allocated for improvements that reasonably benefit new development, and spent on facilities identified in the Capital Facilities Plan.

Washington State Recreation and Conservation Office Grants

The Recreation and Conservation Office is dedicated to creating and maintaining recreational and habitat opportunities in Washington State. The Recreation and Conservation Office staffs five Boards:

- the Recreation and Conservation Funding Board,
- the Salmon Recovery Funding Board,
- the Governor's Forum on Monitoring Salmon Recovery and Watershed Health,
- the Washington Biodiversity Council, and
- the Invasive Species Council.

Two of the Boards, the Recreation and Conservation Funding Board and the Salmon Recovery Funding Board, are responsible for awarding and managing capital project grants. Both Boards solicit, make grant awards, and oversee sponsor progress for property acquisition and facility development projects that support the Boards' missions. Grants are typically for open space protection and acquisition, farmland protection, habitat conservation, trail development, and parks and recreation facility projects.

Transportation-Specific Revenue Sources

State Motor Vehicle Fuel Tax

Counties and cities receive a portion of the state Motor Vehicle Fuel Tax (MVFT) based on a reimbursement formula. This provides a nexus between those who pay the tax, and those who benefit from the improvements paid for with those revenues. These funds are collected from people who purchase gas for vehicles and are presumably users of the road system, and are used to pay for improvements that benefit those users. Generally, there is a positive relationship between road use and taxation.

State Grants

Grants are an important funding source for transportation capital projects; however, these funds are distributed in a competitive process making it difficult to determine future grant funding levels. State grants are primarily funded with the state-levied portion of the MVFT, which is paid by anyone purchasing fuel in the state. Therefore, users of the state roads are the largest funding source for improvements paid by grants, and are the primary beneficiaries as well.

There have, in recent years, been increases in the state MVFT rate. However, many of these additional funds were earmarked for specific large projects, although there was some allocation to local jurisdictions. The Transportation Partnership Act of 2005 provided some additional funds to the Transportation Improvement Board and the County Road Administration Board, for a total of $80 million to be disbursed to local jurisdictions as grants over a 16-year period. However, these increases in funds are very small relative to demand, with requests to the Transportation Improvement Board overreaching available funds by 800%.

Federal Grants

Federal transportation grants are funded through the federal portion of the fuel excise tax. The federal gas tax rate has fluctuated between $0.183 and $0.184 per gallon since 1994. The majority of these funds are deposited into the Highway Trust Fund and disbursed to the states through the Highway and Mass Transit Accounts.

This tax is paid by all who purchase gas in the United States. Again, users of the roads are therefore the largest funding source for improvements paid by federal grants and the primary beneficiaries. However, the pool of contributors is nationwide, and the grants are distributed nationwide. This means that each year all states contribute to grant revenues, but depending on their grant awards may receive more or less in funding than they contributed.

Transportation Impact Fees

Impact fees are a financing tool that requires new development to pay a portion of the costs associated with infrastructure improvements that are “reasonably related” to that development. The GMA allows agencies to develop and implement a transportation impact fee program to help fund some of the costs of transportation facilities needed to accommodate growth. State law (Chapter 82.02 RCW) requires that impact fees be related to improvements to serve new developments and not existing deficiencies, assessed proportionally to the impacts of new developments, allocated for improvements that reasonably benefit new development, and spent on facilities identified in the Capital Facilities Plan.

Legally, financing for improvements that will serve the new development must provide a balance between impact fees and other sources of public funds, and the fees must be structured in a manner that ensures that funds collected do not exceed a proportionate share of the costs of improvements reasonably related to new development.

Transportation Benefit District

Cities, towns, and counties may establish a Transportation Benefit District to fund capital improvements of City streets, county roads, and state highways. A Transportation Benefit District may include an area within one or more counties, cities, port districts, or public transportation benefit areas. Transportation Benefit Districts may be funded with a local sales tax of up to 0.02% and may be levied for a 10-year period unless reauthorized for a second 10-year period by the voters. In addition to the sales tax, Transportation Benefit Districts may be funded with 1) single-year, voter-approved excess property tax levies; 2) multi-year, voter-approved levies for bond redemption; 3) up to a $100 annual vehicle fee per vehicle registered in the district with any fee exceeding $20 requiring a public vote, 4) vehicle tolls, and 5) transportation impact fees. Improvements funded by the Transportation Benefit District must be 1) consistent with local and regional transportation plans; 2) required for economic development; and 3) partially funded by local governments or private sources.

Local Improvement Districts

Another potential source of funds for improvements comes through the formation of Local Improvement Districts (LIDs) involving a lien against the property collected through assessment made on properties benefited by the improvements.

LID financing is frequently applied to water, sewer, and street system extensions into previously underserved areas. Typically, LIDs are formed by the City at the written request (by petition) of the property owners within a specific area of the City. Upon receipt of a sufficient number of signatures on petitions, the local improvement area is defined, and a system is designed for that particular area in accordance with the City's general comprehensive plan. Each separate property in the LID is assessed in accordance with the special benefits the property receives from the system improvements.

Centennial Clean Water Fund

This program offers low interest loan programs, with a limited grant funding program. State grants and loans administered by Ecology for the design, acquisition, construction, and improvement of Water Pollution Control Facilities and related activities to protect water quality.

Surface Water Management Fees

The City is required by state and federal law to provide surface water management services. The surface water management program identifies, prevents, and manages the impacts of development on flooding, erosion, pollution, and low stream flows. To pay for these services, a fee is assessed on property owners in the City. These management fees are used to fund a range of surface water infrastructure projects.

State Revolving Fund

The State Revolving Fund (SRF) program was created by the August 1996 reauthorization of the Safe Drinking Water Act. The SRF program provides low-interest loan financing to cities for capital improvements that promote public health and increase compliance with drinking water regulations.

Additionally the state provides low-interest loans and loan guarantees administered by Ecology for water pollution control projects. Applicants must show a water quality need, have a facilities plan for treatment works, and show the ability to pay back the loan through a dedicated source of funding. Funds must be used for construction of water pollution control facilities (wastewater treatment plants, stormwater treatment facilities, etc.).

Aquatic Land Enhancement Account

This grants program is administered by the Department of Natural Resources. Aquatic Land Enhancement Account (ALEA) funds are limited to water dependent public access/recreation projects or on-site interpretive projects. A 25% local match is required.

Rural Economic Community Development

A Federal Agency, the Rural Economic Community Development (RECD, formerly FmHA), has a loan program that, under certain conditions, includes a limited grant program. Grants can be awarded when utility and/or garbage debt service payments exceed 1% of the community's Median Household Income.

In addition, the RECD has a loan program for communities that cannot obtain funding by commercial means through the sale of revenue bonds. The loan program provides long-term, 30- to 40-year loans at an interest rate that is based on federal rates, varying with the commercial market. The City is not likely to get funding from this source because of the City's median household income level and because other financing mechanisms are potentially available.

State Public Works Trust Fund

The Public Works Trust Fund (PWTF) is a revolving loan fund designed to help local governments finance needed public works projects through low-interest loans and technical assistance. The PWTF, established in 1985 by legislative action, offers loans substantially below market rates, payable over periods ranging up to 20 ears.

Interest rates are 1%, 2%, or 3%, with the lower interest rates providing an incentive for a higher local financial share. A 20% local share qualifies the applicant for a 2% interest rate and a 30% local share qualifies for a 1% PWTF loan. A minimum of 10% of project costs must be provided by the local community. The useful life of the project determines the loan term, with a maximum term of 20 years.

To be eligible, an applicant must be a local government or special purpose district, and have a long-term plan for financing its public works needs. If the applicant is a county or city, it must adopt the optional 0.25% real estate excise tax dedicated to capital purposes. Eligible public works systems include streets and roads, bridges, storm sewers, sanitary sewers, and domestic water. Loans are presently offered only for purposes of repair, replacement, rehabilitation, reconstruction, or improvement of existing eligible public works systems, in order to meet current standards and to adequately serve the needs of existing service users. Ineligible expenses include public works financing costs that arise from forecasted, speculative, or service area growth. Such costs do not make a project ineligible but must be excluded from the scope of their PWTF proposal.

Private Funding Sources

Latecomer Agreements

Latecomer Agreements allow property owners who have paid for capital improvements to recover a portion of the costs from other property owners in the area who later develop property that will benefit from those improvements. The period of collection may not exceed 15 years and is based on a pro rata share of the construction and contract administration costs of the particular project. The city or county must outline an area subject to the charges by determining which properties would require similar improvements. The improvement must be required for property development by city or county ordinance in order for the reimbursements to be assessed.

Capital Facility Charges

The City may adopt a capital facility charge to finance improvements of general benefit to the system which are required to meet future growth. Capital facility charges are generally established as one-time charges assessed against developers or

new customers as a way to recover a part or all of the cost of additional system capacity constructed for their use.

The capital facility charge or fee is deposited in a construction fund to construct such facilities. The intent is that all new system customers will pay an equitable share of the cost of the system improvements needed to accommodate growth. Typical items of construction financed by the capital facility charge are water treatment facilities, pump stations, transmission lines, and other general improvements that benefit the entire system.

Capital facility charges are based on the cost of the existing facilities of that utility and the cost of the capacity-adding public projects that are planned to service new development, divided by the number of units of development to be served within the planning period.

Developer Mitigation

The City has the authority to require developers to mitigate the impacts of their projects either through developer impact fees or general mitigation under the State Environmental Policy Act (SEPA). However, the law does not allow the City to impose both methodologies in a way that charges developers twice for the same mitigation. Developer mitigation would be used to close the gap between what the City can afford and the total. In addition, the mitigation would only be used to ensure that new development pays its "fair share" of capital facilities (unless precluded by any agreement).

Planned Actions

Planned Actions are a project specific action under SEPA in which an Environmental Impact Statement (EIS) designates, by ordinance, those types of projects to be considered Planned Actions—spelling out mitigation measures that will be applied. This type of action is appropriate for small areas expecting a specific type of development.

8.14.2. 6-Year Capital Facilities Funding

Table 8-15. sets forth the 6-year Capital Facilities Plan, based on the capital facility needs identified in this plan; while Table 8-16. summarizes the funding needs. Since the comprehensive planning process is a continuing, evolving process, this 6-year plan will be continually reviewed and updated. Any plan is a tool to aid in decision making. This plan is no exception. By outlining how the needed capital facilities of the future can be successfully provided, it will assist annual budget decisions which need to incrementally provide the funding for those facilities. The

plan is not intended as a substitute for those budget decisions, only as a tool to help make them.

If the probable funding for capital facilities at any time is insufficient to meet existing needs, the Land Use Element must be reassessed. At the same time, funding possibilities and levels of service might also be reassessed. The plan requires that as a result of such reassessment, appropriate action must be taken to ensure the internal consistency of the Land Use and Capital Facilities Elements of the plan.

Table 8-15. Black Diamond Six-Year Capital Facilities List

Capital Facility Projects	Estimated Cost	Potential Funding
Administration	$0	
None	-	-
Police	$0	
None	-	-
Parks and Recreation	$6,284,000	
School Park	$25,000	General & Local
Union Stump Memorial Park	$35,000	General & Local
Lake Sawyer Boat Launch	$962,000	General & Local, State & Federal Grants
Lake Sawyer Regional Park	$4,647,000	General & Local, State & Federal Grants, Private
Trail System	$340,000	General & Local, State & Federal Grants
BMX Park	$250,000	General & Local, State & Federal Grants
Eagle Creek Community Park	$25,000	General & Local
Fire and Emergency Services	$0	
None	-	-
Transportation	$9,778,710	
See Chapter 7 for Complete List	-	-
Water System	$18,751,000	
Railroad Ave. W/L Replacement, Phase 1	$186,000	Utility Funding & Fees
Merino St. W/L Replacement, Phase 1	$30,000	Utility Funding & Fees
Springs Study	$50,000	Utility Funding & Fees
Water Meter Upgrades	$200,000	Utility Funding & Fees
Roberts Dr. W/L Replacement	$440,000	Private
The Villages, Phase 1	$3,780,000	Private
3rd Ave. W/L Replacement, Phase 1	$250,000	Utility Funding & Fees

Capital Facility Projects	Estimated Cost	Potential Funding
Springs Transmission Main Replacement, Phase 1 & Collection Upgrades	$1,000,000	Private
Springs Transmission Main Replacement, Phase 2	$1,274,000	Private
Springfield No. 3 Collection Upgrade	$100,000	Utility Funding & Fees
3rd Ave. W/L Replacement, Phase 2	$200,000	Utility Funding & Fees
The Villages, Phase 2	$5,790,000	Private
2nd Ave W/L Replacement	$190,000	Utility Funding & Fees
Morgan St. W/L Replacement	$416,000	Utility Funding & Fees
965 Pressure Zone Transmission Replacement	$300,000	Utility Funding & Fees
The Villages, Phase 3	$1,820,000	Private
The Villages, Phase 4	$689,000	Private
3rd Ave. W/L Replacement, Phase 3	$398,000	Private
Baker St. W/L Replacement, Phase 1	$100,000	Utility Funding & Fees
Lawson St. W/L Replacement, Phase 1	$150,000	Utility Funding & Fees
5th Ave. W/L Replacement & Extension	$208,000	Utility Funding & Fees
Pacific Pl. W/L Replacement	$72,000	Utility Funding & Fees
Pacific St. W/L Replacement & Extension	$228,000	Utility Funding & Fees
3rd Ave. W/L Replacement, Phase 4	$440,000	Utility Funding & Fees
5th Ave. W/L Replacement	$440,000	Utility Funding & Fees
Sanitary Sewer System	$10,340,000	
New Pump Station 1	$6,000,000	Private
Trunk Line 1	$3,000,000	Private
Force Main 1	$960,000	Private
Preserve Old Treatment Plant	$30,000	General & Local, Utility Funding & Fees
Manhole Rehabilitation	$50,000	General & Local, Utility Funding & Fees
Infiltration and Inflow Program	$300,000	Utility Funding & Fees
Stormwater System	$200,000	
3rd Avenue Basin Improvements	-	Private (Occur as needed)
North Town Basin Improvements	-	Private (Occur as needed)
Park Street Basin Improvements	-	Private (Occur as needed)
First Avenue Basin Improvements	-	Private (Occur as needed)
Railroad Avenue Basin Improvements	-	Private (Occur as needed)

Capital Facility Projects	Estimated Cost	Potential Funding
Stream Bank Revegetation	-	Grants
Storm Culvert Replacement	$200,000	Grants, Utility Funding and Fees
Total	$45,353,710	

Table 8-16. 6-Year Capital Facilities Plan Summary

	Cost Estimates						
Category	2009	2010	2011	2012	2013	2014	6-Year Total
Administration	-	-	-	-	-	-	-
Police	-	-	-	-	-	-	-
Parks and Recreation	$195,000	$145,000	$1,438,000	$2,810,000	$1,767,000	-	$6,284,000
Fire and Emergency Services	-	-	-	-	-	-	-
Transportation	$715,000	$1,755,000	$227,000	$3,950,000	$680,000	$2,451,710	$9,778,710
Water System	$4,556,000	$2,594,000	$6,150,000	$,3,813,000	$1,638,000	-	$18,751,000
Sanitary Sewer System	$90,000	$60,000	$60,000	$10,020,000	$60,000	$50,000	$10,340,000
Stormwater System	-	-	-	$200,000	-	-	$200,000
Total	$5,556,000	$4,554,000	$7,875,000	$16,980,000	$4,145,000	$2,501,701	$45,353,710

Appendix A

Wetlands and Streams of Black Diamond and Their Preliminary Classifications

APPENDIX A

WETLANDS AND STREAMS OF BLACK DIAMOND AND THEIR PRELIMINARY CLASSIFICATIONS

The following are streams that are located within the City of Black Diamond along with Department of Natural Resource water typing classifications that were applied in the 1996 Comprehensive Plan. These water typing classification are shown for planning purposes only.

Table 0-1. Stream Type Classifications

Type 1	Type 2	Type 3	Type 4	Type 5
Covington Creek	Ravensdale Creek	Rock Creek	Lawson Creek	All other Rock Creek drainage
		Jones Lake Creek	Mud Lake Creek	
		Ginder Creek		
		Black Diamond Lake Creek		
		Unnamed tributary to Black Diamond Lake		

The following are known wetlands located within the City of Black Diamond and their associated classifications according the Washington State Department of Ecology's wetland rating system. These wetlands and their classifications are shown for planning purposes only. Provisions of the City's sensitive areas ordinance govern delineation and classification of wetlands within the City limits.

Table 0-2. Black Diamond Wetland Classifications

Wetland	Wetland Names	DOE Wetland Category
1	Lake Sawyer	Category I
2	Lake Sawyer Wetlands	Category II
3	Coal fine Wetland	Category III
4	Shrub/scrub Wetland	Category IV
5	Ginder Creek (North) Wetlands	Category II
6	Ginder Lake	Category II
7	Mud Lake	Category II
8	Lawson Hill Wetland	Category IV
9	Lawson Hill Wetland	Category IV
10	Ginder Creek (Mid) Wetlands	Category II

11	Morganville Wetland	Category III
12	Oak Lake	Category III
13	Ginder Creek (South) Wetlands	Category II
14	Rock Creek Wetlands	Category I
15	Franklin Hill Wetland	Category III
16	Jones Lake	Category II
17	169/Franklin Hill Emergent Wetland	Category II
18	Below Franklin Hill Forested Wetland	Category II
19	Black Diamond Lake	Category III

Source: City of Black Diamond Wetland and Stream Inventory, December 1991, and revised by field investigation in 1995.

The following are known wetlands located outside the City of Black Diamond's municipal boundaries. These wetlands are shown with their associated wetland types and King County categories. This information is provided for planning purposes only.

Table 0-3. Surrounding Area Wetlands

Wetland Name	Size	Wetland Type	King County Category
Covington Creek 8	123.0 Ac	PSS, PFO, PUB	Class 1
Covington Creek 9	6.7 Ac	PFO, PEM	Class 2
Covington Creek 10	8.3 Ac	PSS	Class 2
Covington Creek 11	9.5 Ac	PSS	Class 2
Covington Creek 12	23.3 Ac	PSS, PUB	Class 1
Covington Creek 22	15.0 Ac	PAB, PEM, PSS, PFO	Class 1
Covington Creek 24	19.8 Ac.	PEM, PSS, PFO	Class 2
Covington Creek 26	30.8 Ac	PSS, PFO	Class 2
Covington Creek 27	40.0 Ac	PFO, PSS, PUB	Class 1
Covington Creek 60	39.5 Ac	PEM, PFO	Class 2
Covington Creek 79b	N/A	PFO	Class 1
Covington Creek 82b	N/A	PEM, PAB	Class 2
Middle Green River 1b	N/A	PSS	Class 1
Middle Green River 2b	N/A	PSS	Class 1
Middle Green River 11b	N/A	PSS	Class 1

These wetlands, as listed in the King County Interactive Map Folio, Sensitive Areas layer, are identified by the National Wetland Inventory based upon aerial photography. *The mapping work and classifications were done in 1980.*

Appendix B

City of Black Diamond 2025 Population and Employment Forecasts Tech Memo

Jones & Stokes

Memorandum

Date:	November 27, 2006
To:	Rick Luther, Interim City Administrator, Scott Jones, City Planner
From:	Gil Cerise, Senior Planner
cc:	Deborah Munkberg, Richard Weinman, John Davies, Michael Hodgins
Subject:	City of Black Diamond 2025 Population and Employment Forecasts

Background

In updating the City of Black Diamond's Comprehensive Plan, our scope of work states that we will update the population and employment forecasts to 2025. The existing Black Diamond Comprehensive Plan, completed in 1996, only contains forecasts to 2015, and have greatly different boundaries than the current city. The 1996 Plan did not account for the Lake Sawyer neighborhood or the Black Diamond Potential Annexation Area (PAA) that was approved in December 1996. Both Lake Sawyer and the Black Diamond PAA were accounted for in a DEIS and FEIS that were produced in 2000 for the City of Black Diamond PAA.

The 2000 Black Diamond DEIS and FEIS included information and assumptions about buildout under a variety of alternatives, including a Preferred Alternative in the FEIS. However, the these documents did not address timing or growth rates other than to generally discuss compliance with phasing provisions of the Black Diamond Urban Growth Area Agreement. In addition, King County growth targets listed in the 2000 FEIS were for the 2012 target year since the FEIS was completed prior to the 2002 update of household and employment forecasts.

The Preferred Alternative included the following information for build-out within the City and its PAA:

Table 1.3 of City of Black Diamond Potential Annexation Area Final Environmental Impact Statement: October 2000.

Preferred Alternative

Population, Households, and Job Effects

	PAA at Build-out	Existing City at Build-out	Total City at Build-out	Increase due to PAA
Population	4,211	14,262	18,473	23%
Households	1,620	5,485	7,105	23%
Jobs	8,039	3,518	11,557	70%

The City of Black Diamond has also had a development moratorium in place since 2001 to allow time for water and sewer infrastructure to be put in place to accommodate expected growth. The development moratorium has held growth to a minimal amount during the 2001-2006 time frame. Only vested applications were allowed to proceed with development plans. Therefore, staff has taken an approach of using the FEIS numbers to guide the total build-out growth of Black Diamond and its UGAs, but has made use of other methods to produce a 2025 population and employment projection.

Methodology of Projections

Staff developed a projection methodology that uses existing estimates of number of households, jobs, and population within City of Black Diamond as a starting point. Current households and population were obtained from the State Office of Financial Management and current employment levels within the City were obtained from Puget Sound Regional Council.

On October 26, 2006, consultant and city staff meet with Yarrow Bay Communities to review their development projections for their land holdings within the current Black Diamond city limits and PAA. Yarrow Bay Communities provided assumptions on the numbers of dwelling units being considered for each of their landholdings, as well as amount of square feet of commercial and office uses. Yarrow Bay Communities also offered an assessment for timing of when development would occur.

The methodology used for making projections to 2025 used Puget Sound Regional Council (PSRC) annualized forecasts from FAZ 3310, a geographic area which contains City of Black Diamond and its PAA to account for non-Yarrow Bay Development growth.

The methodology combines these annualized increases with Yarrow Bay Communities' projections to produce estimates for the total number of households, jobs, and population in 2025.

Staff, then utilized the following assumptions in developing household and population projections:

1. Yarrow Bay Communities projections for their development buildout, estimated to occur in the 2009 to 2020 time frame were used to estimate number of new households during those years.

2. Population was calculated by applying a PSRC estimate of King County persons per household in 2005 of 2.37 to the annual household number.

3. Due to the development moratorium, no annualized background growth rate for new households was assumed in 2006. However, under the assumption that the development moratorium will be lifted in 2007, the PSRC FAZ forecast was used for the 2007-2008 time frame.

4. No annualized background growth above and beyond that being provided as an assumption by Yarrow Bay Communities was assumed for households during the 2009-2020 timeframe. It can be assumed that some small fraction of the annual developer projections would include landowners of smaller redevelopment parcels developing their land.

5. For the time frame after 2020, PSRC FAZ 3310 population and household growth projections were used to account for additional development and/or potential final phases of Yarrow Bay development.

6. The percentages used in Black Diamond PAA FEIS Table 1.3's column entitled "Increase due to PAA" is used to assume the amount of new households and population living in the City's PAAs.

The following assumptions were used for employment forecasts:

7. For Yarrow Bay Communities' assumed jobs, the number of square feet in retail and non-retail uses provided by Yarrow Bay were converted into an estimated number of jobs. The jobs were divided evenly among the years that Yarrow Bay estimated that they would be developing their residential uses.

8. For non-Yarrow Bay jobs, an annualized percentage of job growth was used from PSRC projections for FAZ 3310. The annualized percentages were computed for the period up to 2010, for 2010-2020, and for 2020-2025.

Results

The resulting projections are shown in the following tables:

Households and Population Forecasts

Year	Assumed Growth Rate	Yarrow Bay Assumptions	Households	Population
2006			1,578	4,085
2007	2.3%		1,578	4,085
2008	2.3%		1,614	4,179
2009		250	1,651	4,275
2010		250	1,901	4,868
2011		600	2,151	5,460
2012		600	2,751	6,882
2013		450	3,351	8,304
2014		450	3,801	9,371
2015		450	4,251	10,437
2016		450	4,701	11,504
2017		450	5,151	12,570
2018		450	5,601	13,637
2019		450	6,051	14,703
2020		150	6,501	15,770
2021	1.3%		6,651	16,125
2022	1.3%		6,738	16,335
2023	1.3%		6,825	16,547
2024	1.3%		6,914	16,762
2025	1.3%		7,004	16,980

Employment Projections

Year	Assumed Growth Rate	Yarrow Bay Assumptions	Jobs
2006	2.3%		470
2007	2.3%		481
2008	2.3%		492
2009	2.3%		503
2010	2.5%		515
2011	2.5%	198	528
2012	2.5%	198	739
2013	2.5%	198	955
2014	2.5%	198	1,177
2015	2.5%	198	1,404
2016	2.5%	198	1,637
2017	2.5%	198	1,876
2018	2.5%	198	2,121
2019	2.5%	198	2,372
2020	2.5%	198	2,629
2021	2.2%		2,885
2022	2.2%		2,948
2023	2.2%		3,013
2024	2.2%		3,079
2025	2.2%		3,147

The results of the projections were compared to both the FEIS Preferred Alternative and the King County Targets for City of Black Diamond. As can be seen in the table below, all the results were within the build-out numbers anticipated in the FEIS Preferred Alternative. In addition, the projections for households and jobs met the 2022 targets set in the King County Countywide Planning Policies.

	FEIS Preferred Alternative (Build-out)	King County Targets for City of Black Diamond (2022)	2025 Projections
Households	7,105	1,099	7,004
Population	18,473		16,980
Jobs/Employment	11,557	2,525	3,147

References

King County Countywide Planning Policies, updated July 2006. Revised Table LU-1: King County 2001-2022 Household and Employment Targets

Puget Sound Regional Council 2006. 2006 Forecasts of Population and Employment - Sub-County (small area). [Edition (Document number, if known.)] Seattle, WA. PSRC, Data Systems and Analysis. Released October 26, 2006.

Personal communication with MacDuff, David. General Manager, Black Diamond Yarrow Bay Communities, Kirkland, WA October 26, 2006 - meeting.

Appendix C

Black Diamond Historic Preservation

Historic Preservation

Black Diamond History

(The following history was prepared by Diane Olson for the Voice of the Valley newspaper)

In 1880, the Black Diamond Mining Company of Nortonville, California sent Victor Tull north to King County to search for high quality coal. They hoped to locate something even better than the rich veins being worked at the Newcastle mine.

The rich McKay vein was discovered. It spread from Franklin to Ravensdale, with Black Diamond right in the middle of it all. The result of his discovery made Black Diamond the highest producer of coal in King County for 1895 and for many years thereafter. Black Diamond was the king of King County, and it made a significant contribution to the growth and prominence of Seattle on the west coast. Tull's prospecting brought mine president P. B. Cornwall and his engineer Morgan Morgans to the area in June 1882.

At that time, the decision was made to invest in the fields. A tent popped up, housing the men sent up by the company to establish the mine. By 1884, the Columbia and Puget Sound Railroad had built the narrow-gauge rail from Renton to Black Diamond. By March 1885 the first shipment of commercial quality coal left the town for Seattle's ports.

Many of the Welsh miners and their families moved en-masse with the company from Nortonville in 1884. The company had hired 35 carpenters to build their houses. Prospects of work drew immigrants from Italy, Austria, Yugoslavia, Finland and a few from Belgium, France and Poland. By the turn of the century, Black Diamond boasted about 3,000 residents.

There were numerous coal mines in town, as well as, the Franklin mines about three miles east of Black Diamond. One of the Black Diamond mines, number 11, was over a mile deep before explosions forced its closure in 1927.

The small businesses bordered the rail tracks, which ran through town past the depot, with a spur up Lawson hill to Lake 12 and another spur to Franklin and Kummer. It was an isolated community, which forced the residents to create their own forms of entertainment. There were sports, musical groups, plays, and social clubs. A walk up the Franklin rail in the moonlight was a great way to go courting.

In 1904, Pacific Coast Company purchased the mines and established the company businesses, such as “the company store." The advent of prohibition brought a new source of income to the area. Many visitors from Seattle and Tacoma came to buy another Black Diamond product -- bootleg whiskey.

In 1921, a strike riddled the company. The company imported strike-breakers. Strikes and strike-breakers were not new to this area, but this time, the striking miners who had been forced out of their houses by the company, built a new town on the plateau just west of Black Diamond. They called it Morganville, after Tim Morgan the farmer who owned the land where they built.

The advent of oil brought the decline of coal and in turn, Black Diamond. By the 1930’s over half the houses were empty and cows were regular pedestrians around town. Highway 169, built through the community in the 1930’s is probably what saved it from extinction that took the Franklin, Bayne, Durham and Hyde communities.

World War II brought a small boom to the area and in the late 1940’s, Palmer Coking Coal purchased the mines from Pacific Coast Coal Company.

The City was incorporated in 1959.

A significant annexation in 1998 increased the City’s population by 82% and brought the lakeside community of Lake Sawyer into the City limits.

Inventory of Historic Structures and Sites

Preserving irreplaceable cultural features reflects local values about the unique heritage of Black Diamond. There are a number of historical sites and buildings in Black Diamond that date back to the early days of mining at the turn of the century.

These sites are identified on **Table D-1.** There are many other locally significant buildings deserving of recognition and preservation. The City’s first hospital/medical office is located in the house across the street from City Hall. Many of the houses in the City exemplify the coal company housing built for the miners. In Old Town they are located along SR-169, First, Second, Fourth and Fifth Avenues. The same is repeated in Morganville on Morgan Street and Union Drive.

The Comprehensive Plan recognizes the importance of retaining these treasures. Likewise, other structures in town serve as reminders of the heritage of the City. The Comprehensive Plan supports the preservation and rehabilitation of structures through the implementation of community character design guidelines. The protection of registered historic structures and sites will be an important part of the guidelines. New infill development within these districts will be encouraged to mimic

and reflect the style and pattern and scale of the historical development. For example a new street front commercial building could include ground floor retail and offices or apartment units above.

The City of Black Diamond will work with King County through an interlocal agreement to provide landmark designation and protection services for the historic buildings, structures, districts, sites and objects within the city limits. This arrangement became official with the King County on June 5, 1995. A survey of historic properties in the City of Black Diamond was undertaken in November and December of 1997, resulting in an inventory of 64 individual buildings, objects, or sites, and 2 groups of buildings. While this list represents an update of the inventory presented in the 1996 Comprehensive Plan, it does not include historic properties that may be present in any of the areas annexed by the City after 1997, nor does it include those structures built between 1957 and 1968, which are now old enough to be considered for landmark status but were not eligible as of the 1997 survey. Considering theses factors, another update of the inventory would be appropriate at the next Comprehensive Plan update.

Black Diamond Historic Resource Inventory (1997)

Address	HRI#	Hist. Name	Common Name	Date Blt	Status
32627 RAILROAD AV	0812	Black Diamond Depot	Black Diamond Historical Museum	1886, 1904	State Register
32426 6TH AV (PO Box 169)	0813	St. Barbara's Catholic Church	St. Barbara's Catholic Church	1910-11	
Roberts Dr / Branch Rd nr Cemetery	0814	Union Stump	Union Stump	1907-1950	State Register
Railroad Ave. R-O-W; to the South of the Black Di	0815	Black Diamond Jail		c.1909	
32525 RAILROAD AV ? 32707	0816	The Black Diamond Store	The Black Diamond Store	c. 1900	
24431 SE 325th St	0817	Black Diamond Cemetery	Black Diamond Cemetery	1886-present	BD Landmark, Nat'l Register
32721 RAILROAD AV 32700	0819	Black Diamond Post Office/Koerner's Drug	Old Confectionery Art Gallery	c. 1893-1912	
24311 MORGAN ST	1054	[Cabin]	Miners' Cabin	c. 1910	BD Landmark
25312 3RD AV	1465	PCCC House No. 263 - Harry M. & Margaret McDowell House		c.1896	
32406 3rd Avenue	1466	PCCC House No. 104 - A.B. (Fred) Tonkin House		c. 1887	
32503 3RD AV	1467	PCCC House No. 277 - Old School Building		c. 1887	
97 3RD AV	1468	PCCC House No. 100		c. 1887	
32514 3RD AV	1469	PCCC House No. 98 - Harrington House		c. 1887	
32524 3RD AV	1470	PCCC House No. 96 - Habenicht House	Lyle House	c. 1887	
25501 SE 328TH ST (110 LAWSON ST)	1471	PCCC House No. 320 - Dr. Mallory Dentist Office & Home		c. 1887	
32724 3RD AV	1472	PCCC House No. 73	George Wake House	c. 1887	
32730 3RD AV	1473	PCCC House No. 250		c. 1887	
32814 3RD AV	1474	[House]	Bill Thompson House	c. 1887	
THIRD AVENUE	1475	Third Avenue/New Road	3rd Avenue (New Road) Group	c. 1887-1896	
25813 LAWSON ST	1476	PCCC House No. 389		c. 1896 (Moved c.1912)	
25807 LAWSON ST	1477	PCCC House No. 391		c. 1896 (Moved c.1912)	
25732 LAWSON ST	1478	PCCC House No. 369		c. 1896 (Moved c.1912)	
varies	1479	Lawson Road	Lawson Road Group	1896-1912	
25707 LAWSON ST	1480	[House]		c. 1900	
25630 LAWSON ST	1481	PCCC House No. 55	Darby House	c.1900 (Moved c.1912)	
25615 LAWSON ST	1482	PCCC House No. 335		c.1896 (Moved c.1912)	
25517 SE 328TH ST (110 LAWSON ST)	1483	Black Diamond Hospital	Dr. Botts Home & Office	1910	
	1484	[Gymnasium]	Old School Gymnasium	c.1921 (Moved c. 1925)	
32701 5TH AV	1485	PCCC House No. 60 - Mary Casin House	Trover House	c. 1896 (Moved c.1914)	
32910 5TH AV S	1486	PCCC House No. 335 - Joe Morganti House		c. 1887	
33118 3RD AV	1487	John Banchero House		c.1896	
33118 3RD AV	1488	John Banchero Barn		c.1914	
32232 5TH AV	1489	PCCC House No. 375 - Carolina Banchero House		c.1906	
25203 MERINO ST	1490	PCCC House No. 217 - Ancito Magnani House		1926	
25203 MERINA ST	1491	PCCC House No. 203 - Marie Magnani House		c. 1900	
32901 MERINO ST	1492	PCCC House No. 222 - Aurora Pagani House		c. 1887	BD Landmark
32529 First Ave / 252nd Pl SE	1493	PCCC House No. 141	Earl Stelflue House	c. 1887	
147 1ST AV / 252nd Pl SE	1494	PCCC House No. 147	Benadetti House	c. 1887	
25025 MORGAN ST	1495	PCCC House No. 234	Harry Thompson House	c.1896	
25023 MORGAN ST	1496	PCCC House No. 235		c.1896	
25222 PARK ST	1497	[House]	School Principals' House	c.1900 (Moved c.1918)	
24817 MORGAN ST	1498	John H. Thompson House		1920	
24727 MORGAN ST	1499	[House]		1900	
24717 MORGAN ST	1500	[House]		c.1900 (Moved c.1921)	
24619 MORGAN ST	1501	[House]		c.1900 (Moved c.1910)	
24306 ROBERTS DR	1502	Gattavara's Store	Dinner House Restaurant	1922	
24211 ? ROBERTS DR	1503	Erole Vernaklli House		1914	
24203 ROBERTS DR	1504	Garrett 's Gas Staion & Store		1922	
24204 ROBERTS DR	1505	Ester J. Morgan House		1910	

24201 ROBERTS DR	1506	David C. Garrett House		1912
24124 ROBERTS DR	1507	Frank Orevik House		1911
24101 AUBURN-BLACK DIAMOND RD	1508	John C. Cilicos House		1922
24029 ROBERTS DR	1509	Elizabeth Jones House		1921
24104 Roberts Drive	1510	Jazbec-Zupan House		1922
32223 UNION DR	1511	E. Moisio House		1922
32218 MORGAN ST	1512	John Matson Cabin		1922
23901 ROBERTS DR	1513	Enrico Guidetti House		1922
32427 MORGAN ST	1514	Abromo Pennacchi House		1922
32607 HIGHLAND DR	1515	Casper Erath House		1922
32700 Blk of Union Dr	1516	Casper Erath Cabin		1921
23703 ROBERTS DR	1517	[House]		c. 1900
26209 LAWSON ST	1518	PCCC House No. 43 - Selina Jackson House		c.1896
32500 Blk 262nd Ave SE	1519	Lawson Hill Mine	Lawson Hill Mine Site / Disaster Site	1910
32828 3rd Ave SE	1520	[Mine]	Mine Hoist Foundation	1885
25314 323RD ST SE	1521	Black Diamond Ballfield/	School Yard	c.1915